14-18 September 2006

Cotone Congressi
Genoa, Italy
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1 What medical educators can learn from educators in Business and Government: The Miriam Friedman Ben-David Lecture
Allison Rossett, San Diego State University, USA

When I tell medical educators that I consult with educators in places like IBM, HP, Target, Royal Bank of Scotland, Eli Lilly and the US Internal Revenue Service, I get two opposite reactions: “Oh, they sure know what they’re doing. If only we could use technology and systematic instructional design the way they do…. OR “What do they know? What’s the big deal?” Which is it with you? What is the big deal? What is there to learn from the billions spent on people development and e-Learning in giant organizations?

Dr. Allison Rossett, long time Professor of Educational Technology at San Diego State University, is in the Training magazine HRD Hall of Fame and is a member of the ASTD International Board of Directors. Recipient of ASTD’s 2002 award for her contributions –to workplace learning and performance, Rossett edited The ASTD E-Learning Handbook: Best Practices, Strategies, and Case Studies for an Emerging Field. Rossett also wrote Beyond the Podium: Delivering Training and Performance to a Digital World and First Things Fast: A Handbook for Performance Analysis. Prior award-winning books are Training Needs Assessment, and A Handbook of Job Aids, currently undergoing revision. Some of Allison recent articles are “Moving Your Class Online,” “Confessions of a Web Dropout,” and “Training and Organizational Development, Siblings Separated at Birth.” She has conducted research and published articles on persistence in online learning, needs analysis, and electronic performance support. Rossett’s client list includes Microsoft, IBM, HP, the Getty Conservation Institute, Fidelity Investments, Deloitte Consulting, BP, the IRS, Amgen, Royal Bank of Scotland, and several elearning start-ups.

2 Medical education and the maintenance of incompetence
Brian Hodges, University of Toronto Wilson Centre for Research in Education, Toronto, Canada

Medical education aims to move students from incompetence to competence and then to ensure the ‘maintenance of competence’. Incompetence is often explained by poor continuing education practices, problematic personality variables and neuro-psychiatric problems that lead to incompetent behaviours. This presentation explores and challenges some of our notions about incompetence and medical education. Specifically, we will examine the idea that medical education itself may, in some instances, be a factor in promoting what appears to be incompetent clinical practice. Further, a socio-historical analysis will reveal that the discourse of what constitutes incompetence is itself a shifting social construction.

Brian Hodges, MD, MEd, FRCP is Associate Professor and Director, University of Toronto Wilson Centre for Research in Education and Chair of the Royal College of Physicians and Surgeons of Canada Evaluation Committee. He has consulted in New Zealand, Switzerland, Jordan, Poland, Japan, Israel, France, China and Ethiopia. His current research focus is a socio-historical study of performance-based assessment.
The assessment of work

John Norcini (Chairperson) (FAIMER, 3624 Market Street, 4th Floor, Philadelphia PA 19104, USA), Dale Dauphinee (Medical Council of Canada), Bob Galbraith (National Board of Medical Examiners, USA), Vol Wass (University of Manchester, UK), and Gees van der Vleuten (University of Maastricht, Netherlands)

The assessment of doctors in training has improved significantly over the past fifty years. However, growing interest in quality improvement and increasing demands for public accountability are expanding the stimuli for assessment from written examinations and simulations to actual work. The assessment of work is challenging because there is little control over the content, data gathering is difficult, and there are a variety of threats to validity and reliability. Moreover, there are a number of practical and political issues around assessing doctors based on their performance with patients and other members of the healthcare team.

The symposium will explore the challenges and opportunities offered by the assessment of work. Specifically, it will address the issues of 1) how it differs from assessment in the setting of undergraduate and postgraduate training, 2) why it is important to assess work, 3) what are the measurement challenges, and 4) what are the practical and political concerns that are impediments to its implementation. The panelists will provide their perspectives on these topics and engage the audience in a dialogue about how to go forward.

Curriculum Planning 1 – the role of students and patients, buying a curriculum, and the continuum of medical education

2C 1 Strengthening user voices in the medical curriculum

Lorraine Blaxter*, Gillian Hundt and Ann Jackson* (University of Warwick, Institute of Health, School of Health and Social Studies, Coventry CV4 7AL, UK)

Summary of work: This paper will provide an account of the development of an innovative approach to patient centred involvement in medical education at the Leicester-Warwick Medical School in the UK. At the heart of this has been the creation of a partnership organisation: UNTRAP. The policy context for this innovation is requirement for increased patient involvement in the future of health care and also in decision-making in Medical Schools. Medical students need to be prepared for patient centred care, recognition and respect for patient expertise and ‘lay’ knowledge and partnership working. Medical Schools are required to recruit patient representatives to committees, boards, and panels. The rationale for creating a new organisation to deliver patient involvement came from experiences of service users. One of the central purposes of the organisation was to strengthen service user voices in the medical curriculum. We will describe the mechanism used to achieve this objective, and give an example from the induction to ‘Learning from Lives’, a module concerned with chronic and life limiting disease. These accounts affirm the idea that ‘everyone needs to learn’ to engender a new culture for professional practice.

2C 2 Students’ attitudes to curriculum development: is it discrepancies in opinion between the student body and the student representatives?

Therese Djarv*, Tomas Sjoberg and Jenny Aiken (Karolinska Institutet, Creutzgatan 2, Stockholm 112 44, SWEDEN)

Background: The SPICES-model is a well-known method of mapping opinions on six axes to curriculum development (Harden 1984).

Our aim was to evaluate the students and student representatives’ opinion on curricular development.

Summary of work: SPICES analysis among 71% (n=972) of the student representatives, 14 of 18 wanted a change on all axes towards SPICES.

Conclusion: The SPICES analysis among 71% (n=972) of the medical students at Karolinska Institutet showed that students are conservative in their attitudes towards changes in the curricula, 41(57%) didn’t want any change. Our data suggest there could be a discrepancy between the representatives and the student body. This could be due to selection bias or opinion changes affected by their tasks as representatives.

2C 3 Reflections on curriculum reforms in the UK

Stephen Briody* (Cardiff University, Wales College of Medicine, School of Postgraduate Medical & Dental Education, Heath Park, Cardiff CF14 4XW, UK)

Curriculum reforms have been underway in medical education in the UK for over ten years, commencing with the implementation of ‘Tomorrow’s Doctors’ (General Medical Council, 1993) in the undergraduate curriculum. Alongside the inception of the specialist registrar (SpR) grade has come formal assessment of SpRs and General Practice registrars. A more recent development has seen the introduction of a ‘Curriculum for the Foundation Years’ (Academy of Medical Royal Colleges, 2005) that now follows graduation in medicine. Implementation of these core curricula has revived hopes that it will be possible to articulate undergraduate and postgraduate training into a seamless progression under common educational aims and principles: expressed for example, in the securing of common standards of competence (defined in learning outcomes), horizontal and vertical integration, a ‘spiral’ curriculum, permeating themes, the preparing of reflective, lifelong learners with attitudes of ethics and professionalism that define medical practice. This paper discusses a range of curriculum issues that have appeared in over a decade of medical education reforms and the extent to which they may be expected to be resolved, drawing comparisons from the UK experience of national curricular reforms in other sectors of education.

Summary of results: On each of the axes almost a majority didn’t want any change. Student-centered (51%), Problem-based (41%), Integrated (50%), Community-based (57%), Electives (52%), Systematic (47%). Preclinical students were more positive towards PBL than clinical students (42,5% vs 32,5%) and towards more electives in the curricula (37% vs 20%). Clinical students were more positive towards community based education than preclinical (31% vs 5,5%) and a more systematically arranged education (43% vs 30%). Of the student representatives, 14 of 18 wanted a change on all axes towards SPICES.
2C 4 How to make medical specialist training more efficient

J C C Borleffs*, C H Biosaart, A M A Kekkhoffs, H M Pieters, J P i van Schaijk, A J Verbaudt and E van der Wall (University Medical Center Utrecht, School of Medical Sciences, Universiteitsweg 98, Utrecht 3584 CG, NETHERLANDS)

Background: In order to make training of medical specialists more efficient, integration of undergraduate and postgraduate programs is an actual issue. The question is how such integration could be realized and to what extent. In the Utrecht undergraduate program the sixth and last year is used for general clinical training (12-24 weeks) and research electives (12-24 weeks). It is designed as a transitional year and a link to postgraduate specialty training. During this year the student is considered to work as a junior doctor under close supervision by a clinician, who has formal responsibility.

Summary of work: In order to use the competencies acquired in this transitional year, we have constructed several scenarios leading to a more efficient medical training. These scenarios vary from considering the transitional year as good experience guaranteeing a residency position ("minimal scenario") to scenarios in which the acquirement of competencies in undergraduate programs facilitates the application of additional (non-obligatory) internships without changing the training period or to scenarios in which the postgraduate training period really will be shortened ("maximal scenario"). Currently, we are in the process of presenting and discussing these scenarios with the specialists. The recommendations resulting from these discussions will be presented during the conference.

2C 5 New medical school curricula: to buy or develop anew?

R B Hoy* (Keele University, School of Medicine, Staffs STS SBG, UK)

Aim: To discuss the choice faced by new medical schools between developing a new, or purchasing an existing, curriculum.

Summary: Core curriculum requirements of medical schools are similar, perhaps even globally. The endpoint is a novice practitioner, who will later choose a career and acquire relevant specialty expertise. However, the requirements of basic medical education are constantly changing in response to community, professional and regulatory authority expectations. Substantial debate surrounds issues such as: biomedical vs psychosocial sciences; hospital vs community experience; specific content areas (eg anatomy, ethics and emergency care); the effectiveness of problem-based learning; workforce policy; and social accountability. All good medical curricula are constantly evolving as they respond to such debates, and curriculum diversity is often encouraged. Of most importance is that medical schools have curricula that, while meeting national or international learning objectives, reflect current debate and best utilise the local health care resources and learning opportunities.

Conclusions: It is unlikely that any existing curriculum will for long meet the needs of future medical graduates. New schools should consider developing a new, fit for purpose curriculum. Even if an existing curriculum is purchased or licensed, substantial changes may have to be made to optimise the use of local resources and opportunities.

2C 6 What is a must in the medical curriculum – principles of the sciences

A Braunscherg*, P Kube, U Tautenhahn and J Petz (Charité, Reformstudiengang Medizin TAF und Prodekanat für Studium und Lehre, Charité Campus Mitte, Schumannstr 2D-21 (Berlin 10117, GERMANY)

Background: Basic science concepts are implicitly present and may be notably hidden in an organ and periods of life based PBL curriculum. The rationale to teach content through patient cases is to provide students with a context in which they will encounter the concepts in their clinical practice. In an integrated curriculum, modules have an overall theme that governs the horizontal integration of all relevant disciplines, eliminating the separation of basic science and clinical education. What may go astray in such a kind of curriculum is the vertical teaching of basic science principles, which may be necessary for a deeper understanding of aetiological, pathophysiological, and therapeutical aspects of diseases.

Summary of work: To fix a minimum assemblage of principles interviews were conducted with experts of different basic sciences. Experts were asked for important concepts of their disciplines; a concept understood as an abstract, universal entity that could serve to designate classes of entities or relations - universal in that they apply equally to everything in their extension. Experts managed quite differently in identifying concepts – but managed to formulate relatively small numbers. Curriculum planners have to guarantee that these concepts are taught in a meaningful sequence in the curriculum. Examples are shown for the different disciplines.
2D 3 Early postgraduate learners’ experiences of ‘work versus education’

J Shacklady*, C Hyde, J Miles, J Ajas, G Rout, M Brown and T Dorman
(University of Manchester, Hope Hospital, Salford Lane, Salford, Manchester M6 8HD, UK)

Aim: Compare trainees’ experiences of workplace learning with their ‘official’ curriculum.

Summary of work: Responses were collected from 49 learners in three health economies four months after entering their postgraduate “Foundation Programme”. 32 dichotomised Likert responses and associated free text were rank ordered, clustered, and analysed thematically.

Summary of results: Learners’ most positive experience was their clinical work (82-92% agreement with positively worded statements). Transition into the identity of a doctor was a generally positive experience (71-88%) though stressful (53%). Reactions to the practical accessibility and relevance of off-the-job teaching were neutral (47% to 71%). Numerical ratings of formative and summative assessment were positive (51-92%) though textual comments were guarded, particularly because it was so hard to pin down practitioners to perform assessments (29%; 1.2). Supported on-the-job learning elicited positive responses (57-94%) in contrast to the difficulty of regulating one’s own objective-based learning (14-55%).

Conclusions: The discrepancy between learners’ positive experiences of supported on-the-job learning, neutral experiences of off-the-job “teaching”, and negative experiences of “self directed learning” highlights a need for research into how experience in workplaces can be more closely linked to declared educational objectives and methods.

2D 4 General practice in the foundation year: innovations for added value

Jill Edwards*, Sarah Morris and Joanna Leach (Oxford PGMDE, The Triangle, Roosevelt Drive, Headington, Oxford OX3 7XJ; UK)

Aim: To elicit whether the more novel approaches used in the Oxford Deanery during the general practice attachment added any value. Our evaluation of the programme aimed to address this.

Summary of work: Qualitative data were gathered by semi-structured telephone interviews with FY2 trainees and GP trainers; with content analysis of data collected.

Conclusions: The innovations found to add value were: (1) Two FY2 trainees in the GP practice at the same time; (2) Day release once a week to another ‘minor specialty’ e.g. to genito-urinary medicine; (3) Participation in the general medical on-call rota at the local district general hospital.

Take home messages: We propose that the innovations described are adopted more widely to increase the value and appeal to non career GP trainees.

2E 1 A survey of communication skills in Australasian Schools of Medicine

Mary Lawson*, Margaret Hay, Owen Hargie, MAinead Baoham and David Dickson
(Monash University, 3rd Floor, DEPM, The Burnet Institute, Alfred Hospital, Commercial Road, Melbourne, AUSTRALIA)

Aim: Review the status of Communication Skills Training (CST) curricula in Australian undergraduate medical schools; (2) Compare the status of Australasian programmes with those in the UK; (3) Determine whether innovative models have been adopted within curricula.

Background: CST is viewed as an accepted element of medical education (Langille et al. 2001) with widespread acceptance from the undergraduate to the postgraduate and CME level. A UK survey in 1998 identified the status...
of CST in UK medical schools and identified targets for further development and barriers to implementation (Hargie et al. 1998). The last decade has also seen many innovative advances in the area (Kneebone et al. 2005) which should be surveyed for their uptake on a widespread basis. It is timely to review the status of CST curricula in Australia including uptake of innovations in educational practice and also the stability of the range of curricula and barriers for development in this area. This study replicates the 1998, UK based survey in all Australasian medical schools.

Summary of results: The results of the survey will be reported in terms of the content, assessment and educational methods adopted and also consistency of programme on a national level. International comparisons with the UK will be made and the uptake of innovative models will be evaluated.

2E 2  Teaching learning approaches and communication skills

H Snegrova*, F Romanelli, M L Sacchetti, F F Maia, S Basili, P Santini, F Consorti, M Romeo, G Fati, A Ceccanti, E Ferranti, A Scarno, A Catania, A Vestri, I Noforini, S Liccarini and A Lenzi (University of Rome ‘La Sapienza’, Dipartimento di Medicina Sperimentale, V. le Regina Elena, 324, Rome 00161, ITALY)

Aim: We aimed to examine the impact of a 10-hour short course in doctor-patient communication skills on approaches to learning among students, and approaches to teaching among clinicians. We also explored whether particular approaches to learning and teaching had predictive value on student performance, and clinician assessment in an OSCE.

Summary of work: Participants in the study came from a multidisciplinary group of 13 teachers including clinicians, surgeons, educationalists and epidemiologists. Students were 172 medical undergraduates in their third year of study. To observe changes in approaches to learning and teaching among students and clinicians we used 2 questionnaire instruments known for their validity: the Study Process Questionnaire (SPQ) and the Approaches to Teaching Inventory (ATI). Data from the questionnaires were triangulated with information from structured interviews and focus group sessions. An OSCE station in which a modified Calgary-Cambridge marking sheet with 3-point scale items for formative assessment was used to assess undergraduate communication skills at the end of the project.

Conclusions: We conclude that even in traditional academic environments where skills training is uncommon, and approaches to study are oriented to assessment of knowledge rather than demonstration of skills, careful constructive alignment of objectives, teaching/learning tasks and assessment can overcome initial cognitive ‘dissonance’ and modify traditional approaches to learning and teaching.

2E 3  Coaching communication with medical residents using simulated encounters (CCSE): an educational research study

P Ravitz, W Lmacore, N Mcnaughton*, A Peterkin, B Mouander, M Leszcz and J Wong (University of Toronto, University Health Network, Donald R Wilson Centre for Research in Education, 200 Elizabeth Street, T Eaton's Room 565, Toronto, Ontario M5G 2C4, CANADA)

Background: Communication problems in medical practice are common and relate to physician competence and the difficulties that patients present. ‘Difficulty’ arises from the interaction of symptoms, context, patient’s response style, and physician’s skills.

Aim: This project aims to train clinicians to understand this interaction: 1) to better manage clinically difficult situations and 2) to improve communication skills.

One-on-one coaching was provided by experienced psychotherapy supervisors on videotaped encounters between trainee-subjects and actors who simulate ‘difficult’ patients. Outcomes measured included empathy, communication skills, interviewing competence and therapeutic alliance.

Summary of work: Thirteen trainee/subjects participated in sixty-five videotaped encounters with the same set of five simulated patients. Trainee/subjects included psychiatry and family medicine residents, and community mental health workers. Coaching integrated viewing of the videotaped interviews.

Summary of results: There was a significant pre-post improvement in interviewing competence (p<0.001). No significant changes were detected in measures of empathy, alliance or communication skills.

Conclusions: Limitations of the study included small sample size and the need for controls. The results justify further investigation of this mode of training to improve outcomes in situations of difficult communication.

2E 4  Engaging junior doctors in meaningful learning: evaluation of a communication simulation programme

Elizabeth Devney, Jenny Gough*, Michael Marks and Bernadette Murphy (University of Melbourne, Department of Paediatrics, Royal Children’s Hospital, Flemington Road, Parkville, Vic 3052, AUSTRALIA)

Aim: This paper discusses the evaluation of the Communication Rehearsal Programme (CRP), an established post-graduate medical education programme that educates junior doctors in a major paediatric hospital to break bad news to parents.

Summary of work: Participants completed a brief report having completed their rehearsal that included feedback from actors. Video-tapes of the rehearsals were rated by two raters (an actor/parent and a doctor) and feedback was given to participants later. This process was repeated and interviews conducted.

Summary of results: Mostly doctors performed the more clinical aspects of the rehearsal well, such as explaining medical diagnoses; the more emotive aspects, such as checking on where mum is at and how she is feeling, were not completed as skilfully. Raters generally commented on the need for the doctors to be more led by, and focused on, the parent, rather than on their own needs. This process provided a stimulus for clinical practice change.

Conclusions: This post-graduate education program provides a safe way for junior doctors to hone their clinical communication skills. Junior doctors value both the programme’s content and the opportunity to practice. The early post-graduate years are a perfect time to build on similar undergraduate education: the urgency of the post-graduate context makes this learning more meaningful.

2E 5  The use of the structured communication adolescent guide by untrained adolescents

Rim Blake*, Susan Wakefield, Matthew Katcher, Joseph Murphy and Karen Marie* (Dalhousie University, Division of Medical Education, Room C124, 5849 University Avenue, Halifax, Nova Scotia B3H 4H7, CANADA)

Background: The Structured Communication Adolescent Guide (SCAG) is a 29-item checklist designed to teach and assess the Adolescent Clinical Interview. Reliability, validity and impact on learning have been described. This study explored the reliability of the SCAG when used by untrained adolescents.

Summary of work: Adolescent participants in six classes of three Junior High schools (N=183; mean age 13.4 +/- .51) used the SCAG to rate a videotaped doctor-SP adolescent clinical interview. Each adolescent also completed a semi-structured feedback questionnaire. Intraclass correlation coefficients (ICCs) were used to assess inter-rater reliability for overall SCAG scores, and for the four SCAG sections (1- Getting Started, 2 – Gathering Information, 3 – Teen Alone, 4 – Wrap-Up). Main effects of age, sex and school on total SCAG score were examined, using ANOVA.
2E 6 Teaching medical communication skills with DIVIDU: an ICT approach to self-directed acquisition of competencies

N P de Graaf, R L Hubman* and M Fabriek (Academic Medical Centre, Department of Medical Psychology, PO Box 22660, Amsterdam 1100 DD, NETHERLANDS)

Background: Communication skills belong to a core set of competencies defining the professional roles of physicians and other health care professionals as defined by accrediting and policy making bodies like the Accreditation Council for Graduate Medical Education and the Royal College of Physicians and Surgeons of Canada. Acquisition of competencies requires both the practicing of skills and reflective thinking.

Summary of work: In 2005 we developed a new communication skills program for second year undergraduate students, featuring: use of simulated patients; self-directed learning; peer feedback; use of ICT; portfolio development. The 325 second year students were trained in groups of about 15, divided into trios. Training sessions alternately focused on recording and analyzing a history taking consultation with simulated patients and on presenting the analysis to the group of 15 students. Each consultation was recorded using a webcam and Windows Movie Maker and uploaded on a streaming media server. With DiViDU, a web-based application, students could analyze their own communication behavior, connect theoretical concepts to their own performance, think of alternative behaviors, and get peer feedback in the trios and in the larger group. Results will be presented of the experiences with the new program among the teachers and 291 (90%) students.

Teaching medical communication skills with DIVIDU: an ICT approach to self-directed acquisition of competencies

2F 1 An integrated partnership approach for supporting busy clinicians as effective university teachers

J Walker*, G MacCarrick, H Smigiel and N Trivett (University of Tasmania, Rural Clinical School, PO Box 3513, Burnie, Tasmania 7320, AUSTRALIA)

Background: In 2006, a new Graduate Certificate in University Learning and Teaching for Health Professionals is being offered at the University of Tasmania, Australia, in response to demand for a program to meet both the needs of health professionals as clinical teachers and changing medical education requirements.

Summary of work: The Faculty of Health Science entered into an integrated partnership with academics from the University’s Centre for the Advancement of Learning and Teaching to develop a clinical specific course by adapting units from a generic course and by developing a new unit - clinical supervision and assessment in the health care setting. The University agreed to fund clinicians’ fees in recognition of their pro bono contribution to clinical teaching.

Conclusions: There is a significant divide between clinical teaching and university environments and clinicians need to know about the curriculum and university contexts of their teaching. The development and explanation of assessment techniques appropriate to the practical application of contemporary educational theory to teaching and learning in clinical and other health care settings should improve both clinical teacher satisfaction and motivation and learning outcomes for students in the longer term.

Take home message: Don’t reinvent the wheel but work in partnership with the educational experts to promote scholarship in clinical teaching based on critical self-reflection, research and peer review.

2F 2 How do clinical teachers conceive of their teaching?

Alix Magney, Peter Harris, Sue Toohey and Chris Hughes* (University of New South Wales, School of Public Health and Community Medicine, Faculty of Medicine, Sydney 2052, AUSTRALIA)

Background: Knowledge of how teachers conceive of their teaching is useful when designing professional development activities, but while many researchers have studied the conceptions of teaching of campus based teachers, there have been no comparable studies with clinical teachers.

Summary of work: In this study 10 paediatricians and 10 surgeons were interviewed about their teaching roles and how they fulfilled them. The transcripts were analysed and six conceptions of teaching were identified.

Summary of results: No notable differences between the two medical disciplines were found. While the conceptual categories that emerged were broadly similar to those found for on-campus teachers, there were notable differences in emphasis and focus in some categories. For the clinical teachers there was a heightened sense of responsibility for students’ learning of content, an emphasis on maximising authentic experiences through patient contact, and an assumption of an underlying apprenticeship model of learning. The conception of teaching as essentially involving an apprenticeship, with an accompanying focus on role modelling in authentic environments, was distinctive.

Conclusions: We surmise that the differences found arise from the demands and conditions of the clinical teaching environment. Clinical teachers have distinctive conceptions of teaching that probably result from the unique teaching environments in which they teach and work.

2F 3 The ideal clinical teacher

Klarke Boor*, Pim Teunissen, Albert Scherpbier, Cees van der Vleuten, Jonas van de Lande and Fedde Scheele (Sint Lucas Andreas Ziekenhuis, Postbus 9243, Amsterdam 1006 AE, NETHERLANDS)

Background: Residency is a defining process for medical doctors. A critical factor is the clinical teacher. The object of this study is to investigate characteristics of the ideal clinical teacher as perceived by obstetrics and gynaecology residents in 1994 and 2003.

Summary of work: We used an open-ended questionnaire. Content analysis was performed with two coding dictionaries: the first one based on categories from Ullian et al (consisting of four roles: ‘person’, ‘physician’, ‘supervisor’, and ‘teacher’); the second one based on social-cultural theories emphasizing the importance of interaction between residents and their clinical teachers.

Summary of results: We analysed 564 units of analysis. Residents prefer the ‘person’ role both in 1994 (41.9%) and in 2003 (47.9%). Interaction is present in every phrase. Seventy percent of the phrases related to direct interaction, thirty percent related to indirect interaction.
2F 4 Establishing consensus of the skills, attitudes and practices of the good clinical teacher of medical undergraduates in secondary care

P Yeates* and R Barton (Northumbria Healthcare Trust and University of Newcastle upon Tyne, Education Centre, North Tyneside Hospital, Rake Lane, North Shields, Tyne and Wear NE29 8NH, UK)

Aims: Although much has been written about how to teach, there is little consensus about the qualities and personal standards of a good clinical teacher. We proposed to establish a consensus amongst regional experts of applicable skills, attitudes and practices using a modified Delphi technique throughout secondary care.

Summary of work: Prior works on teacher standards or evaluation were collated from the literature to produce a list of statements. These were circulated to our experts who were requested to accept, reject, modify or add new statements. Acceptance was at one of two levels: basic, applicable to all teachers of medical undergraduates; or advanced, applicable only to those with special responsibility for teaching. Analysis incorporated new and modified statements into a new list which was recirculated to the experts. On this occasion the experts were asked simply to accept statements at either basic or advanced level, or reject.

Summary of results: The final list of statements and data relating to the achieved degree of consensus of each statement will be reported.

Take home message: These results may be used to develop a regional code of practice for the teacher of medical undergraduates in secondary care and stimulate further debate on this important issue.

2F 5 The roles and qualities of the medical teacher according to Dutch medical students

Ronald T van den Bosch*, Catharina M van Gelder and Olle Th J ten Cate (University of Utrecht, Voorstraat 13 bis II, Utrecht 3512 AH, NETHERLANDS)

Background: Harden and Crosby (2000) distinguish 12 roles of the medical teacher. To validate this model it is helpful to know whether medical students recognize these roles as important and to know how students judge their teachers in fulfilling these roles and possessing these qualities.

Summary of work: A questionnaire was developed based on the Harden and Crosby model, extended with three more roles and eight qualities. Students could give a judgment about the importance of the roles and qualities and how their teachers performed at these. It was distributed among the students of all Dutch medical faculties. To interpret the quality of the teachers according to their students a “weighed judgment” was used, a calculation in which the judgment has to be higher if the role is considered of greater importance. Summary of results: Over 3000 students responded. All 15 roles were classified as “important”, including the three extra roles. A few roles showed a large discrepancy between the importance and the students’ judgment of how well teachers perform.

Take home messages: Our results support the significance of the (extended) model. According to the students some roles should get more attention and in a few areas training is necessary for medical teachers.

2F 6 Facilitator motivation and commitment: lessons learnt and advice offered

Michelle McLean and Jacqueline van Wyk (University of KwaZulu-Natal, School of Medicine (Physiology), c/o Faculty of Medicine, Private Bag x7, Congella 4013, SOUTH AFRICA)

Background: With problem-based learning (PBL) staff assume new responsibilities. Rather than transmitters of expert knowledge, they need to become facilitators of student learning. This requires staff development and support.

Aim: A comprehensive survey of facilitators who had volunteered for the first three years of a new PBL curriculum was undertaken to provide insight into factors influencing initial facilitator recruitment and subsequent retention. Summary of results: Qualitative and quantitative differences were found between clinicians and non-medically qualified facilitators in terms of initial motivating factors. While both groups subscribed to the PBL philosophy, believing it to be their responsibility to contribute to student learning, earning continuing professional development points was important for clinicians. Both groups perceived facilitation to be an activity contributing to personal promotion. Private clinical facilitators felt privileged to contribute to student learning, and to be part of faculty, while financial reimbursement was important for non-clinical private facilitators. Enthusiasm was sustained by feedback from students and by ongoing staff development.

Conclusions: With busy schedules, facilitation needs to be personally rewarding. For example, student feedback provides direction for improvement for individual facilitators. Contributions to student learning, such as facilitation, should be duly recognised and rewarded appropriately by faculty.
2G 2 Redefinition of outcomes after five years of curriculum implementation
Leticia Medina, Graciela Medina (Escuela de Medicina del Tec de Monterrey, Ave. Morones Prieto # 3000 Pte, Colonia Las Doctores, Monterrey, Nuevo Leon, Mexico (P 64710, MEXICO)

Background: The School of Medicine Tec de Monterrey in Mexico has moved to an outcome based education and assessment. The objective is to present how implementation of the 2001 outcome-based curriculum has led to the 2005-outcome based curriculum.

Summary of work: Curriculum 2001 consisted of eleven outcomes and the elements of each one. Eleven groups of faculty members identified the ‘observable actions’ for each outcome; the final version was established during faculty workshops. Implementation began in August 2001. Through these four years, by means of an ongoing curriculum revision involving faculty and directors, we identified: 1) outcomes, elements and observable actions that were not imperative as minimal essential requirements for students to develop, and were thus eliminated; 2) those that were duplicated, and were thoughtfully re-located; and 3) elements and observable actions that were missing and needed to be added. The 2001 version of the outcomes consisted of 11 outcomes, 98 elements and 429 observable actions. The 2005 version, coherent with the new curriculum 2005, consists of 10 outcomes, 58 elements, and 275 observable actions.

Conclusions: Our School of Medicine would like to share the experience of the advantages of an outcome-based education, of an ongoing curriculum revision and the new 2005 Outcome Booklet.

2G 3 Developing ethical physicians using an acculturation model
Margaret Stuber, Gretchen Guiton*, Blair Paley, Sue Baillie and Mary O'Connor (University of Colorado, School of Medicine, Educational Development and Research Office, 4200 Ninth Street, Box C299, Denver, Colorado 80262, USA)

Background: Despite international calls for more attention to ethics in medical education, students' ethical sensitivity and moral reasoning appear to erode over the course of medical school. Stage and acculturation theories of development and research office, 4200 ninth street, box C299, Denver, Colorado 80262, USA)

Summary of work: Divided into three groups of approximately 48 students each, all first year medical students at UCLA attended a 2 hour clinical session. Readings defining the four principles of bioethics (i.e., autonomy, beneficence, nonmaleficence, justice) were reviewed. Students then viewed a 20-minute excerpt of a popular television program, Law and Order, in which a jury is asked if a pregnant alcoholic woman should be jailed so she won't drink and harm the child. Students, in juries of 12, deliberated and reached a verdict. This format provides students an opportunity to apply the ethical principles and discuss their own moral values. In the role of citizen, rather than physician, students explore boundaries between personal values and formal moral and legal principles in a way that can help them integrate them. Students' quiz performance demonstrates the ability to apply the principles (96%).

2G 4 Teaching and learning of medical professionalism – medical students' experience at the University of Hong Kong
H N A Lung*, J G W S Wong, N G Patil and F Lieh-Mak (University of Hong Kong, Queen Mary Hospital, Room 212 New Clinical Building, 102 Pokfulam Road, HONG KONG)

Background: Little is known in published literature about Asian medical students' perception and understanding of medical professionalism, as well as their experiences and views on learning about professional attitudes/behaviour in medical schools.

Summary of work: We performed a qualitative study at the University of Hong Kong to examine the above. Fifty-nine medical students (in nine focus groups), representing year 3 and year 5 students participated in this study.

Summary of results: Participants expressed concerns about effective learning and teaching of professionalism at the medical school. A recurring theme was that learning of professionalism by students built on their existing moral values before entering the medical school. We explored how observation of teachers' role modelling (good or bad) influenced students' learning of professionalism. Formal teaching in medical ethics and professional qualities was perceived as less useful, possibly due to its focus on knowledge, with less emphasis on skills or behaviour. We discovered problems with existing assessment of professionalism from the students' perspective.

Take home messages: As medical educators, strategies for educating future professional doctors include: (1) selection of medical students with appropriate moral values (2) proper role modelling and (3) developing a valid and reliable assessment strategy for your own medical school.

2G 5 What do different members of the healthcare team look for in the 'good doctor'
Jeremy Lim* and Chay Hoon Tan (Singapore Health Services, 69 Coronation Road, Singapore 269466, SINGAPORE)

Aim: We sought to determine using a previously validated survey (Fones et al, 1998) the attributes of a ‘Good Doctor’ as perceived by different groups of healthcare workers (HCW): doctors, house officers, medical students and nurses. The differences in perceptions and expectation are important to ascertain so that doctors can be sensitized and adequately prepared for their expected leadership role in healthcare.

Summary of work: 654 HCW were surveyed (doctors, interns, final year medical students and nurses). ANOVA was used to determine any group differences with post-hoc comparisons made using Tukey's method.

Summary of results: The items scored differently related to traits necessary for successful institutional practice, the setting familiar to students, interns and nurses. The doctors, predominantly GP in individual practice, downplayed cognitive aspects of clinical practice. The higher scorings by nurses suggest expectations of doctors to not only deliver a clinical service to patients, but to also serve as clinical teachers and provide moral and overall clinical leadership to the healthcare team.

Conclusion: Our survey reveals that senior doctors are looked up to, especially by nurses, for moral and management leadership in addition to clinical guidance. Professional education should place emphasis on acquiring of skill sets and values congruent with these expectations.
**2H International Medical Education 1 – The Bologna Declaration**

### 2H 1 Students with related bachelor degrees enrolling in the medical master: utopia or a realistic possibility?

Janke Cohen-Schatzky* and Johanna Schoenrock-Adema (University Medical Centre Groningen, Center for Research & Innovation of Medical Education, Faculty of Medicine, Ant. Deusinglaan 1, Groningen 9713 AV, NETHERLANDS)

**Aim:** A result of the Bologna declaration is that students with related bachelor degrees can enrol in a medical master program. A transition program to prepare these students for entry into the master program seems to be a logical consequence. The question is whether such a program is enough to reach the required knowledge level for entry in the medical master.

**Summary of work:** In anticipation of the bachelor-master model, the University Medical Centre Groningen permits students to enrol in the 4th year of the regular six year program after a transition program of one year. Since 2002 around 30 students with related university or professional degrees are selected for the transition program every year. The progress test results of these students are compared to the results of students in the regular program.

**Summary of results:** At the beginning of the transition year students score significantly lower than regular students. In the course of, and after this year no differences were found between the two groups of students.

**Conclusion/Take home message:** A transition period of one year seems to be necessary and sufficient to reach the required knowledge level for enrolling the medical master program.

### 2H 2 Planning of the curriculum from the Bologna perspective

Jadwiga Mirecka (Medical College of Jagiellonian University, Department of Medical Education, Str. Kopernika 196/1, Krakow 31-501, POLAND)

The author’s experience resulting from the work in the Curriculum Planning Committee, as well as in the Bologna Promoting National Team is to be presented. The process of implementation of the Bologna Declaration should be reflected in the way in which medical curricula are constructed. Apart from the need to choose between the one or two cycle systems which decision is usually taken at the national level, the program setting committee should adopt the outcome based approach with a focus on required competencies of graduates, preferably using Dublin descriptors of qualifications. Such a committee should also take into account the existence of ECTS system and its consequences, which include: proper estimation of students’ workload as expressed in ECTS credit points leading to an adequate arrangement of courses as well as a need to accommodate students from other schools/countries who have accumulated a defined number of credits, although had been exposed to a totally different type of curriculum. And finally, much more space for significant flexibility resulting from students’ mobility should be incorporated.

### 2H 3 Progress in realization of Bologna Declaration at Faculty of Medicine of Comenius University in Bratislava

L Bergendi*, M Bernadíc, P Traubner, E Kralová and E Kukurová (Institute of Medical Chemistry, Biochemistry and Clinical Biochemistry, Faculty of Medicine, Comenius University, Sasinkova 2, Bratislava 81372, SLOVAKIA)

**Background:** Realisation of generally accepted principles of the Bologna declaration by institutions preparing students in the medical study programmes has assured the compatibility with education in European and worldwide universities.

**Summary of work:** The Faculty of Medicine of Comenius University in Bratislava has prepared a revised curricula and new information packages. The credit transfer system supporting both the students’ and the teacher’s mobility in the European area is realised continuously. By all these activities it is very important to keep the education and research activities integrated. The problems with the compatibility of teaching programmes, number of teaching hours and the credits of some teaching subjects have arisen mainly in theoretical but also in preclinical and clinical teaching subjects. In order to fulfil the requirements of the EHEA in Slovakia we have to: (1) create the committees of professionals that would synchronise the study levels, credits on the level of departments, faculties, universities with the European educational system; (2) evaluate and harmonize the academic degrees; (3) solve transparently the economic guarantee of the higher education by the Ministry of Education of the Slovak Republic. Only by accomplishing the above-mentioned tasks could the measures formulated in Bergen (2005) be accepted that create assumptions for satisfying requirements of EHEA until 2010.

### 2H 4 The use of the European Credit Transfer System (ECTS) in medical schools and faculties in Europe

Ruddy Verbinnen*, Sverre Bjerkeiset and Karel van Lierop (Vrije Universiteit Brussel, Faculty of Medicine and Pharmacy, Laarbeeklaan 103, Brussels 1090, BELGIUM)

**Background:** The Thematic Network Medical Education in Europe (MEDINE) explores how European medical education fits within the Bologna process (creating a European Area of Higher Education). The European Credit Transfer System (ECTS) is a basic tool for ‘international recognition of qualifications’ when study periods are undertaken abroad.

**Objectives:** The MEDINE Task Force 2 Recognition of Qualifications examines the use of ECTS among partner Medical Schools and Faculties. This survey aims at: (1) gaining knowledge on the use of ECTS (situation in 2004-05); (2) drawing up a relevant manual; (3) raising awareness about the level of implementation of ECTS. Questions were asked about the overall attitude towards the Bologna Process, the use of ECTS, the learning outcomes and competences, a grading scale, the four ECTS key documents, of the diploma supplement and the structure of Medical Education.

**Summary of work:** The respondents filled in an internet questionnaire and were all members of MEDINE and/or ECTS Medicine Association (n=102). The Total Design Method (Dillman, 1978) is used to improve design and response.

**Results and conclusions:** Will be presented for the first time to a wider audience at the AMEE Conference. The study will close in April 2006.

### 2H 5 Harmonizing European sub-specialty training – medical students’ experience at the University curriculum as a consensus document

Joanna Ortoli (European Board for Accreditation in Cardiology, 23 Avenue St Jean, Cannes 06400, FRANCE)

**Background:** European harmonization of postgraduate specialty and sub-specialty training necessitates a European training curriculum, and its national implementation. Active participation of national specialty societies and integration of existing national training curricula is essential. In the past European training standards in cardiology were successfully implemented by national cardiac societies.
Personal factors associated with the academic performance of medical students: they are not a homogenous population

Gillian B Clack, Derek J Cooper and Susan Standring (King’s College London School of Medicine, Division of Medical Education, Sherman Education Centre, 4th Floor Guy’s Hospital, London SE1 9RT, UK)

Aim: The profession wishes to attract medical students from diverse backgrounds, but some ‘fail to thrive’. This presentation reports research seeking to identify characteristics which differentiate students who have difficulties on the medical course.

Summary of work: 517 of 587 students (88.1%) who entered King’s College London between 1994-98 completed an entry questionnaire giving details of their personal backgrounds. Their academic progress was monitored. The characteristics of students who left the course, failed to qualify in the minimum time, or had multiple failures in their MB BS examinations were compared to those who had no problems.

Summary of results: By the end of the project, 358 (61.0%) had qualified, 46 (7.8%) had withdrawn and 183 (31.2%) were still in attendance. The following personal characteristics were found to be associated with performance: gender, ethnicity, social class and coming from a medical family. Details will be presented.

Conclusion/Take home messages: Certain personal factors were associated with failure to thrive on the medical course. More research is needed to better understand the reasons for these results. If generalisable, future educational strategies should seek to minimize these discrepancies, particularly in the context of widening participation.

Aim: An advantage of globalisation is the increasing opportunity for medical students to participate in international elective programmes, to learn about different health problems and models of healthcare. There is limited literature involving Japan. The JMEF has been organising student exchange programmes for both Japanese and British medical students for 15 years.

Summary of work: To evaluate learning outcomes of international elective programmes, we interviewed 16 Japanese medical students who studied clinical medicine for 4 weeks in 4 different British medical schools, and also interviewed 5 British medical students who did the same for about 4 weeks in 2 different Japanese medical schools, both through JMEF. We categorised their learning outcomes by using background theory, which includes knowledge, skills, attitudes, public health, medical education and language. Conclusions: Despite the differences, although both groups could widen their view of health care, there is a language barrier limiting their communication with patients and healthcare team members. Some reported they could find a difference in medical education. We will present the results from interviews and also share our plans for future questionnaire survey of participants over the last 15 years on long term outcomes.

2H 6 An evaluation of the learning outcomes of the international elective programmes between the UK and Japan

Hiroshi Nishigori*, Minako Uchino, Kazuki Fukaoaka, Takashi Otani and Nobutaro Ban (Green College, University of Oxford, Radcliffe Observatory, Woodstock Road, Oxford OX2 6GQ, UK)

Aim: An advantage of globalisation is the increasing opportunity for medical students to participate in international elective programmes, to learn about different health problems and models of healthcare. There is limited literature involving Japan. The Japanese Medical Education Foundation (JMEF) has been organising student exchange programmes for both Japanese and British medical students for 15 years.
Sexual harassment during internships

Jany Rodemakers*, Geerte Stappenberg and Jan Borleffs (UMC Utrecht University, School of Medical Sciences, Centre for Research and Development of Education, HB 4.05, PO Box 85500, Utrecht 3508 GA, NETHERLANDS)

Background: Internships are the first confrontation of medical students with the reality of clinical practice. In this new context, they might be confronted with threatening or intimidating situations, among which are incidents of sexual harassment. In 2005, a study at Nijmegen Medical School in the Netherlands revealed that 20% of their female interns and none of their male interns had experiences with sexual harassment. This study was replicated at Utrecht Medical School.

Summary of results: Of the total group of Utrecht respondents (N=114, response rate 80%), more than one quarter (27.4%) of the students had experienced incidents of sexual harassment. One of those students was male, the others were female. In the majority of these incidents patients were involved (71.0%), in the other incidents medical doctors (22.6%) or residents (6.5%). Incidents were most common during internships surgery (29.0%), internal medicine (25.8%), psychiatry (16.1%) and neurology (12.9%). In depth interviews were done to increase the insight into the background and dynamics of these incidents. In this presentation, more research data and the implications for medical schools will be discussed.

Anxiety associated with evaluation periods in different subjects in freshmen medical students

Eugenia Ponce de León*, Margarita Varela, Elena Meillard and Teresa Fortuñal (National Autonomous University of Mexico Medical School, Camino Santa Teresa 277 (Casa 15, Bosques del Pedregal, Delegación Tlalpán CP 14010, MEXICO)

Background: Previous reports have mentioned that medical students have several sources of anxiety and it has been suggested that this factor is related with poor performance. This fact is more evident during the first year of medical training.

Objective: To assess the change in anxiety levels in freshmen medical students and its relation with their performance.

Summary of work: The State-Trait Anxiety Inventory (STAI) by Spielberger and Diaz-Guerrero, was applied to analyze three randomly selected groups (92 students) from first year medical students from the National University of Mexico. The STAI in its two modes, trait and anxiety, was applied one week before the third partial evaluation from three different subjects (Embryology, Biochemistry and Histology). Ten minutes before the exams were taken in each subject, the STAI was applied again only in the state mode. The mean values from the STAI (state) were obtained and compared with the Inventory standard values previously obtained in Mexican university students.

Summary of results: The mean value obtained before the evaluations was 46±0.8. During the exams period the values were: Embryology 47±0.7, Biochemistry 35±0.9 and in Histology 27±0.7. When gender was evaluated, no differences were found. Comparing our results with those previously reported by Spielberger and Diaz-Guerrero, the values were higher than the basal ones referred to (39±3) by the authors. When gender was analyzed, we did not find differences. Also the low values reported in the case of Histology suggest that other factors are influencing differently in each subject. The analyzed subjects are the ones with the higher failure rate in the freshmen year, and we expected to find higher anxiety states in all of them, but further analysis is need to evaluate other factors which are influencing our results.

Educating ‘copycats’: implementation of a plagiarism detection service

Laura Binnie* and Lesley Diack (The Robert Gordon University, Schoolhill, Aberdeen AB10 1FR, UK)

Aim: To show the implementation process of a plagiarism detection service (PDS) within a school of pharmacy.

Summary of work: All procedures were developed by e-Learning staff within the school. Staff and students were supported throughout by the e-Learning Technologist. All assignments, from short reports to honours theses, in eight undergraduate modules were submitted to the PDS.

Summary of results: Since April 2005, one thousand pieces of work have been submitted into the PDS, with the originality reports generating percentages of 0% to 80%. About 380 undergraduate students have used the system without any difficulties. The PDS will be implemented into postgraduate programmes. The majority of staff have viewed submissions and assessed students’ originality reports. Students were concerned about the implementation but have found it to be a useful addition to the tools they have.

Conclusion: For the successful implementation of the PDS it is vital to: (1) Disseminate the ethos that the PDS is designed to be formative and not punitive; (2) Provide full support and training for both staff and students to ensure full understanding and awareness; (3) Ensure a consistent approach by ensuring students submit their assignments into the software for each module studied.

Survey of stressors among nursing students

B Banakar*, F Majidi and M H Moshkhib (Fasa University of Medical Sciences, Department of Nursing, Ave Sina Sq, Fasa Far, IRAN)

Introduction: Stress is an inevitable process in daily life. Educational occupation is one of the stressors. Physiological and Somatic health can be threatened by tension, and increased anxiety among nursing students can be distracting to their learning process as well as their patient care and support.

Aims: This study was design to determined stress factors among nursing students.

Summary of work: This study is a cross sectional analysis which includes all 3rd semester and above nursing students from our university at Bachelor degree level. A professional questionnaire contained various question (15) related to stressors during their course was designed and given to the students. The data were analyzed using SPSS and square variance statistical programs.

Summary of results: The results revealed that the most common stressors were educational, including discrepancies between theory and practical subjects, training program, acquiring sufficient skills, job opportunities and personal problems. The study revealed a direct relationship between parents’ educational status, parent loss and degree of anxiety (p=0.05). The stress declined with increasing age of the students and stage of their studies.

Conclusion: As an important human resource in society it is important to resolve the key problems and stressors related to the nursing program in order to improve education.

Take home messages: The stressors among nurses may be different in different settings, therefore its evaluation is necessary, in every set up, to solve the above problems.
2J 1 Measuring medical students’ epistemologies, approaches to learning and their perception of their learning environment - piloting a new instrument

Kirsti Lonka*, Parvaneh Sharafi  , Klas Karlgren, Italo Masiello, Juha Nieminen and Anna Josephsson (University of Helsinki, Department of Applied Research Centre for Educational Psychology, PO Box 5, Helsinki Fin-00014, FINLAND)

Aim: This study aims to measure university students’ conceptions of learning, epistemologies, thinking strategies and attribution, well-being, motivation, self-efficacy belief, commitment, readiness to the use of information technology and perception of their earning environment.

Summary of work: The process of creating the questionnaire instrument involved qualitative analyses of the interview data as well as compilation and modification of parts of previously validated instruments. It also involved a cross-cultural adaptation process so that the instrument can be used in both Sweden and Finland. The total of 280 first and fourth year medical students (184 females and 95 males) from two major Swedish Medical Schools participated in the data collection. Scales for measuring different theoretical constructs were created by forming sum variables of the items intending to measure the same construct. The internal consistency reliability was computed for each scale and found to be at least satisfactory for each scale. A principal component analysis with Varimax-rotation was performed in order to see how the scales are related to each other.

Summary of results: The results showed five factors: Dysfunctional learning, Cookbook approach to learning, Meaning orientation, Collaborative learning, and Believing in individual abilities.

Conclusions/take home messages: The results were interpreted as showing construct validity, and the relation between variables were in line with previous research on university student learning. A large-scale data collection in several Finnish and Swedish medical schools has now been conducted.

2J 2 Measuring medical students’ epistemologies, approaches to learning and their perception of their learning environment - piloting a new instrument

J Myers* and E Alstead (Whips Cross University Hospital, Medical Education Centre, 230 Oxford Road, London N4 2HA, UK)

Summary of work: Undergraduate medical students at a London Medical School are separated so that they undertake their first clinical placement at one of eleven hospitals. The placement involves five weeks of medicine and five weeks of surgery. The placement sites follow the same core curriculum agreed by the university and there is standardisation of course instruction and material. Students must attend a weekly problem based learning session and perform a special study module. Each participating hospital has freedom over selection of educators, teaching styles, teaching sites and amount of teaching offered. Shortly after their first clinical attachment students were invited to perform a DREEM inventory.

Summary of results: 199 responses from 331 students (60.1%). The mean score of all students was 131/200 (65.6%). Analysis of variance shows highly significant differences in results between hospitals (p=0.0002). Hospitals within London’s orbital motorway have a mean score 130 (125.5, 131.5). Outside London mean is 140 (135.8, 148.2), significant difference p=0.0001.

2J 3 A new family medicine course at Akdeniz University: preliminary findings

H Yaman*, M Akdeniz, Z Esmek and E Katirci (Akdeniz University, Tip Fakultesi Aile Hekimli, AD, TURKEY)

Aim: To present preliminary findings of our effort to introduce family medicine in the undergraduate curriculum at Akdeniz University, Antalya, Turkey.

Summary of work: The median age of 81 students (36 female and 45 male), who participated in this study and attended this course was 21 (20-30). The content of these new courses was designed according to the "New European Definition of Family Medicine" by WONCA Europe and core competencies recommended by the new EURACT Educational Agenda have been adapted. The course was performed in one block (8 full days, 64 hours) in third year (of six years). Besides short didactic lectures, group works, role plays, group presentations have been used as a method of teaching and training. Portfolios and MCQ have been used in the evaluation process and a 4 half-day practice involvement in primary care, supervised by trained preceptors, has been introduced to this course, which is unique for Turkey. To identify the perceived weaknesses of the new Course the Dundee Ready Education Environment Measure (DREEM) Inventory was used. A linguistic validation was performed before application. The internal validity of this scale was Cronbach alpha=0.91.

Summary of results: The DREEM Inventory had a mean value of 144 [SD=15.3; min-max=117-186]. The students found the learning environment more positive than negative (101-150), close to excellent = 151-200. Subscales of DREEM Inventory revealed following results: Perception of Learning 35 [SD=4.7; more positive], Perception of Course organisers 32 [SD=3.3; moving in the right direction], Academic Self Perceptions 23 [SD=4.5; more positive]; Perception of Atmosphere 35 [SD=5.6; more positive]; Social Self Perceptions 19 [SD=3.5; more positive].

Conclusions: Positive perception of students may enable family medicine to enhance its share of teaching and training activities in the whole curriculum in the near future. This new course might serve also as a model for other medical faculties, where family medicine needs to be introduced to the undergraduate curriculum.

2J 4 Assessing student satisfaction in Phase I medical sciences using the IMU-REEM

Hio-Yee-Yee*, Victor K E Lim, Chan Tze Haw and Sok Hong Goh (The International Medical University, Plaza Komenwel, Sri Petaling, Kuala Lumpur 57000, MALAYSIA)

Background: The IMU-REEM is a slightly modified version of the DREEM (Dundee Ready Education Environment Measure). The modification is only that the end-of-semester assessments are referred to in place of end-of-year assessments. This is a 50-point questionnaire addressing five domains of the education environment: students’ perception of learning, teaching, academic self-perception, perception of atmosphere and social self-perception.

Summary of work: Questionnaires were distributed to students of Semesters 1 to 5 of the Phase I medical course of IMU during 2005. A total of 694 questionnaires were collected (response rate 74.5%). The Likert scale of 0-4 (strongly disagree to strongly agree) was used, with negative statements being converted into positive scales.

Summary of results: An overall score of 119.7 ("a more positive than negative" range) was achieved, and four out of the five domains scored on the positive side. Social self-perception just achieved a “not too bad” score. A general downward trend from Semesters 1 through
was observed in four domains. However, "academic self-perception" was very low with Semester 1 students, rose in Semester 2 and maintained at satisfactory levels in semesters 3 to 5. The significance of these findings will be discussed.

**2J5 Validation of the PHEEM instrument in a Danish hospital setting**

K Aspegren, L Bastholt, T Bested, R Bonnesen*, E Ejlersen, T Fog, T Hertel, T Kodal, J Land, A Malchow-Møller, M Petersen, B Sørensen, J S Madsen and L Wermuth (South Danish University, Office of Medical Education EUU, Faculty of Medicine, Winslowparken 19, Odense C DK-5000, DENMARK)

**Background:** The PHEEM instrument is a recently developed 40 item questionnaire to evaluate junior hospital doctors' learning environment in the UK. Prior to use we performed a validation of it, due to possible differences in hospital culture and work conditions between UK and Denmark.

**Summary of work:** The questionnaire was translated and retranslated into English to ensure content and meaning.

The Danish version was sent to senior and junior doctors from a broad selection of hospital departments, asking them to rate the importance of each of the items on a five grade scale "Not important" to "Very important". Data from 158 senior and 183 junior doctors have been analyzed for relevance, internal consistency, group differences and factors.

**Conclusions:** Four items were considered not relevant in Denmark. Internal consistency was high with Cronbach's alpha 0.92. In areas "Perceptions of role autonomy" and "Perceptions of social support" there were significant discrepancies between senior and junior doctors' ratings. Factor analysis demonstrated 10 items to be interconnected.

**Take home messages:** The validated Danish full version of the PHEEM has 36 items. It may be further reduced in number of items without losing its relevance. Danish senior and junior doctors value some aspects of the educational environment differently.

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**Workshop 2L Peer evaluations, inventories and feedback sessions to improve group dynamics and learning in PBL groups**

Are Holen (Norwegian University of Science and Technology, Trondheim, Norway)

**Content:** The workshop will review verbal and non-verbal aspects of group dynamics, and teach ways to identify essential patterns and polarities in the interaction between students of PBL groups. The participants at the workshop will become familiar with a practical model developed in Trondheim, used to enhance both academic and social learning processes relevant to the health sciences, but also to team work and patient-doctor interactions. Included in the approach is the use of student evaluations, self-reflection, and feedback, also supported by the use of inventories. Every component will be dealt with in some detail, and adequate information and tools will be provided to enable participants to translate the model into their own learning environment.

**Level of workshop:** For participants with preliminary and intermediate knowledge of group dynamics and PBL.

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**Workshop 2M Designing an Educational Portfolio**

Louise Nasmith (Department of Family and Community Medicine, University of Toronto, Canada) and Linda Nieman (University of Texas – Houston, USA)

**Background:** Over the past few years, universities are recognizing the contribution of education and teaching in the promotion and tenure process. However, faculty members continue to struggle with issues related to the documentation and description of their activities and the evaluation of their performance. This workshop will assist teachers and educators in the elaboration of a teaching dossier and of a career development plan within their own context.

**Learning objectives:** At the completion of this workshop, participants will be able to:

1. describe criteria for scholarship particularly in education;
2. identify personal and institutional enablers and barriers to successful promotion;
3. document their educational scholarship activities and evidence of effectiveness;
4. develop an individual plan for career development within their own context

**Method/Format:** Participants will introduce themselves and state their expectations for the workshop. Through group discussion, barriers and enablers for successful promotion will be identified. A brief interactive plenary will present criteria for educational scholarship and ways to document educational activities and their effectiveness. The participants will be divided into smaller groups to develop their own educational portfolios. Key lessons learned will then be shared with the larger group. Finally, they will work in dyads to begin developing an individual plan for career development within their own context. "Take home messages" will be shared as a concluding exercise.
2NA 1 Detecting and handling of professionalism deficiencies in medical students: three-case study approach

Sutat Supapoon*, Wichian Thianjaruttawatana and Sivijit Woonawattana (Khon Kaen Regional Hospital, Srichan Road, Nai Muang, Muang, Khon Kaen 40000, THAILAND)

Khon Kaen Medical Education Center (KKMEC) is strongly concerned with providing professionalism assessment for medical students. The assessment is initiated early and throughout the academic year. While each student worked on a clinical clerkship, they were evaluated for professionalism behaviors with a standard assessment form by staff and nurses in each department. The results were regularly reported directly to staff. If any unsatisfactory reports occurred, counselling staff were informed. They would proceed by exploring problems, giving counselling and probation unsatisfactory behavior. Improved behavior and any further report was monitored until the end of the year. Appropriate action would be considered as necessary. In 2005, professionalism deficiencies were found in three students, and then the process above was carried out immediately. The reported problems of those students were inappropriate communication resulting in conflict with a relative of a patient, inappropriate interrelation with nurses and high self-esteem and low self-esteem leading to clinical decision problems. The specific approaches were used and evaluated. A special workshop was included. All students’ behaviors had improved before the end of the year. Continued detection and handling of professional deficiency students throughout the year reflected various unsatisfactory behaviors and a different approach was considered.

2NA 2 Promoting reflection and professionalism in medical students: a practice-based, integrated approach

Jens J Kaden*, Richard Hoffmann and Martin Boergpre (University Hospital Mannheim, I Med Klinik, Theodor-Kutzer-Ufer 1-3, Mannheim 68167, GERMANY)

The methods to teach professionalism in Medical School are widely discussed. Many present curricula include courses on communication, humanism, ethics, or law. For successful and sustainable professional development, however, students should also be able to reflect on themselves and their patients, yet teaching of reflective skills is underrepresented in many curricula. According to our experience, students consider professionalism a highly relevant topic in general, but mostly have an unclear view of its definitions. Moreover, many students are less interested in learning about complex topics such as professionalism than in improving their clinical and communication skills. Therefore, we developed a practice-based, integrated teaching format in which communication skills serve as a basis for self-reflection, thus creating a seminal learning event to promote communication skills serve as a basis for self-reflection, practice-based, integrated teaching format in which communication resulting in confl ict with a relative of a patient, inappropriate interrelation with nurses and high self-esteem and low self-esteem leading to clinical decision problems. The specific approaches were used and evaluated. A special workshop was included. All students’ behaviors had improved before the end of the year. Continued detection and handling of professional deficiency students throughout the year reflected various unsatisfactory behaviors and a different approach was considered.

2NA 3 Validity and reliability of the Jefferson Scale of Physician Empathy in Mexican medical students

Adelina Alcorta-G*7, S.E. Britvij-H, Juan F Gonzalez-G and F.J Rodriguez-L (University Hospital UANL, Palo Blanco 604, Valle Santa De Engracia, Garza Garcia 66260, MEXICO)

Aim: The availability of a valid and reliable instrument for measuring empathy among medical doctors.

Summary of work: The questionnaire (JSPE - Jefferson Scale of Physician Empathy for Students) was answered by 1022 medical students: first-year (n=687), third-year (n=183) and fifth-year (n=152), mean age of 21±2.7 years (494 women and 528 men). It has 20 items, used to measure orientation toward empathy in patient care situations answered on a 7-point Likert scale. Dimensionality of 20 items was assessed with factor analysis using the principal components extraction method and orthogonal rotation. The Cronbach’s alpha was calculated for evaluating the internal consistency.

Summary of results: The internal consistency was satisfactory 0.74. The mean of empathy scores was 110. Range was 44-140; the possible range of 20-140. The mean empathy score was higher for women than men (111.9 ± 13.9 vs. 109.08± 14.1, p=.002). Age was not significantly correlated with empathy scores, even after controlling for sex (women: r=-0.01; men: r=0.02).

Conclusions: The results supported the validity of the JSPE among medical students in Mexico. The perspective taking, first factor, corresponded to the main ingredient of empathy. The other two factors, were components of the doctor-patient relationship. These findings are consistent with those reported for the U.S. medical students.

2NA 4 Measuring medical student implicit bias toward obese patients

Sonia Crandall*, Gail Marion, Kristie Long Foley and Mara Vitolins (Wake Forest University School of Medicine, Department of Family & Community Medicine, Medical Center Blvd, Winston-Salem, North Carolina NC 27157, USA)

Although physicians recognize health risks of obesity they seldom intervene. Obese patients are thought to lack willpower and are disparaged by physicians because of their weight, which negatively influences their use of preventative services. Measuring implicit bias toward “fat” amongst students may assist in their dealing with bias prior to treating clients. This study assessed implicit “fat/thin” bias in second year students.

The Implicit Association Test (IAT) was administered; reaction time of automatic memory-related associations was measured. Students categorized words (20 seconds/test) under “fat people” or “thin people.” The first component measured attitude (“good” versus “bad”), the next measured stereotype (“motivated” versus “lazy”). Categorization of words is facilitated when they match participants’ memory associations (fat=bad/lazy versus fat=good/motivated). Paired t-tests were calculated on mean difference in correct responses.

Ninety-four percent of the class attended the lecture; 80 completed the test. The means for “fat-thin” were 26.3 (fat=lazy; SD = 6.45) and 15.0 (fat=motivated; SD=4.80). The mean difference in correct responses was 11.3 (t=17.02, p<0.000, SD=5.89). The stigma toward obesity is illustrated and education to reduce bias appears warranted.
2NA 5 Integrating medical ethics into clinical clerkships. Experiences with ethical case studies at the reformed curriculum track, Charité Universitätssmedizin-Berlin

C. Riesling*, A. Antolic, A. Fröhmel, S. Graumann, C. Nahlik and S. Schleiermacher (Reformstudienproj Medizin, Charité Universitätssmedizin Berlin, Charitéplatz 1, Berlin D-10117, GERMANY)

There are several approaches for teaching medical ethics in undergraduate medical education. For a problem-based curriculum as in Berlin, a case-based approach seems to be most appropriate to integrate theory and practice of ethical reflection and decision making. A longitudinal ethics curriculum was developed including five modules from the third to the fifth year of medical studies. Each module is integrated in a clinical clerkship covering gynaecology, paediatrics, psychiatry, geriatrics, and surgery. The modules consist of three elements: a one-hour lecture dealing with legal aspects, a three-hour course in small groups dealing with a video-based case study, and a web-based learning proposal for self studies with additional literature, cases, and online discussions. Objectives, course concept, and assessment strategy will be presented.

2NA 6 Do attitudes of medical students change during the medical undergraduate course? I. M. Benseñor, P. L. Bellodi, E. R. Tomic*, M. F. Galares, P. A. Latofo and M. A. Martins (School of Medicine, University of São Paulo, BRAZIL)

Aim: To evaluate changes in students’ attitude during the undergraduate course.

Summary of work: A validated Likert-type scale was used to evaluate students’ attitude regarding psychological aspects of disease, death, primary care, mental disorders, research and community issues in a cross-sectional study. Score <3.0 suggests negative attitude; between 3.0-3.9 conflicting attitude; >3.9 positive attitude. Mean percent-score was calculated using ANOVA (Bonferroni post hoc) for each aspect from moment-zero (student was selected for medical school before classes begin) to the end of each school-year.

Summary of results: For psychological aspects of disease there is a decrease from moment-zero (4.2±0.6) to year-6 (3.8±0.8; P for trend <0.0001); for aspects related to death there is an improvement in attitude from moment-zero (3.1±0.7) to year-6 (3.6±0.8; P for trend <0.0001); for aspects linked to primary care and community issues, attitude is always positive but for research and mental health, attitude is always conflicting without any change along time.

Take home messages: Students change attitude relating to death for a more positive one and related to psychological aspects of disease to a more negative one. Attitude to mental health has the worst score.

2NA 7 Assessment of ethical reflection by medical students during internship

Chris Aubry and A. Deleteteäre* (KULeuven, Voordigheidscentrum Faculteit geneeskunde, O&N 2, postbus 322, Herestraat 33, 3001 Leuven, BELGIUM)

Aim: In the 3th year of medical school at the K.U.Leuven a course in medical ethics consists of lectures and small group seminars. Students learn how to use a methodological framework to guide their ethical reflection. In the 6th year, during an internship on obstetrics and pediatrics, students have again to present an ethical dilemma in small groups. Research questions are: (1) What is the students’ attitude towards this seminar in the 6th year? (2) Do students still use the methodological frame after 3 years?

Summary of work: In order to assess the remaining competence of ethical reflection, we examined students’ perception and analyzed the content, the correct use of the methodological framework and the quality of the argumentation of the presented cases.

2NA 8 Reform in medical ethics curriculum of undergraduate medical education in School of Medicine, Tehran University of Medical Sciences

Fariba Asghari and Azim Mirzaazadeh* (Tehran University of Medical Sciences, PO Box 14185-481, Tehran, IRAN)

Background: Although medical ethics issues was a major consideration throughout the history of Iranian medicine, in the recent years, medical ethics has emerged as a priority within medical education institutions and among ethics educators in Iran. Considering several defects in our old medical ethics curriculum for UME program, there is a strong motivation toward reform in this program.

Methods: Based on 2 needs assessment studies conducted by Medical Ethics Research Center of Tehran University of Medical Sciences, and a thorough analysis of current medical ethics program of the undergraduate program, a curriculum committee has been appointed by the dean of school of medicine. An orientation workshop has been organized by the Educational Development Office of the Medical School, which introduces the curriculum committee members to curriculum development process and also those teaching & learning methods which are more suitable to medical ethics education (e.g. small group teaching). After participating in this workshop, the committee develops the new curriculum according to Harden 10 steps for curriculum development.

Results: Since the process of curriculum development is currently underway and according to the proposed plan will be finished by six months, the results will be presented in the conference.

2NA 9 Teaching ethics by workshop

Leila Bazrafkan* and Seid Ziaaldin Tabeie (Shiraz University, Zand Avenue, Shiraz, IRAN)

Introduction: Medical ethics should be a core component of medical education. Residency programs are required to teach and evaluate trainees in the area of professionalism and medical ethics.

This paper presents a new model for teaching medical ethics in the Residency program in Shiraz University of medical sciences.

Method: A qualitative multi-method approach was adopted for using ethics workshops and evaluated. The study involved all students in the first year of dental residency and 5 tutors who facilitated and coordinate dental ethics learning.

Result: Small group teaching in workshops proved highly acceptable to both students and tutors.

Conclusion: Offering formal medical ethics education is a widespread feature. However, the methods to be used to teach and assess learning remain contentious. The diversity of the aims for medical ethics education also creates so many problems for its teaching and assessment. According to our culture and the aims of this study we recommended workshop techniques for teaching and self assessment to assess the cognitive aspects of ethical problem solving.
2NB 1 An assessment of student reflection in clinical elective learning portfolios at the United Arab Emirates University (UAEU)

Elizabeth Thorsteinson* and David Lloyd (United Arab Emirates University, Faculty of Medicine and Health Sciences, PO Box 17666, Al Ain, UNITED ARAB EMIRATES)

Aim: To evaluate levels of student reflection in learning portfolios during clinical electives based on Mezirow’s theoretical model of reflection.

Background: At the UAEU, students are encouraged and financially supported to participate in overseas electives so that they are exposed to medical practice in various settings and have the opportunity for personal and cultural growth. This is particularly important for female students in the UAEU, as societal restrictions limit their experiences.

Summary of work: Student portfolios were introduced to encourage reflective learning. Students contributed daily to journals, and summarized their experience in written narrative reports using a template to encourage critical reflection in specific areas: Personal Aims and Objectives, Elective Description, Academic Achievement, Professional and Personal Growth, and Outcomes. The depth and extent of reflection was measured and after analysis the reports were categorized into Mezirow’s levels of reflection.

Conclusions: The majority of students demonstrated a large amount of reflection but at lower levels (Association, Integration, Validation). Few students showed high levels of critical reflection (Appropriation, Outcome of Reflection); mainly Professional and Personal Growth. A small percentage of reports was categorized as non-reflective.

Take home message: Portfolios of reflective learning in clinical students can be measured using a straightforward and reliable process. Utilizing a portfolio template can encourage growth and reflection in specific areas of their clinical experience.

2NB 2 Educational reflective portfolio in the assessment of Family Practice Residency Program (FDRP) in Bahrain

Basem Abbas Ahmed Al Uobaide* (Ministry of Health, Primary Care, PO Box 26704, Manama, BAHRAIN)

Aim of presentation: To define Portfolio, Reflection; To identify nature of change; To identify potential stimulus for change; To identify needs assessment for change; To recognize barriers to implementation; To implement strategies for overcoming barriers to change; To recognize maintenance strategy of change; To evaluate the process of change.

Aims of Portfolio Assessment: Matches assessment to teaching; Has clear goals; Gives a profile of learner abilities: - Depth, Breadth and Growth; Is a tool for assessing a variety of skills; Develops awareness of own learning; To develop social skills; To develop independent and active learners; Can improve motivation for learning and thus achievement; Is an efficient tool for demonstrating learning; Provides opportunity for student-teacher dialogue.

2NB 3 Portfolio assessment: the role of the physician adviser

Margaret McKenzie* and Elaine Dannenfer (Cleveland Clinic Foundation, College of Medicine, 9500 Euclid Avenue, NA2-2, Cleveland, Ohio 44195, USA)

A portfolio assessment system with emphasis on achieving nine competencies was instituted for medical student assessment and promotion. Close guidance and mentorship were identified as essential components for skill development and validation of evidence that students met the standards. Physician Advisers were appointed to provide mentorship and guidance to each student by helping them to reflect on and select representative evidence of achieving the competencies for their portfolios. Dialogue between the students and their Advisers facilitated the development of self assessment and reflective skills resulting in the development of focused learning plans for their formative portfolios and representative evidence for their summative portfolios. Early interventions with remediation plans for difficult-to-assess behaviors like professionalism and communication were benefitted identified as advantageous over traditional assessment systems. Benefits to the curriculum included ongoing feedback to drive curricular change and faculty development in areas of teaching, observational and assessment skills. Reported benefits to the Physician Advisers include personal development and improved reflective skills. The role of the Physician Adviser involves being an advocate, mentor and validator to help students develop skills necessary for self assessment and to assure promotion. The role also provides benefits to the curriculum and the Physician Advisers.

2NB 4 Impact of a formative portfolio to assess clinical skills during residency

N Naccache, A Cherifane, E Ayoub, E Nemer and P Yazbeck (Saint-Joseph Medical School, Hotel-Dieu Hospital, Blvd Alfred Naccache, Achrafieh, Beirut, LEBANON)

Aim: This study was carried to determine the impact of a formative portfolio on residents in identifying their educational gaps and improvement in reasoning and learning in the clinical area of anesthetic and postoperative activities.

Summary of work: Clinical cases and learning objectives were chosen by eleven residents based on their practice and were discussed with the mentor. We used a five-point scale (0-5/5) to assess the impact of the portfolio in clarifying their learning objectives, changes that result on their clinical competencies and finally about their self assessment on the educational value of this formative portfolio.

Summary of results: The clinical discussion elaborated by the portfolio was very useful for learning in 55% (scale 4-5/5) and moderate in 45%. It clarified their learning objectives in 36% (4-5/5) to 46% (3/5) and it improved their clinical reasoning in 27% (4/5) to 36% (3/5). The educational value was very positive for 45% (4-5/5) and 55% (3/5).

Conclusion: Residents are given little opportunity to practice self reflection during their medical education. A formative portfolio provides a useful framework to help them identify gaps and learning objectives and improve clinical reasoning and competencies from clinical cases.

2NB 5 Portfolio: a useful tool for PBL evaluation

C Lermanda* and L Ortiz (Universidad Católica de la Santísima Concepción, Conde de la Conquista 264, Puerto Dominguez, Talcahuano CP 728 5585, CHILE)

Aim: To evaluate usefulness and satisfaction level of students after introducing a portfolio as an evaluation tool along a year-course of Medicine based on PBL method.

Summary of work: A special portfolio containing diverse evaluation instruments was used during the integration course (annual) by 52 students. An opinion poll was used to evaluate satisfaction after three months among students. Tutors were asked about usefulness of this tool to evaluate every necessary issue in PBL (self assessment, peer assessment and summative one by tutor).
2NB 6 Clinical assessment of PRHOs
Ann-Helen Henriksson* and Charlotte Ringsted (Copenhagen University Hospital, Center for Clinical Education, Rigshospitalet, Dept 5404, Blegdamsvej 9, Copenhagen DK-2100, DENMARK)
Aim: The aim of this study was to determine faculty’s attitude toward the usability of a PRHO’s logbook and faculty’s attitude towards assessing PRHO’s in general.
Summary of work: Semi-structured interviews addressing the key questions were conducted with 13 faculty members, program directors and clinical supervisors. Purposeful sampling was done in order to represent both medical and surgical departments in Copenhagen Hospitals and GP departments. Interviews were recorded and transcribed. Data were analyzed using the coding program Ethnograph v5.0.
Summary of results: Preliminary results show that the logbook is used in the three formal appraisal meetings to decide which outcomes are met rather than as an assessment tool based on clinical observations. While faculty stressed the importance of assessing the PRHO’s, they questioned the usefulness of assessing the PRHO’s on long lists of procedures and patient categories. Rather, they believe the focus of assessment should be the PRHO’s role as a doctor, their professionalism, and their ability to work in teams, to prioritize and to be responsible.
Conclusion: The logbook is used as a checklist. Actual assessment is done by general impression of the PRHO and according to other objects.

2NB 7 Students evaluate differently from teachers: results from a logbook evaluation
Stefan Stieger*, Andrea Praschinger, Kurt Kletter and Franz Kainberger (Medical University of Vienna, Department of Medical Education, Spitalgasse 23, BT 87, PO Box 10, Vienna A-1097, AUSTRIA)
Introduction: The reform curriculum at the Medical University of Vienna is constantly evaluated during gradual implementation. Meanwhile students attend clinical training at different clinical departments. In order to have an instrument for performance review, a logbook was developed. This is based on objectives and levels of competence to document skills and knowledge.
Summary of results: Portfolio proved a useful tool for helping in PBL method development but not so good as an evaluation tool.
Conclusions: This portfolio must be redesigned to fulfill PBL assessment needs.

2NB 8 Evaluation of midwifery students in practice courses with logbook
Nezal Ajh (Qazvin University of Medical Sciences, Nursing and Midwifery Faculty, No.22 Tabatabali Ave, Akbari Blvd, Azadi Ave, Tehran, IRAN)
Introduction: The evaluation process is a difficult and essential process, because most students are not satisfied with their scores. Some of them believe their scores are low. For others this process is accompanied with stress. Because of this the researcher believes that using a logbook for self-evaluation can help teachers to involve students in this process.
Summary of work: This article is a descriptive comparative study. It compared scores and satisfaction with two methods among midwifery student in the last semester of their courses. One method was the current way with a checklist and the other was using a logbook as a self-evaluation. The sample was 21 midwifery students. They marked any activities with A, B, C, D in their logbook daily. At the end of the semester they were evaluated with the current checklist. Then the researcher calculated all of the logbooks scores.
Summary of results: The mean of the scores base on the logbook evaluation was 16.33 versus 17.88 (from 20) by checklist. 85.71% of students preferred and were satisfied by the logbook evaluation.
Conclusion: Although scores from the logbook were low, students were satisfied with their participation through this process.
in the area. Students spend a two-week period at each speciality. The aim is to learn common diseases and co-operation between primary and secondary health care. Medical students follow GPs and doctors in the hospital in their everyday work. They learn to examine real patients and perform small procedures. Medical teachers guide group works on special themes. On last Friday all three groups have a joint seminar, where real patient cases are discussed together. In year 2005 245 students participated in the seminar. They were asked to evaluate various items of teaching on a scale from 1 (very poor) to 5 (very good). Altogether 226 students returned the questionnaire giving a response rate 92.2%. Mean evaluation score of all students to some items: "Venue suitable for teaching" 4.2, "Staff participating in teaching and guidance" 4.1, "Atmosphere positive to studying" 4.3, "Possibility to participate in practical work and procedures" 4.0, "Patients’ attitude towards students" 4.6. According to the feedback medical students are getting good education in a pleasant working environment.

20.3 Difference between the first and fourth graders in the attitude toward a new educational program: the long-term community family follow-up by medical students

Kenichi Mitsumori*, Tsutomu Tanaka, Katsuyuki Ide, Yukiko Takeuchi, Junji Nishiyama, Hideyoshi Matsuura and Tadao Bamba (Shiga University of Medical Science, Department of General Medicine, Tsuchinowa-cho, Seta, Otsu, Shiga 520-2192, JAPAN)

Background: Ability to comprehend the situations and desires of patients and their families is essential for patient-centered, whole person medical care. To facilitate the medical students acquiring this ability, we've just started a new educational program, the Long-term Community Family Follow-up by Medical Students (LCFFMS), having pairs of medical students of different grades visit patients and their families under visiting medical care by community physicians up to 6 years. We investigated the differences in the attitude toward this program between different grades of students before its start.

Summary of work: The objects were the first and fourth graders of our university. We carried out a questionnaire survey with 1 (very unlikely) to 7 (very likely) rating scales for answer. Although the fourth graders (n=88) rated the importance of considering psychosocial background (p<0.05) and the level of understanding whole person medical care (p<0.001) higher, they considered the LCFFMS more tiring (p<0.02), less useful (p<0.01), and more appropriate for elective course (p<0.001) than the first graders (n=78, unpaired t-test).

Conclusions: Our fourth graders tended to hesitate to learn from their own experience.

Take home messages: The whole person medical care education should be started early in the undergraduate curriculum.

20.4 Integrated Community and Child Health – learning child health in context

Graham J Reynolds* for the ICH development team (ANU Medical School, Department of Paediatrics & Child Health, The Canberra Hospital, PO Box 17, Woden, Canberra ACT 2606, AUSTRALIA)

The practice of paediatric medicine and child health has moved from the acute hospital setting and it is recognised that this does not provide an adequate model for child health care learning into the future. We have developed an integrated community and child health program by combining a General Practice and community term with Paediatrics and Child Health into a 20 week attachment based outside the acute care setting. The student learning program is largely self directed and is focused around seminars and case based learning from patients encountered in community practices. Each weekly seminar encompasses a range of problems that can span from infancy to the elderly adult and emphasises some of the common features to each in respect of community supports, services, and co-ordinated medical and nursing care. Remaining weekly sessions are divided between a general practice, and a paediatric practice, community services, therapy agencies, assessment programs and students are expected to follow patients from the GP to the paediatrician, from home to hospital and back. This paper addresses the outcomes from the first semester in this unique program in a graduate medical school and signals a paradigm shift to engaging students in the real issues of child health in the community.

20.5 Population health field research projects as an integrated component of the community medicine clerkship

Michael Grivina*, Peter Bass and Fatma Al-Maskari (United Arab Emirates University, Faculty of Medicine & Health Sciences, Community Medicine, PO Box 17666, Al Ain, UNITED ARAB EMIRATES)

Background: In order to do community diagnosis and evaluate interventions, physicians need training in planning and rapidly executing population-based surveys. Our clerkship includes a population health survey designed to provide students with the opportunity to collaborate with key sectors, such as schools, police, industry.

Summary of work: We assessed 226 community medicine student research projects between 1992-2006 to verify topics and compare with public health priorities. Topics included maternal-child health 26%, chronic diseases 22%, infectious diseases 11%, behaviour and stress 8%, occupational 7%, injury 7%, quality of care 7%, multidisciplinary 5%, other 7%. Cancer and determinants such as smoking were counted under chronic disease, and accounted for 6%.

Conclusions: Recent surveillance shows cancer and injury are the two leading underlying causes of mortality in the region. Since student research should address public health issues, greater attention is needed to under-researched topics.

Take-home messages: Practical surveys as an integral part of a clerkship provide real experience in community diagnosis to complement skills in assessment of individual patients. When combined with a field intervention, projects give experience in active prevention in a population, prior to incidence of health events.

20.6 Methodology for evaluation of population health field research projects and other teaching as components of a community medicine clerkship

Peter Bass*, Michal Grivina and Fatma Al-Maskari (United Arab Emirates University, Department of Community Medicine, Faculty of Medicine & Health Sciences, PO Box 17666, Al Ain, UNITED ARAB EMIRATES)

Background: We developed a methodology for evaluation of our final-year community medicine clerkship, operational since 1992. A key clerkship element includes rapid field surveys by small student teams, with 226 completed 1992-2006, supplemented by lectures, seminars, and field visits.

Summary of work: We assessed students from the 2004-2005 academic year; average class size 40 students, 75% female. Using a four-item Likert scale, students scored field projects by helpfulness on seven points: Protecting my future patients and populations, my future evidence-based practice, learning how to work in a community, learning how to work with a target population, understanding research in medical journals, stimulated me to think in new ways about health, encouraged me to conduct future research. Other clerkship elements were
assessed on three variables: helpfulness for my project, for my practice, for understanding medical journals.

Conclusions: Responses to items on the field project were: strongly agree, mean 70%; range 63%-77%; moderately agree, mean 29%; range 23-34%; disagree strongly/disagree, mean 5%; range 3-11%. Support for other teaching linked to projects was similarly high, but variability was greater for other topics.

Take home messages: It is useful to assess practical value of clerkship teaching for all students, not only those interested in the specialty. Practical field projects and related teaching were strongly supported.

207 Vaccination campaigns: a strategy for learning
Pilar Talayaya, Julio Gómez, Antonio Talayaya and Jorge Oviedo*
(Universidad Westhill, Domingo García, Ramos #56, Prados de la Montaña, Santa Fe, Guimnala, Mexico City 06510, MEXICO)

The programme at the Escuela de Medicina Dr. Santiago Ramon y Cajal from Westhill University, integrates the scientific and humanist aspects with community work from the first year of medical school to the last, in a gradual manner. During the first year, health promotion and preventive actions are carried out, especially during the vaccination campaigns. The Mexican Health Sector carries out three vaccination campaigns annually. The experience of three years of working in vaccination campaigns is presented. The students are trained in techniques for the management of anti-polio and measles vaccines at school by their professors and health care staff. At the same time, the distribution of students is planned according to the necessities of the population, and the marginal zones in Mexico City are assigned. On the day of the vaccination campaign, work groups with students, professors and health care staff are integrated. For three consecutive years all the first year students have participated in the vaccination campaigns. 2,500 doses per campaign day were applied on average. The early contact with the population's needs has generated a more motivated attitude and better comprehension of the health-disease process in the first year students and we have also supported the coverage of doses applied in the health districts in Mexico City.

208 The retention rate of working in community hospital (rural area) of medical interns graduated from Collaborative Project to Increase Production of Rural Doctors – CPIRPRD
Medical Education Center, Saraburi Regional Hospital, Thailand

Chitpongs Sujaonsoong* and Ratikorn Phuksangsenn (Saraburi Regional Hospital, Department of Pediatrics, 18 Tessabun 4, Pichai Road, Pak Pue, Muang, Saraburi 18000, THAILAND)

Background: Saraburi Regional hospital is a service and teaching hospital, involved in Collaborative Project to Increase Production of Rural Doctors (CPIRPRD) to produce 30 doctors annually. The project is a collaboration between Ministry of Public Health, Ministry of University Affairs and Regional hospitals in Thailand. The students are recruited from the local area at the provincial level. We expect that the graduates from this project will stay longer in rural hospital than from a conventional graduate from a conventional medical school.

Objective: To survey the retention rate of working in community hospital (rural area) of CPIRPRD medical interns graduated from Saraburi Regional Hospital.

Summary of work: Data from two succeeding years in 2005 and 2006 were collected. Questionnaires were distributed to interns graduated from Saraburi regional hospital.

Summary of results: There are 6 doctors graduated from CPIRPRD in the year 2002. All worked in the community hospital for the first 3 years. In the year 2005 only 1 doctor still works in the community hospital. There are 11 doctors graduated from CPIRPRD in the year 2003 and the same as previous group they work in the community hospital for the first 3 years. In the year 2006 there are only 2 doctors in this group still working in the community.

Conclusion: The retention rate of working in the community hospital does not differ from the graduate from conventional medical school.

209 The High Clinic: a pilot project of a new model for an outpatient, community-based teaching clinic in Rheumatology
Hani Almoallim*, Andrew Chalmers and Gordon Page (Umm Alqura University, PO Box 1821, Jeddah 21441, SAUDI ARABIA)

Objectives: To develop an outpatient, community-based clinical education experience for second-year rheumatology fellows based on sound education principles.

Summary of work: The outpatient clinical education experience consisted of four steps. In Step 1 second-year rheumatology fellows assessed patients and reviewed their cases with two supervisors. Step 2 entailed each fellow presenting a brief summary of each case to their colleagues and supervisors for discussion and analysis of learning issues. In Step 3 each fellow conducted a literature search of the learning issues identified in Step 2. Step 4 occurred in the days following the clinic and entailed a seminar discussion of the literature search results with fellow colleagues. At the end of this outpatient clinical education program, questionnaires were given to participating fellows to assess its effectiveness.

Summary of results: All participants judged this new clinical education program to be practical and effective; outcomes were positive for all skills specified as objectives for the clinic.

Conclusion: This model of outpatient community-based clinical teaching, named ‘The High Clinic’ is a new and effective model for a teaching clinic in rheumatology, featuring augmented patient exposure, increased interactions with supervisors and a case-based learning.

210 Placing the patient at the core of teaching
Fiona Muir* and Penny Lockwood (University of Dundee, Tayside Centre for General Practice, The Mackenzie Building, Kirkby Sempcle Way, Dundee DD2 4BE, UK)

Aim: To present the value of early patient contact in teaching patient centred medicine.

Background: Dundee University Medical School’s curriculum redesign allows first year medical students to follow a patient with a chronic healthcare problem within the community setting over a 3 year period. This opportunity was used to develop their knowledge and understanding of patient centred medicine.

Summary of work: During year one the students visited their patients twice and were provided with aims and objectives which focused on patient centred medicine. A focus group was set up to get feedback regarding the patient visit and to find out how the students valued it.

Summary of results: Students reported that: (1) Early patient contact had enabled them to have a better understanding of patient centred medicine; (2) Students enthused about meeting a patient early as it brings reality to their careers and a clearer understanding of the patient’s condition.

Take home message/Conclusion: Students enjoy early patient contact as it places the patient at the centre of the learning experience. The patient journey is an enjoyable method of student centred learning and of documenting their experiences in a non-threatening way.
2011 Health reforms and medical education: possible influences of transformation in health program in Turkey

Haran Balcioglu*, Kerer Yatansev, Meltem Cekkiloglu and Muzaffer Eskiocak (Ankara University Medical Faculty, Department of Medical Education and Informatics, Dikimevi, Ankara, TURKEY)

Background: The aim of the health system is to provide equitable and comprehensive health care. Medical education aims to equip students with the understanding of priority needs and skills and attitudes to respond. In Turkey, innovative changes occur in medical education, e.g. primary care centres are being more used as settings for early patient contact and community medicine training. At 2004, the Ministry of Health initiated a major health reform “Transformation in Health (TiH)” comprising a family medicine model instead of existing multidisciplinary primary health centres; decentralization; and premium-based health insurance.

Summary of work: TiH was analysed considering innovations in medical schools. Influences on medical education were discussed considering current health needs and results of pilot implementation.

Conclusions: TiH divides primary care into distant parts; personal care by solo-practising family physicians (FP) and community preventive care by community health centers (CHC). Pilot implementation showed: FPs’ tendency towards curative services; no collaboration of FPs and CHCs, implying a difficulty in achieving community-oriented and community-based medical education objectives.

Take home messages: Health reforms should consider resources and needs of the community. The aims and objectives of the health system and medical education are difficult to achieve if a reform doesn’t involve medical schools and the community in planning process.

2012 Using primary care units for learning community medicine in preclinical year

Wiroj Wannapira*, Choomnoom Promkutkao and Supasit Pannarunothai (Naresuan University, Department of Community, Family and Occupational Medicine, Faculty of Medicine, 99 Tambon Tapho, Muang District, Phitsanulok 65000, THAILAND)

Background: In 2005, community-based learning for teaching community medicine in Year 3 at Naresuan University was moved from rural to suburban area at primary care unit (PCU). The main objective was to evaluate the 4-day course community teaching in relation to preceptor and curriculum assessment.

Summary of work: 116 students were divided into 11 groups and assigned to work together and with preceptors at PCUs around the university. Supervision was carried out periodically by medical teachers. Self-administered questionnaires were used to collect data at the end of the semester.

Summary of results: 64% of 116 questionnaires were administered questionnaires were used to collect data was carried out periodically by medical teachers. Self-administered questionnaires were used to collect data at the end of the semester.

Summary of work: TiH was analysed considering innovations in medical schools. Influences on medical education were discussed considering current health needs and results of pilot implementation.

Conclusions: TiH divides primary care into distant parts; personal care by solo-practising family physicians (FP) and community preventive care by community health centers (CHC). Pilot implementation showed: FPs’ tendency towards curative services; no collaboration of FPs and CHCs, implying a difficulty in achieving community-oriented and community-based medical education objectives.

Take home messages: Health reforms should consider resources and needs of the community. The aims and objectives of the health system and medical education are difficult to achieve if a reform doesn’t involve medical schools and the community in planning process.

2013 The experiences in the hometown community hospitals and the medical students’ attitudes, Lampang Medical Education Center, Thailand, 2001–2005

Sukanya Pitaksiripun* and Thavorn Pitaksiripun (Lampang Medical Education Center, Lampang Hospital, 280 Paholyothin Road, Muang, Lampang 52000, THAILAND)

Background: A major cause of physician shortage in rural areas of Thailand is due to the unwillingness of physicians who are not originally from local communities to permanently settle there. The Collaborative Project to Increase Production of Rural Doctors (CPIRD) was established in 1994 to alleviate this problem by selecting medical students from rural areas to study under rural clinical settings and, after graduation, to work in their local community hospitals for a compulsory period of three years. As a part of CPIRD, we try to encourage rural bonding activities for our students during their summer holidays. The aim of this study is to identify our students’ attitudes toward a career in rural health care after they have undergone rural bonding activities.

Summary of work: Medical students were assigned to spend one week at community hospitals in their hometowns at the end of their 4th year. They were required to submit reports about their experiences at these community hospitals. The reports were reviewed and categorized, according to opinions expressed by the students.

Summary of results: We reviewed 112 reports from five cohorts of medical students. The students showed positive attitudes toward careers in rural health care after their bonding activities at local health care facilities. Their positive attitudes can be summarized as followed: 1) Professional satisfaction, 2) Desires to return and to work in their local communities, 3) More compassionate feelings towards patients, 4) Better interpersonal relationship, and 5) Good work experiences at community hospitals.

Conclusions: Our study shows that medical students develop positive attitudes after rural bonding activity. Thus, this bonding activity may encourage more newly graduated physicians to settle in rural areas.

2014 Better health through interprofessional collaborative education - learning together in primary health care

Magdalena Hedberg*, Susan Lindström* and Margaretha Forsberg Larn (Center for Clinical Education, Department of Södersjukhuset, Rehav Södermalm, Tideliusgatan 12, Stockholm 118 95, SWEDEN)

Background: Health science programs need to develop innovative clinical experiences in primary health care to better prepare students for interprofessional teamwork. KUP has identified a number of potentially successful tactics and strategies for tackling logistics and is now building a pedagogic educational structure.

Aim: Provide opportunities for undergraduate interprofessional collaborative learning through clinical training in primary health care settings.

Summary of work: • Students from different programs practice teamwork, meet patients and plan care under supervision. • Case studies whereby students collect data, identify problems, decide how to handle each patient, delegate tasks and discuss outcomes. • Implement interdisciplinary learning process so the students learn about each other’s competences. • Through discussions and seminar highlight new questions out of ethical point of view, compliance, living condition and drugs.

Conclusion: Teamwork will become a natural part of the students’ future work if the students have the opportunity to collaborate with other professionals during their education. The students will be aware of the team dynamics and gain confidence with cross-team working. The care of the patient will be more effective as well as of higher quality through better communication with all actors around the patient in primary health. Evaluation is made by a KUP- questionnaire.
20 15 Faculty development needs of community preceptors

Danielle Blouin*, Elaine VanMelle, Gene Dagnone and Lewis Tomalty
(Queen’s University, Continuing Professional Development, Faculty Development, 82 Barrie Street, Kingston, Ontario K7L 3N6, CANADA)

Aim: Ontario medical schools have substantially increased their enrolment over the last three years. Academic centers can no longer solely assume the clinical training requirements for this larger number of learners. Community preceptors have been recruited to assist. This study assesses the development needs of these preceptors.

Summary of work: Mail survey of 440 Ontario community preceptors having taught for at least one month over the previous year. Questions addressed the number of years in practice, practice type (specialist vs. family medicine), teaching barriers, teaching sites, and preferred methods, formats, timing, and topics for development activities.

Summary of results: Response rate: 60%. Years in practice: median 15 (SD 8.4), 25% were family physicians. Main barriers: time (mentioned by 80%), junior learners (12%), lack of teaching experience (9%). Teaching happens mainly in the office (43%) and in ED (17%). Preferred 1. methods: local seminars (34%), Webcast/online (24%), videoconference (22%), 2. formats: with CME (48%), stand alone (28%), 3. timing: evenings (19%), weekday long (19%), 4. topics: ‘Effective teaching’, and ‘Time-efficient precepting’.

Conclusions: Community faculty development efforts should focus on effective and efficient precepting techniques for ambulatory care teaching, target preceptors earlier in their career, and deliver events locally in conjunction with CME.

20 16 First year medics meet POSEIDON and offer a preliminary diagnosis

B Noble* and P Colt (University of Birmingham, Department of Primary Care & General Practice, The Learning Centre, Edgbaston, Birmingham B15 2TT, UK)

Background: In 2003-4, first year medical students at the University of Birmingham were introduced to POSEIDON; a new learner-centred approach to studying the doctor-patient consultation. POSEIDON was delivered throughout the first six months of the course during their GP attachments. Students completed logbooks, sourced relevant literature and used information as a base for their learning prescription for the week.

Summary of work: Student feedback on POSEIDON was collected during a Nominal Group Technique session, and compared with formal course evaluative feedback. 11 students (from different Practices) took part in this session, and were asked the nominal questions, “What are the strong points of POSEIDON?” and “How would you improve POSEIDON?” The top five anonymised responses to each were collected for analysis.

Summary of results: The students pronounced POSEIDON healthy, particularly valuing it as a consultation guide, and as a tool aiding their further personal development and study. Students prescribed the following recommendations for improvement: more consistent teaching approaches from their GP tutors and greater clarity in the POSEIDON teaching materials.

Conclusions: As a result of the feedback received, we have addressed the consistency of delivery issues during a GP training session, and revised the learning materials supplied. This presentation will report on the key findings, and changes made.

20 17 A comprehensive faculty development program for a new medical school

Lori Lockyer, Elizabeth Farmer, John Bushnell* and Don Iverson
(University of Woolongong, Graduate School of Medicine, Wollongong, NSW 2522, AUSTRALIA)

In January 2007 the University of Wollongong, located on the south coast of Australia, opens the doors of its new medical school to its first 80 students.

Established to meet an increasing medical workforce shortage in Australia’s regional, rural and remote areas, the School’s goal is to produce graduates who have the capacity and desire to practice in these areas. To assist curriculum delivery and expose students to an array of role models, the School draws upon a virtually untapped teaching community. Over 200 local general practitioners and other specialists, appointed as honorary clinical academics, will engage in both campus-based and practice-based teaching. To support these teachers and their full-time academic colleagues, the School has developed a comprehensive faculty development program. The program is designed to model the School’s learner-centred curriculum vision and ensure a consistent approach to curriculum delivery. Based on theory, best evidence and educational research, the mission of the faculty development program is to facilitate and promote the development of highly skilled and self-efficacious teachers through scholarship, leadership, and innovation.

This presentation provides an overview of the conceptual basis, design and evaluation approach of the Faculty Development Program.

20 18 General physician points of view about community-oriented education in Shiraz University of Medical Sciences

Sedigheh Najafi pouir, Fareidon Asizi, Fatemeh Najafi pouir*, Majed Najafi pouir and Vahid Najafi pouir (Shiraz University of Medical Sciences, Valfajer Health Center, Ferdosi St. near to parking pol, Shiraz, IRAN)

Background: After the international conference in Edinburgh in 1988, the necessity of a community-oriented attitude in training medicine, active learning, integrated basic and clinical science and education on the basis of community requirement have been emphasized in Iran’s universities. One decade after implementing community-oriented medical education in Iran, there was no comprehensive report of general physician viewpoints on this matter. This study was conducted in Shiraz University to determine the viewpoints of general physicians who graduated within the last seven years from Shiraz University.

Summary of work: 179 general physicians with less than 7 years’ work experience participated in this study. All relevant literature was reviewed, and a standard questionnaire was chosen. The main questions include: physician opinion on community oriented medical education, its benefit, its objectives, the level of satisfaction from basic science education, medical system, health issue and their success in carrying out clinical services, clinical diagnosis, and clinical judgment.

The information obtained from this study was: 65% of general physicians stated that their education based on society health was moderate and 20% stated it was good. They rated clinical diagnosis, decision-making and treatment as the most successful aspects of their education and radiology diagnosis capability as the most unsuccessful.

Conclusion: The implemented community oriented medical education has been moderately successful.
**2P 1** “Tales of mystery” – students’ perception of problem-based learning environments in the course of an integrated hybrid curriculum

F Wirth, W Gerke, W Vetter and C Schirlo* (University of Zurich, Office for Medical Education, Faculty of Medicine, Pestalozzistrasse 3/5, Zurich CH 8091, SWITZERLAND)

Background: At the faculty of medicine in Zurich the two preclinical years and the first clinical year were remodelled from a lecture-based, discipline-oriented to an increasingly integrated curriculum including problem-based learning (PBL). Program evaluation comprises evaluation of students’ and teachers’ perception of the PBL environments.

Summary of work and results: A questionnaire and interview instruments were applied to assess students’ and teachers’ perception of PBL environments. Data for preclinical years indicated high satisfaction of students and teachers with the PBL environment (M = 4.52-4.57 / max. 6 Points, SD = 1.01-1.0) whereas students’ rating in the first clinical year significantly changes; students perceived the PBL environment rather as a waste of time (satisfaction M = 2.86-2.71, SD = 1.28-1.35). Interestingly, teachers’ rating for PBL environment remains favourable.

Conclusions: The dramatic decrease in students’ motivation for PBL environments might be attributed to the increasing level of interdisciplinary organisation of the curriculum from year 1 to 3 by enhancing heterogeneity and amount of learning contents. Moreover, the augmented focus on clinical learning content might shift students’ interest to other learning environments (i.e. bedside teaching) providing learning situations enabling application of knowledge. In contrast teachers’ perception of the PBL environment remained unchanged over the years.

**2P 2** Assessment of critical thinking tendency in students at School of Medicine (Semester I) in terms of scientific thinking skills, thinking and learning styles

A M Aytaç-Rosat*, D Bekeroglu-Coklu, G Sekercioğlu, T Karahan and S Kemahli (Ankara University, Departments of Medical Education & Pediatrics, Faculty of Medicine, Morfoloji (Dezenifik) Binası, Sihhiye, Ankara 06100, TURKEY)

Background: The main purposes of PBL are to develop problem solving and critical thinking skills. We aimed to determine students’ dispositions toward critical thinking and compare those who have high or low tendencies, according to thinking style and scientific thinking skills.

Summary of work: The study group included 195 volunteers of 340 students in semester I at Ankara University during 2005-2006 academic year. They were given “California Critical Thinking Disposition Inventory”, “Thinking Styles Inventory”, “Scientific Thinking Inventory” and “Kolb Learning Styles Inventory”.

Summary of results: When the study group was divided according to high and low level disposition of critical thinking, the difference between the scores in scientific thinking skills and certain learning styles of the groups were significant. The thirteen thinking styles were grouped according to level of cognitive structures (Typel high, Typell low), a significant difference between high and low critical thinking disposition levels was observed, in terms of Typel scores.

Conclusions: It was determined that the groups differed in scientific thinking skills and thinking styles in accordance with high level cognitive structures. Critical thinking disposition is internal motivation to practice individual critical thinking skills. Therefore, it is important for us to assess contributions of PBL facilities to critical thinking disposition.

**2P 3** Effect of PBL – innovation on teaching behaviour and students’ approaches to learning

Anouk Prop*, Arno Muijters and Jeanette Hommes (Maastricht University, Cap. Group D & 0, PO Box 616, Maastricht 6200 MD, NETHERLANDS)

Problem-based learning (PBL) is increasingly being implemented in higher education worldwide in order to prepare graduates for today’s complex society. It is believed that PBL stimulates student-focused teaching behaviour and a deep approach to learning among students. Moreover, more experience with PBL is expected to result in more deep learning among students. This study aimed to investigate the effect of a PBL-innovation on teaching behaviour and students’ learning approaches at two faculties of the Catholic University Mozambique (UCM). Data were obtained by use of existing validated questionnaires and information from interviews and observations. Tutors in the new PBL-curriculum indeed were found to show the desired student-focused teaching behaviour, but PBL-students did not show more deep learning than students in the traditional curriculum. Additionally, students with less PBL-experience showed more deep learning than students with more PBL-experience. From the present study it can be concluded that teaching behaviour and students’ learning approaches are influenced by a complexity of interacting factors. It is recommended constructive alignment in the curriculum should be achieved and a comprehensive faculty development program should be fostered in order to facilitate educational innovations such as the implementation of PBL.

**2P 4** The introduction of a problem-based learning approach: has it brought changes in student satisfaction and study behaviour?

Jannecke Wiers-Jenssen* and Olaf G Aasland (NIFU STEP, Wergelandveien 7, Oslo N-0167, NORWAY)

In 1996 the medical school of the University of Oslo introduced a new pedagogical model. The new scheme was more interactive, and partly based on a problem-based learning approach. I will present results from an ongoing evaluation of this reform, focusing on the question: Do different curricula create different doctors?

The first set of data was collected at the final year of medical education. A class of medical students studying under the new scheme was compared to a class studying under the old model, as well as a class from another Norwegian medical school, that of the University of Bergen. Median values on seven-point scales are used in the comparison, as well as factor analysis with variance analysis of the factor scores. The overall response rate was 76%. Students studying under the new Oslo approach were more satisfied and reported more active learning strategies than the control groups. They were less curriculum-oriented and used the library more often. Some of the goals of the Oslo reform seem to have been reached. It remains to be seen whether this effect will last. A follow-up survey was conducted in 2006, and results will be added to the presentation.

**2P 5** Narrative in PBL – lacking the patient's voice

Peter Kubé*, Joerg Pelz and Patrick Kraft (Charité - Universitätsmedizin Berlin, Reformstädtenang Medizin, Schumannstr 20/21, Berlin 10117, GERMANY)

Medical socialisation demands acquisition of knowledge, skills and heuristics from medical students – tasks not too easy. Memory and recall are improved if subject matter and learning comprise relevancy, emotion and are true to life.
Listening to patients' narratives can be routine for doctors, vital for patients, mystery to students, and maybe emotionally charging – for all of them. Accordingly, positive effects of patients' narratives on interest, engagement, memory, recall, and medical role modelling of students have been reported.

Hence quality of narrative in paper cases used in PBL curricula is a significant variable in all these respects and has been found crucial for successful learning. We critically reviewed more than 130 paper cases of Charité's 10 semester PBL curriculum for use of narrative. Most cases only feature a few narrative elements and hence differ considerably from complexity met in real medical encounters where ambiguity and interpretation require 'reading of patients'.

Despite great efforts made in creating these cases we found that the potential of narrative is not fully tapped. Cases rather resembling medical records than real cases do not inspire students to tackle aspects of narrative. Narrative in PBL cases should be given its due esteem.

2P 6  
Basic sciences – no problem in a PBL curriculum

J Pelz*, A Braunseberg, S Reinsh and P Kube (Charité, Medical Faculty of the Humboldt University Berlin, Prodekanat für Studium und Lehre, Charité Campus Mitte, Schumannstr 20/21, Berlin 10117, GERMANY)

Aim: The Charité offers a reformed curriculum (5 years PBL based, patient contact right from the beginning). Medical teachers emphasising PBL argue that this approach leads to a better integration of scientific concepts and of basic science. The aim of the present study was to evaluate how far these presumptions are accomplished.

Summary of work: The desired content of students' learning is usually formulated in faculty objectives, which are intended to be covered in PBL and in accompanying curricular activities. Contents of PBL-cases, faculty objectives and students' learning issues for the realm of basic sciences were condensed into keywords and compared for the whole 5 year curriculum.

Summary of results: We evaluated the basic science learning objectives of more than 30 PBL-groups. Learning issues were characterised as 'identical', 'associated' or 'not matching' to faculty objectives and papercases. Although the different groups had their own rhythm to incorporate the basic sciences no real gaps could be detected.

Conclusions: An in depth analysis of all available learning issues of all PBL-groups of five different study years revealed a sufficient coverage of basic science issues, when compared with the faculty intended learning objectives – accompanying curricular activities supported the learning of basic science content during all 5 years.

2P 7  
First year students' perception of the importance of basic sciences for their profession as medical doctors

Bana Vanreucker (Institut für Medizinische Lehre (IML), Studienplanung, Medizinische Fakultät der Universität Bern, Murtenstrasse 11, Bern CH-3010, SWITZERLAND)

First year medical students were asked to evaluate with a questionnaire the first 15 weeks of their PBL-curriculum on (i) the integration of the Basic Sciences into a medical context, and (ii) their acknowledgement of the relevance of these topics in their professional lives as physicians.

The Medical Faculty of Bern offers a comprehensive PBL-based study plan, and is challenged with the fact that the content of Basic Sciences is presented in a medical context from day one onwards. The results of this evaluation show that the pursued goals, to completely integrate and teach Basic Science in a medicine-relevant way, were only partially achieved. The students seem to start appreciating only after 7-8 weeks the contents as relevant for their professional life. This realization is (i) partially related to how knowledge is being taught and (ii) of students' very subjective perception of topics and how they relate them to Medicine. Although almost all cases during the first 7-8 weeks are of medical relevance, the numerous additional lectures monopolize the perception on Basic Sciences and somehow undermine the actual goal of PBL-based studies: contextual learning. If topics such Basic Sciences are being taught in a teacher-centred track that runs parallel to the PBL-system, they may experience increasing difficulties in proving that they represent an important factor for medical studies in the future.

2P 8  
Introducing problem-based learning to postgraduate surgical training in the UK - a proposal for PBL courses for surgical trainees on the specialty training programmes

Z Toumi (Sheffield Teaching Hospitals NHS Trust, 66 Gleadwood Crescent, Brampton Bierlow, Rotherham, South Yorkshire S63 6BU, UK)

Aim: Problem based learning is not widely used in postgraduate surgical training in the United Kingdom. This presentation explains how we used a problem-based approach to plan a course for postgraduate surgical trainees in the UK.

Summary of work: We described how the course was planned first. Then we analysed the educational strategies of the course. A discussion about the advantages of a problem-based approach over a traditional approach follows.

Summary of results: We found that a problem based approach to surgical training is a possible approach and might prove to be very beneficial to the trainees. Apart from learning important topics in a motivating and integrated environment, problem-based learning provides the trainees with skills and attitudes which are of great value to their careers.

Take-home message: Problem-based learning should be utilised more in postgraduate surgical training in the UK. More research is needed to find out whether a problem-based approach makes a real difference to the overall training of surgeons in the United Kingdom.

2P 9  
Factors inhibiting the assessment of students' professional behaviour in the tutorial group during problem based learning

Walther N K A van Mook*, Willem S de Grae, Elise J Huissman, Marianne E Luth, Diana H M Dolmans, Arno M M Mulijens, Lambert W Schuwirth and Ces P M van der Vleuten (University Hospital Maastricht, P Debyeelaan 25, PO Box 5800, Maastricht 6202 AZ, NETHERLANDS)

Background: Professional behaviour (PB) assessment is increasingly emphasized. This study focuses on critical incidents (CI) relating to PB assessment in the tutorial group, investigating: (1) Which factors underlie CI? (2) How are incidents regarding inhibition of assessment rated? (3) How are incidents regarding frequency of occurrence rated? (4) What is the actual impact? (5) Are there differences between the years?

Summary of work: A questionnaire with 40 descriptions of CI about frequency of occurrence and the extent of inhibition of PB assessment.

Summary of results: Incidents were rated by second, third and fourth year students (n = 395, response rate 70%).

The following dimensions were considered essential: lack of reciprocal good assessment and feedback, escaping assessment, lack of confrontation, lack of solution and resistance to assessment. Confirmatory factor analysis showed good fit, and dimensions proved reliable. The product scores on frequency and inhibition provided information about the actual impact in educational practice. Between year groups they were increasingly perceived as inhibitory, without increasing in frequency.

Conclusions: This study provides information about factors and incidents tutors and students need training in. Although tutors play an important role, the students' contribution should not be ignored.
2P 10 Evaluation of problem based learning by tutors in Akdeniz University School of Medicine
Erol Garpinar*1, Feyyaz Adyildiz, Omer Ozbudak and Yesim Senol (Akdeniz University Faculty of Medicine, Department of Medical Education, Campus Antalya, Antalya, TURKEY)

Background: The purpose of this study is to explore the opinion of tutors who work in 2004-2005 education period about the benefits of Problem Based Learning (PBL) for the students and to determine whether the tutors have positive thoughts about PBL.

Summary of work: This study is a cross sectional and descriptive one. Questionnaires were sent to a total of 101 tutors. This questionnaire includes the following: department of tutor, duration of tutorials and their opinion about PBL.

Summary of results: Positive thoughts of tutors about PBL is 70.2% for “do you think PBL is beneficial for students in general?” and 56.5% of tutors answered “yes” for “Are you satisfied with PBL?”. Also, most tutors have positive thoughts about benefits of PBL for students.

Conclusion: The result showed tutors have positive thoughts about PBL.

2P 11 Teaching Taiwan indigenous peoples’ history to medical students with a project-based learning approach
Shih-Chieh Liao*, Kun-Yen Huang, Ying-Sheng Hung, Wouter Chen, An-Chyi Chen, Wu-Hsiung Hung, Pei-Ying Pai and His-Chin Wu (China Medical University, Medical School, 91 Shueh-Shih Road, Taichung 403, TAIWAN)

Aim: Most history courses are dominated by the didactic form of lectures in which students only passively receive information from the teacher but seldom become active learners. In order to correct this undesirable form of learning and to nurture the self-directed learning ability of humanities among medical students, we developed a history course entitled “The Sun’s Tears – Social and Cultural Studies of Taiwan Indigenous Populations” based on the principle of Project-Based Learning (PBL) approach.

Summary of work: Twenty-five medical students from China Medical University participated in this study. A survey was conducted to analyze the effectiveness of such a renovation in teaching.

Summary of results: We found: (1) The contents and design of this history course stimulated students’ learning motivation; (2) PBL facilitated students’ construction of historical knowledge; (3) Cooperative learning among students advocated by PBL increased student’s collaboration and sharing in the learning experiences; (4) PBL enhanced students’ self-directed learning; (5) PBL developed students’ ability to think about social issues more critically.

Conclusions: We concluded that the combination of PBL and the teaching of Taiwan indigenous peoples’ history helped medical students to learn independently, work cooperatively, and think critically.

2P 12 Internet PBL on oral cancer: a collaborative learning experience in Asia
Yasuyuki Suzuki,* Toshiyuki Shibata, Anaka Ariyawardana, Jutti Ramesh, Masayuki Niwa, Kazuhiko Fujisaki, Phillip Evans, and Yuzo Takahashi (Gifu University School of Medicine, Medical Education Development Center, Yanagido 1-7, Gifu 501-1194, JAPAN)

Background: To promote self-directed e-learning, we tried a web-based Internet PBL course on oral cancer, the most common malignant tumor in South-East Asia.

Summary of work: Twenty-one medical and dental students and 6 tutors from Sri Lanka, Japan, Thailand, Malaysia, UK, and Taiwan participated in this course. The cases, figures, learning objectives, and tutor’s guide were uploaded on the web. The website has functions such as identification of participants, discussion board, scenario board, listing function of resources, and e-mailing function. Two different cases with different types of oral cancer and betel quid chewing habit were prepared and presented. After reading the scenario, the participants started to discuss about the cases on the web, and the tutors gave advice. Statements of the students and tutors were uploaded on the discussion board and e-mailed to all participants. Mini-lectures were provided several times by the directors.

Conclusion and Take home message: Although it was the preliminary results, we could share not only medical and scientific aspects of oral cancer, but also cultural and environmental differences of Asian countries. This will promote international shared learning.

2P 13 Further reforming of the higher medical education at the Kyrgyz State Medical Academy by implementation of problem based learning principles
D A Adambekov (Kyrgyz State Medical Academy, 92 Akhunbaev Street, Bishkek 720020, KYRGYZ REPUBLIC)

Aim: Implementation of new 72 hours course of Problem Based Learning (PBL) and two new 36 hours modules on AIDS and Tuberculosis into Integrated Medical Curriculum (IMC) at Kyrgyz State Medical Academy (KSMa).

Summary of work: Since 2001 the students are trained by European IMC at the KSMa. In 6th year the 72 hours PBL course, with the purpose of improvement of teaching methodology and training quality was introduced. The course aims are: practical skills development; PBL basic principles, opportunities and restrictions; basics of epidemiology and statistics in PBL; formulation of clinical question; strategy of the medical information search in Internet; critical assessment of medical publications, clinical guidance; proofs gradation and recommendations. The basic forms of training are lectures and classes. In classes the practical task of a concrete patient treatment problem is established. It is formulated as a clinical question, and then realized through reception and critical judgment of information. Moreover the new 36 module hours on AIDS and Tuberculosis are entered.

Summary of results: After the course students can independently realize all stages of clinical question formulation, Internet information search, critical assessment of medical information on levels of proofs gradation and recommendations, and solve questions of its applicability in clinical practice.

Conclusions: KSMA continues reforming by implementation of PBL principles and new modules on AIDS and Tuberculosis. The problems are: interdisciplinary laboratory base absence, insufficient new technologies, teaching skills of teachers and opportunities for continued education.

2P 14 Value added outcomes in problem-based learning: opinions of fourth year medical students in field training curriculum
Purak Sukit*, Euannont Wuapolong, Luangaram Bunphong, Thaicharoen Wichian and Khunthaw Nichakan (Nakhonsithammaraj Hospital, Medical Education Center, Nakhonsithammaraj Province, THAILAND)

Aim: The aim of this study is to determine the opinions of fourth-year medical students about value-added outcomes in Problem-based learning.

Summary of work: 15 students were divided into 2 groups. They were sent to 2 villages after 1 week of theory in Community Medicine. They were assigned for 2 weeks to live in the community, to identify community health problems and to use a priority problem to conduct their research project. At the end of the session, the questionnaire with a five point Likert scale rating value-added outcomes in PBL was handed out in January of 2006. Response rate of students was 100%. The reliability of the scale was high (Cronbach Alpha = 0.94).
A trial of an internet PBL-tutorial for graduate students: evaluation of a masters course
Masayuki Niwa*, Yuu Takahashi, Kazuhira Takezawa and Yasuyuki Suzuki (Gifu University School of Medicine, MEDC, Yanagido 1-1, Gifu City, Gifu 501-1194, JAPAN)

Objective: To provide a forum to discuss the use of economy and recruitment. the rationale, pedagogical advantages/disadvantages, of medical students as teachers to include topics such as sparse. In this workshop we will broaden the discussion between medical school enrolment and the numbers of.

Secondly, in many countries, there is an imbalance between medical school enrolment and the numbers of available teachers. One way to handle this imbalance is for medical students to teach. The literature on the subject is sparse. In this workshop we will broaden the discussion of medical students as teachers to include topics such as the rationale, pedagogical advantages/disadvantages, economy and recruitment.

Objectives: To provide a forum to discuss the use of medical students as teachers of other medical students.

We have developed a new tutorial education system, Internet tutorial/Rakuichi the Tutorial, that uses internet technology. We have attempted to extend this internet tutorial system beyond undergraduate student education, and apply it to graduate school education, at the Masters level. Three courses with different curricula were evaluated with 47 Master students. One criterion for the success of a course is student participation. Therefore, three different techniques to help facilitate students’ discussion were evaluated: (1) In Courses 1 and 3, students were allowed to observe the content of other classes; (2) face-to-face meetings with students from other courses; and (3) combining three classes into one larger class in Course 3. The number of messages sent by students to the bulletin board was used as an index of participation in a course. The number of messages increased in Course 3 by a factor of almost 1.5, although an increase in the number of messages was not observed in class 1 and class 2. From these data, we suggest that increasing the number of students in a particular class increases the effectiveness of an internet tutorial system.

Summary of results: Sex and groups did not differ significantly in total score opinions about value-added outcomes in PBL. Rating on identified value-added outcomes in PBL varies between 3.68-4.36 out of 5. The students gave high rating to the areas of group/team-work, reasoning thinking and gave lower rating to self directed learning.

Conclusions: The PBL session provided students with opportunities for practice and learning group/team-work, reasoning thinking and self directed learning from a real life situation. Qualitative studies should be conducted to gain better understanding about the effectiveness of PBL for educational outcomes in a field training curriculum.

• Studying supervision as a method of training GPs to handle children with special needs by triangulation of data, methods and researchers.

Intended outcomes: We will lead you through the delight of using triangulation in the study of educational questions. You will see how it can provide you with multiple perspectives and in depth understanding of the educational questions you asked.

Format and content: Short presentations and discussions in small groups of how to design educational research studies or how to develop a course based on research. New ideas or research questions you would like to discuss are very welcome in this workshop.

Intended audience: Educationalists engaged (or wanting to engage) in educational research or course development.

Level of workshop: Intermediate/advanced.
Workshop 25  
**Teaching Clinical Skills Trainers (TECST) – developing a faculty**

Michelle Lorente, Lucy Ambrose and Jean Ker (Clinical Skills Centre, Ninewells Hospital and Medical school, University of Dundee, Dundee, UK)

**Background:** Clinical skills trainers are crucial to ensuring the development of a consistent, high standard of clinical skills delivery by all those involved in the safe clinical care of patients. Although teaching is now an expected responsibility of healthcare practitioners, few have actually received any formal training in the effective teaching of procedural skills. A significant factor influencing the quality of training is the competency of trainers’ teaching skills. This workshop shares components of a short standardised workshop developed at the University of Dundee to support busy practitioners’ teaching skills in a clinical skills environment. This workshop meets the need for standard approaches to the training and delivery of skills and shows participants how to develop a faculty to support the development of clinical skills tutors.

**Workshop content and structure:** This interactive workshop will start with an introduction, followed by 3x30minute stations: (1) Assessment and feedback; (2); Theory of skill demonstration; (3) Lesson planning. It will end with feedback and closure.

**Intended audience:** All those involved in teaching procedural skills.

**Intended Outcomes:**
- Identify how to teach procedural skills one to one and in groups;
- Reflect on why assessment is an essential component of clinical skills training;
- Identify an approach to giving constructive feedback;
- Consider how to develop a faculty for teaching procedural skills.

**Level of workshop:** No prior experience/knowledge required.

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Workshop 2T  
**Giving and facilitating constructive feedback in challenging situations – moving beyond a formula**

Catherine M Smith, Diana Tabak and Anja K Robb (Department of Family & Community Medicine, University of Toronto, Standardized Patient Program, Wilson Centre for Research in Education, 200 Elizabeth Street, One Eaton South, room 565, Toronto, Ontario M5G 2C4, Canada)

**Background:** Feedback is not an isolated, evaluative event, but part of a system of teaching and learning. Feedback supports learning. Complex situations in Health Care teaching necessitate the development of sophisticated feedback skills. The delivery of constructive feedback is a daunting task for even the most experienced teacher. Barriers to effective feedback include a gap in knowledge or lack of confidence about the process and content of feedback, a lack of common vocabulary between teacher and learner to create mutual understanding in the discussion, an unsupportive environment, and of course, learner resistance. Yet immediate feedback is one of the most powerful tools a teacher can employ.

**Objectives:**
- Provide a common vocabulary for the delivery of effective verbal feedback
- Provide guidelines for delivering effective feedback
- Model creating a safe environment to deliver feedback
- Practice in delivering feedback in challenging situations
- Foster self-assessment skills in both learner and facilitator.

**Proposed Structure:** Interactive and experiential activities in large and small groups will include:
- Reflective exercises to promote exchange of ideas
- Explore challenging situations through role playing and taped vignettes
- Problem solving exercises

**Intended audience:** Any healthcare professionals and teachers who must deliver immediate constructive feedback to colleagues or trainees.

**Learning Outcomes:** Participants will:
- Gain insight into their own approaches to giving feedback
- Learn new approaches to feedback delivery
- Acquire new skills needed for advanced effective feedback
- Increase confidence and comfort levels in delivering feedback
3B 1 A strategic approach to regulation in medical education
Paula Roblee* and Ben Griffith (General Medical Council, 350 Euston Road, London NW1 3JN, UK)

Background: The GMC’s Education Committee maintains the quality of medical education by issuing guidance on the outcomes required for medical graduates and trainees and through a programme of quality assurance (QA).

Summary of work: In 2005, we consulted on strategic options for medical education. This facilitated debate on improving patient safety and the quality of medical education. It presented arguments for and against a national licensing examination, for and against a student register, and on the GMC’s undergraduate curricular guidance. We received feedback from over 400 people or organisations.

Summary of results: There was support for reform to assessment at graduation, currently delivered by the 27 UK medical schools (65% argued for change). Respondents supported: deepening the GMC’s QA of assessment; formalising external examiner systems; sharing assessment tools or questions; having mandatory elements in examinations. Over 85% respondents called for reform of student fitness to practise arrangements, currently delivered by the schools. There was: very strong support (over 95%) for GMC guidance; Support for monitoring students through a student register or organisations.

Conclusions: The consultation indicated dissatisfaction with the current UK arrangements and interest in strategic options. The Education Committee will use these results to develop a strategic plan.

3B 2 Impact of modularisation on a medical curriculum
Hemal Thakore and Tim McMahon* (University College Dublin, Department of Pathology, School of Medicine and Medical Science, Earlsfort Terrace, Dublin 2, IRELAND)

Background: As part of its contribution to the Bologna process, UCD, Dublin has restructured its entire curriculum into an outcomes-based modular format. The impact of this reform on both teachers and learners has been profound. The authors are conducting a 5 year longitudinal study of the consequences for teaching and learning.

Conclusions: The impact of modularisation on both teachers and learners has been significant. The authors are conducting a 5 year longitudinal study of the consequences for teaching and learning.

3B 3 Developing a modern Australian integrated curriculum for undergraduate medicine: Monash University 1999-2005
J M Lindley*, Y R McNicoll and A R Luff (Monash University, Victoria 3800, AUSTRALIA)

Background: In 2002 Monash University implemented a case-based, integrated curriculum for the undergraduate medical course. The development of this curriculum presented multiple challenges, including staff engagement and student skepticism. An additional influence has been the prospect of implementing the course in medical and cultural contexts ranging from rural and remote Australia, to the UAE and Malaysia.

Summary of work: In addition to key achievements in curriculum development and delivery including innovative teaching and learning practices, implementation of the new course required development of a range of evaluation processes and a considered approach to quality management.

Conclusions: The impact of modularisation is beneficial to the current UK arrangements and interest in strategic options. The Education Committee will use these results to develop a strategic plan.
developed the outcomes in significant ways. Curriculum implementation created energetic debate among stakeholders throughout the roll-out (2002-2006), influencing curriculum content, teaching and learning practices and assessment.

Take home message: The implementation of an integrated curriculum requires an innovative approach to evaluation and quality processes.

### 3B4 Developing a task-based learning model in endocrinology

Maira S Lewitt*, Eva Genbäck and Anna-Lena Hulting (Karolinska Institutet, Department of Molecular Medicine and Surgery, M1:02, Karolinska University Hospital Solna, Stockholm S-171 76, SWEDEN)

Background and aims: Karolinska Institutet is developing Karolinska University Hospital Solna, Stockholm S-171 76, SWEDEN (KUHS) and its endocrinology curriculum. Curriculum change is expected to be horizontal and vertical integration, and more student-selected learning. Curriculum change is expected to be accompanied by feelings of resistance amongst staff and there may be concern about loss of identity as a discipline. We plan to implement task-based learning in the current undergraduate programme aiming to: (i) promote a more student-centred approach to teaching, and acquisition of generic skills; and also (ii) to prepare staff for the transition to a more integrated teaching programme and (iii) to ensure that teachers have input and a sense of ownership of change in the curriculum.

Summary of work: In this phase of the project we have been systematically communicating with all staff involved in undergraduate teaching in Endocrinology, by interview and e-mail questionnaire, with an aim to define what is "core" and identify possibilities for student-selected components. We are also documenting attitudes to and concerns about future change, encouraging reflection and identifying learning needs for teaching in the new curriculum. Further systematic rounds of inquiry will be extended to a broader group of "stakeholders". The results of this process will be presented and discussed.

### 3B5 A urological curriculum around key symptoms

U Zimmermann* and K-J Klebingat (University of Greifswald, Department of Urology, Fleischmannstrasse 42-44, Greifswald 17487, GERMANY)

Background: Micturition disorder, pain, alteration of urine quantity and quality and sexual disorders are the key symptoms of most urological diseases with a high practical relevance. While most of the graduating students will not become urologists it is essential to teach urological diseases in an adequate manner. Therefore we introduced a curriculum around these symptoms. The goal was to teach urological knowledge, attitudes and skills in a more practical setting.

Summary of work: In 2002 we started with teaching communication skills and investigation methods in small groups for 100 first clinical year students. In the second year lectures about the majority of urological diseases followed, combined with a small group course for one week with practical working under supervision. In the third clinical year interdisciplinary teaching was used. Evaluation was done with structured observation and MCQ. About 85% of the students ranked the didactic concept, content, practical relevance and use at high or highest level.

Conclusion: This curriculum is a feasible method to teach urological knowledge, attitudes and skills. It sensitises students to the importance of these symptoms and investigations for non-urologists.

Take home message: Use key symptoms to teach urological diseases.

### Short Communications

#### 3C Students 2 – Peer to peer learning

#### 3C1 Comparing fourth year medical students using peer-assisted learning to a specialist physiotherapist teaching musculoskeletal screening

Keith Graham*, Joanne Burke and Max Field (University of Glasgow, Wolfson Medical School Building, University Avenue, Glasgow G12 8QQ, UK)

Summary of work: This study aimed to compare training given by medical students using peer-assisted learning with that of a specialist clinician using a didactic approach. Two groups of fourth year medical students (n1 = 2, n2 = 2) were trained in PAL techniques and musculoskeletal screening using the GALS examination. Each pair of senior students recruited and trained a group of second year students (n1 = 14, n2 = 14) in GALS, over two two-hour sessions. A Clinical Specialist Physiotherapist recruited a third group of second year students (n3 = 19) and provided a two-hour didactic training session in GALS. Confidence was measured using a 10cm visual analogue scale.

Summary of results: All students showed an increase in confidence using GALS after training (p<0.000). There were no significant differences found between the groups in the improvements in confidence levels (p>0.000). Students completed a course experience questionnaire (5-point Likert scale), which demonstrated that there were no statistically significant differences in evaluation of the student-trainers and the physiotherapist.

Conclusions: PAL can be a useful adjunct to musculoskeletal clinical skills training, and these results suggest that senior students using PAL techniques offered a comparable level of training to that given by a Clinical Specialist Physiotherapist.

#### 3C2 Enhancing coaching and feedback skills: students as co-coaches in communication curricula

Cindy L Adams* and Lorna Wojcicki (University of Guelph, Department of Population Medicine, Ontario Veterinary College, Guelph, Ontario N1G 2W1, CANADA)

Aim: This presentation will describe an activity and assignment that supports students in their development of coaching and feedback skills. The grading schema and strategies for training preceptors how to extend their coaching skills to a student coach will be discussed.

Summary of work: Since 2003, 2nd year students are required to co-coach a peer with their preceptor during an interview with a simulated client and patient. This is followed by a written performance analysis of their peer's interaction, worth 10%. Students receive 3 hours of in-class instruction and practice on coaching and feedback prior to their role as co-coach. The communication curricula utilize the Calgary Cambridge frame for teaching, learning and assessment of communication skills and agenda led outcome based feedback.

Summary of results: The nature of the co-coaching role is determined by the coaching ability of preceptors. Student assignments reflect a range of understanding of communication and sensory based feedback skill. Further work is needed in the area of preceptor training and more coaching opportunities throughout the curriculum.

Conclusions: The co-coaching model combined with the performance analysis assignment supports students' learning of communication, feedback and leadership skills.
3C 3  Peer-assisted learning: how it works in Ophthalmology
Chaivat Wongyaworak*, Vorachai Sangtongpinit, Bussaya Sujiratnooch and Anupong Suthamminon (Chonburi Medical Education Center, Chonburi Hospital, Muang District, Chonburi, THAILAND)

Background: 5th year medical students learn their Clerkship in Ophthalmology in only 3 weeks, and it is a difficult task for the medical instructor to teach and the student to learn the optimum skill levels in approaching and managing both common and emergency problems. The conventional method has been to combine the instructor’s lecture with the ward round. However, with this instructional system the student is not able to learn skills in treatment and progression in emergency cases because the patients seen are already undergoing treatment. We wanted to develop a program that responded more directly to the students’ need to learn from hands-on experience.

Summary of work: We devised a peer-assisted learning program focused on eye emergency cases for 15 5th year medical students during the academic year 2004. A student was selected to be the active participant and assigned to emergency cases under the supervision of his medical instructor. From first encounter with the patient until discharge, all stages of diagnosis, treatment, and progression were recorded. The next stage took place in the classroom, where the active student presented the findings while the teacher worked as a facilitator. The role of the other students was to question, discuss, and comment. Summary of results: The MQE exam scores of the students in the 2004 academic year were higher than those recorded in 2003, when the old system was in place.

Conclusion: This peer-assisted program proved to be an excellent one for students in eye emergency training, and a clear improvement over the traditional learning system. The program empowers students, enhances their skills, and makes the process of learning less stressful and more enjoyable.

3C 4  Students guiding students: an advanced training programme for medical students working as peer tutors
Ulla Ahlmen* and Pekka Kääpä (Turku University Faculty of Medicine, Käylykatu 10, Turku 20520, FINLAND)

Aims: To describe perception and further development of a new training programme of student peer tutors in Turku Medical School.

Summary of work: An advanced education and training programme of peer tutors of new medical students was reviewed. Student advisors, being students themselves and part-time employees of the faculty, were responsible for the introduction and development of the tutor training programme.

Summary of results: The developed seminar-type training programme (five longer sessions instead of just two which had been the previous standard) of the peer tutors was considered to improve the guiding competencies of the tutors substantially. In contrast, the simultaneously introduced lowering of the number of tutors per student group (from 3 to 2/group) was felt inappropriate and was therefore cancelled. Suggestions from the tutors resulted in more detailed development of the educational and informative content of the training programme. The development process also stimulated a new kind of collaboration between peer and teacher tutoring (tutoring by members of the teaching staff) of the students. New medical students felt that peer tutoring activities significantly supported their integration into the student body and scientific community of the university and that the new education programme of the peer tutors had highly beneficial effects on the introduction of the students into the Medical School.

Conclusions: Enthusiastic peer tutors are able to provide significant practical advice and guidance for new medical students, but a clearly defined education and training programme for new peer tutors is needed.

3C 5  A peer assisted learning project: an elective clerkship in medical education
İskender Sayek*, Melih Ecin, Orhan Odabaslı, Murat Akova and Nural Kiper (Hacettepe University, Faculty of Medicine, Department of Medical Education, Dekanligi, Sihhiye Ankara 06100, TURKEY)

Background: Peer-assisted learning (PAL) refers to learning through the active help of peer group members. PAL has been used successfully in North America and the UK for many years. The Hacettepe experience is the first structured use of PAL in Turkey.

Summary of work: The aim of the study is to evaluate students' perceptions of the Medical Education clerkship which was added to year 6 of the undergraduate curriculum in 2004: it is a one month elective clerkship for four students at a time. The students take part in the clinical skills training of students in years 1 to 3; they also assess the performance of those students.

Summary of results: Of the 28 year 6 students who had completed the feedback form which uses a 5 point Likert scale. They rated 'clarity of learning objectives' and 'definition of student’s role' highest (median: 5.00). 'Availability of adequate supervision' and 'enthusiastic approach of instructors to their responsibilities' were also highly rated. The lowest rating (median: 4.00) was for 'instructor feedback to students'.

Conclusions: Overall the students considered the clerkship to be a positive learning experience and the number of applications is growing.
3D 2 A 2-day course in acute medicine and surgery for House Officers

Birgitte Nybo*, Kari J Mikines and Doris Østergaard (Hvidovre Hospital, Department of Respiratory Diseases, 253, Hvidovre 2650, DENMARK)

Aim: We present our experiences with a 2-day mandatory course in acute medical and surgical diseases for House Officers.

Summary of work: Both course-days are divided into 4 sessions dealing with different topics. Learning methods are chosen according to the learning objectives. We use: (1) Full scale simulation with a manikin in the handling of cardiac arrest, acute respiratory failure, severe trauma. We train medical expert and teamwork competencies; (2) Skill training in the training of procedures i.e., hand Doppler (cold extremity), defibrillator use, tracheal suction, mask ventilation, lung function testing; (3) Case-based teaching in the training of cerebral dysfunction, bone fractures, acute abdomen; (4) Simulated patients in the training of non-severe trauma and acute abdomen. The instructors assess every trainee by checklists; these are known to the trainees. The trainees fill out a pre- and post course self-evaluation formula.

Summary of results: Up to the present, 240 of 242 trainees have passed. Those who failed have passed on a subsequent course. The participants evaluate course form and content on a scale from 1 to 4. The average evaluation score is 3.7.

Conclusion: The scoring of the courses is very high. We continuously work to develop valid and reliable assessment methods.

3D 3 Associations of medical knowledge acquisition

Furman S McDonald*, Scott L Zeger and Joseph K Kolkas (Mayo Clinic, Hospital Internal Medicine, 200 First Street SW, Rochester MN 55902, USA)

Aim: To explore associations of medical knowledge acquisition

Summary of work: A 195 resident cohort taking the Internal Medicine InTraining Examination (IMITE) 421 times over four years was analyzed for associations of hypothesized predictors with IMITE performance.

Summary of results: Adjusting for demographic, training and prior achievement variables, yearly residency advancement was associated with IMITE score increases, 5.1% per year (95%CI 4.1%, 6.2%; p < 0.001). There were comparable associations with attendance at two curricular conferences per week, score increase 3.9% (95%CI 2.1%, 5.7%; p=0.001); or self-directed reading of an electronic knowledge resource 20 minutes daily, score increase 4.5% (95%CI 1.2%, 7.8%; p=0.008). Other significant associations included: age beginning residency [score decrease per year of increasing age, -0.2% (95%CI -0.36%, -0.042%; p=0.01)]; and graduation from U.S. medical schools [score decrease compared to international medical school graduation, -3.4% (95%CI -6.5%, -0.36%; p=0.03)]

Conclusions: Conference attendance and self-directed reading of an electronic knowledge resource had statistically and educationally significant independent associations with knowledge acquisition comparable to the benefit of a year in residency training.

3D 4 'Managing poorly performing trainees' – a course for senior medical staff

Ian Curran (St Bartholomew’s and the Royal London Hospitals, 2 Birchfield, Sundridge, Kent TN14 6DQ, UK)

Aims: To develop a course for senior medical staff to increase their confidence in helping ‘trainees in difficulty’.

Summary of work: A survey of educational needs amongst consultant staff identified the most prevalent learning need was for help managing poorly performing trainees. Developmental funds were secured from the London Postgraduate Deanery. The one-day course involved a morning workshop where facilitated small group exercises explored: descriptors of poor performance, the challenges of poor performance, emotional aspects and necessary skills. Finally a diagnostic framework was developed followed by exploration of remediation options. Individual candidates then met actors who role-played, part-scripted ‘poor performers’. Their resultant discussion was filmed. A facilitator-conducted, behavioural debrief occurred using the candidate’s own experience and video footage to illustrate and consolidate themes highlighted earlier. This methodology allowed candidates to meet ‘trainees in difficulty’ in a safe experiential learning environment.

Summary of results: The feedback was universally positive; candidates valued the opportunity to reflect on the challenging aspects of ‘trainees in difficulty’.

Conclusions: Viewing poor performance as a symptom not a diagnosis was a key learning outcome, also introducing candidates to a pragmatic, diagnostic framework. Identifying remediation options gave candidates a practical toolkit to take away from the workshop.

3D 5 Using Kirkpatrick’s evaluation model to improve transfer of training

Lisbeth Rune Schultz*, Carsten Hering Nielsen and Peder Charles (University of Aarhus, Centre for Postgraduate Medical Education (CEPOME), Victor Albeck Building, Building 267, Room 3.19, Universitetsparken - Vennelyst Boulevard, Aarhus C D-8000, DENMARK)

Background: When working strategically with postgraduate education in university hospitals it is imperative to focus on the effect of training efforts. Kirkpatrick’s evaluation model is a valued tool in measuring how effectively a training program accomplishes stated goals, though too costly to apply to smaller scale training.

Aim: To present a way (1) to pursue an effect of educational activities that matches expectations and needs of both trainees and organization; (2) to work actively with individual and organizational variables, as part of teaching and training activities for attaining new competencies.

Summary of work: Kirkpatrick’s model is used in a pragmatic approach during training activities. Participants are asked to consider questions relating to the model’s different levels: Relevance, skills learned, attitudes changed, and personal and organizational variables experienced to have impact upon the ability to use what is learned in daily practice.

Conclusions: Using Kirkpatrick’s model encourages the agency of trainees, focuses on personal learning goals and needs, and identifies different organizational variables of importance to the transfer of new skills to changing behaviour in the clinical context.

Take home message: Formal training should focus more on personal and organizational needs, because these aspects tend to improve transfer of training.
Making a child’s hospital stay less painful: a simple educational intervention to increase residents’ knowledge of pediatric pain management

Mark J Graham*, John M Saroyan, William S Schechter, Mary E Tresgallo and Lena S Sun (Columbia University, 701 West 168th Street, NY, 10032, USA)

Problem Statement: In clinical settings, relevant and accessible decision support tools reduce error. Among non-anesthesiology residents, lack of knowledge in pediatric pain management (PPM) often leads to treatment delays or errors in under-dosing/over-dosing of children’s pain.

Summary of work: Participants (n=39) were randomly assigned to complete one of two 10-item multiple-choice pre-tests on three core PPM areas: pediatric pain assessment, prescribing analgesics, treating opioid-induced side effects. All residents from Pediatrics, Anesthesiology, and Orthopedics then received a laminated “OUCH! Card,” and had an hour-long training session covering the card’s PPM assessment instruments and pharmacopoeia. After one month of potential clinical use, participants were asked to complete the alternate test. To simulate clinical practice, participants were allowed to use the OUCH! Card for the post-test.

Summary of results: Alternate form scores were not statistically different, so all data were combined. Overall, post-test scores (8.6±0.9) increased significantly from pre-test (6.7±1.6), t=6.9, p<.001. For the pre-test, residency year was significant (F=4.5, p=.04) as was resident specialty (F=10.5, p=.001); for the post-test, however, there were no significant differences found for either variable.

Conclusions: Residents’ PPM knowledge varied by specialty and year. Providing simple, key information – in a user-friendly format, accessible on an as-needed basis - increased, and unified, training knowledge of pediatric pain.

Using trigger films of patient experiences of illness to teach medical students communication skills. A pilot project

Ann McPherson* and Jayne Haynes* (University of Oxford, Department of Public Health and Primary Care, Rosemary Rue Building, Old Road Campus, Headington, Oxford OX3 7LF, UK)

Background: Recent research has determined that the training of health-care professionals in communication and emotional skills management is related to patients’ satisfaction and compliance towards medical treatments. Moreover, a good communicative and emotional competence enhances the physician’s sensitivity to the psychosocial aspects conveyed by patients and it may also help the physician to cope with his/her own emotions, thus reducing the burn-out effect. The training of these capabilities has been traditionally considered as a typical face-to-face learning topic. However, recent work on computer-based simulations is offering new interesting opportunities in this field.

Summary of work: The present work, as part of the EU-funded project “MYSELF: Multimodal e-learning System based on Simulations, Role-Playing, Automatic Coaching and Voice Recognition interaction for Affective Profiling” (www.myself-proj.it), aims at developing computer-based interactive simulations for enhancing communication and emotional competence training in physician-patient relationship. In particular, this work is focused on the translation of typical interactive medical situations into 3D simulations with animated characters; this offers the possibility for physicians to train their skills (e.g. empathy, emotional coping, non verbal communication, etc.) in critical settings through interactive scenarios that lead user’s identification and experience in a virtual context.

Short Communications

Teaching and learning communication skills 2

Assessing teaching and learning communication skills: evaluation of an e-learning package on communication skills for UK Foundation Year 1 trainees

Jennifer Oeland (School of Medicine, University of Aberdeen), Kim Walker (NHS Education Scotland), Robin Ford (Medi-CAL Centre, University of Aberdeen) and Suzanne Naduvan* (NHS Education for Scotland, Forest Grove House, Foresthill Road, Aberdeen AB25 2ZP, UK)

Background: Communication skills are highlighted as a key clinical competency in the new UK post-graduate Foundation Programmes (Modernising Medical Careers, Dept of Health, 2004). This two-year (FY1 and FY2) programme consolidates the development of practical and generic skills to meet the attributes of good medical practice (Good Medical Practice, 2005). The vast majority of trainees are UK graduates who have experienced experiential communication skills teaching and learning as an integral part of their undergraduate medical curriculum (Tomorrow’s Doctors, GMC, 2003). They are required to reach a pre-determined level of competence in communication skills to progress to post-graduate training. Post graduate medical training must progress this learning in order to encourage effective application of a range of communication skills, including doctor-patient communication and inter-professional communication, adding new knowledge and skills that cross whole or significant parts of the curriculum in a variety of complex medical communication situations.

Summary of work: Diverse workplace factors (e.g., EWTD) mean flexible and practical curricula delivery is essential to the Foundation Programmes. Thus, NHS Education for Scotland, the Clinical Communication Co-ordinator and the Medi-CAL Unit collaborated to produce a blended learning package for breaking bad news, for FY1 trainees. This package encompasses an e-learning package presenting video clips of good and less effective communication skills, patient perspectives, reflective exercises and current evidence, plus supplementary face-to-face teaching of the skills required to break bad news. Learning is based on the Calgary-Cambridge model of communication skills (Kurtz, Silverman & Draper, 1998). Trainees are required to complete the e-learning package before receiving a workplace assessment of their communication skills. Those who do not reach a predetermined standard of communication receive further face-to-face teaching, including rehearsal of skills and specific feedback on performance. Data will be presented on FY1 trainees’ feedback on the package and on their views of developing their communication skills using this novel technique. The number of hits and the length of time per session for each trainee working through the package will be compared to the outcome of their workplace assessment to assess if time, and the trainee’s own evaluation of the utility of the package, correlates with performance.

Computer-based interactive simulations for the training of communication and emotional competence in the medical field

Luigi Arolli*, Fabrizia Mantovani, Alessia Agliati, Olivia Reallod, Valentino Zuleni, Marcello Mortillano, Antonietta Vescaio, Linda Confalonieri, Massimo Balestra and Anna Tanechi (University of Milan Bicocca, Piazza Ateneo Nuovo 1, Milan 20123, ITALY)

Background: Recent research has determined that the training of health-care professionals in communication and emotional skills management is related to patients’ satisfaction and compliance towards medical treatments. Moreover, a good communicative and emotional competence enhances the physician’s sensitivity to the psychosocial aspects conveyed by patients and it may also help the physician to cope with his/her own emotions, thus reducing the burn-out effect. The training of these capabilities has been traditionally considered as a typical face-to-face learning topic. However, recent work on computer-based simulations is offering new interesting opportunities in this field.

Summary of work: The present work, as part of the EU-funded project “MYSELF: Multimodal e-learning System based on Simulations, Role-Playing, Automatic Coaching and Voice Recognition interaction for Affective Profiling” (www.myself-proj.it), aims at developing computer-based interactive simulations for enhancing communication and emotional competence training in physician-patient relationship. In particular, this work is focused on the translation of typical interactive medical situations into 3D simulations with animated characters; this offers the possibility for physicians to train their skills (e.g. empathy, emotional coping, non verbal communication, etc.) in critical settings through interactive scenarios that lead user’s identification and experience in a virtual context.

Using trigger films of patient experiences of illness to teach medical students communication skills. A pilot project

Ann McPherson* and Jayne Haynes* (University of Oxford, Department of Public Health and Primary Care, Rosemary Rue Building, Old Road Campus, Headington, Oxford OX3 7LF, UK)

Background: DIPEx (http://www.dipex.org) is the database of patient experience of health and illness. This free website uses rigorous qualitative research to collate...
3F 1 Formative assessment: does giving feedback during formal OSCE support the learning process?
D Collier*, V Bond and P Owens (University of Liverpool, Clinical Skills Resource Centre, 2nd Floor, E Block, 70 Pembroke Place, Liverpool L69 3GJ, UK)

Summary of work: “Formative assessment is an important educational activity; it gives learners feedback while they are still learning” (Hudson and Bristow, 2006). At Liverpool each student is offered the opportunity to attend a formative OSCE at the end of semester one. This gives the student practice in the examination environment. “Centre to all definitions of formative assessment is the concept of feedback” (Hudson and Bristow, 2006). Previously the feedback consisted of percentages for each station following the publication of results. Specific immediate feedback time added to the end of each station allowed students to receive detailed feedback from examiners. Computer stations were designed to include a feedback screen displaying the student’s answers as well as the correct answers and the overall score. Following the change to the OSCE, questionnaires were given to all students and examiners to canvas their opinions.

Summary of results: A majority of students thought that immediate feedback would help learning. “I believe the feedback will make me remember the finer points that are often forgotten and positive feedback gave me encouragement”.

The examiners also were happy to give feedback using the guide provided.

“The feedback session was helpful”; “useful for practising giving constructive feedback.”

Conclusions: “Feedback informs learners of their present state of learning, so they can plan action to close the gap between their present state of learning and their desired goals”. According to Reiter et al (2004) the enhanced performance following feedback happens quickly and is durable, lasting at least several months. This study evaluates durability of enhanced performance by assessing summative results.
3F 2 Child standardized patients – what feedback can they give to OSCE participants?

Background: The fast expansion of Objective Structured Clinical Exams (OSCEs) in health professions education raises questions about a) the usefulness of including child standardized patients (SPs) and b) their ability to give constructive feedback to learners.

Summary of work: The Maimonides Medical Center Department of Pediatrics has been organizing OSCEs since 1999, and has developed two stations centered around a seven-year-old: “Communication with Child” requires the resident to convince a child to accept a blood test; “Request for Medication” features a hyperactive and disruptive child. In both stations the child is paired with an adult SP who portrays a parent.

Summary of results: To date the first station has been used four times and the second station twice. Nineteen children ages 7 to 11 have participated and have produced 59 ratings and 79 comments for over 150 OSCE encounters with pediatric residents. Correlations between child and adult SPs patient satisfaction ratings were .45. Overall communication skills ratings correlated .48 with adult SPs and .43 with faculty. 86% of the written comments were “specific” and thus provided useful feedback to the learners.

Conclusion: If well chosen and well trained, child SPs can provide useful written feedback which can offer a unique perspective on the learner's performance.

3F 3 Can formative be negative? An investigation of the effect of practice before an OSCE
Jo Hart*, Chris Harrison and Val Wust (University of Manchester, Division of Primary Care, Rusholme Academic Unit, 1st Floor Rusholme Health Centre, Windmill Street, Manchester M14 5NB, UK)

Aim: To investigate the impact of formative practice sessions on summative OSCEs.

Summary of work: 2nd year Manchester medical students have a practice session at which they interview a simulated patient (SP), and receive feedback from 2 student observers and the SP (using the OSCE marking guide). Each student also observes two other students interviewing SPs. A score from this session was calculated and compared to the results from a 2 station communication OSCE (where they were assessed by an examiner and an SP), up to 3 months later.

Summary of results: 269 students had both the practice and the OSCE. 11.5% of students improved their score and 54.3% deteriorated from the practice to the OSCE. Students who obtained high marks during practice were more likely to improve their scores, whilst those who performed badly during practice were more likely to get worse in the OSCE (Y2 (4) = 61.36, p<0.01).

Take home messages: Poorly performing students were not helped by this practice, but the good students were advantaged - better methods of helping remedial students need developing. Implications of this will be discussed.

3F 4 Group feedback format for the videotaped observed structured clinical exam (OSCE) offers advantages over individual review format
T Jirasevijinda*, D Richards and D C Ompad (Bronx-Lebanon Hospital Center, Department of Pediatrics, 1650 Sehwy Ave, 6th Floor, Bronx, New York NY 10457, USA)

Aim: With the use of the videotaped observed structured clinical exam (OSCE) as a teaching tool, we describe a pilot project that compares videotaped trainees' perceptions of group feedback format with their own peers vs. individual review with faculty.

Summary of work: We videotaped 15 interns interviewing a simulated patient with a standard script before undergoing 10 training sessions on communication skills. At the end of the training, the interns reviewed their interviews with one of two faculty members using a standardized assessment tool. Within six months, the trainees attended a workshop where they watched the taped interview of one of their peers, who had volunteered to show the tape. The group scored the interview using the same assessment tool, and provided feedback on the interviewer's performance. The same two faculty members facilitated discussions on the group feedback.

Summary of results: The majority (93%) of participants reported that feedback from videotaped OSCE was helpful, with 13% preferring group to individual review. Most (60-93%) felt (1) qualified to give feedback (67%); (2) that their feedback was valued (93%); (3) that they would improve from peer feedback (93%); (4) comfortable receiving peer feedback (73%); and (5) peer feedback helped with the feedback (93%). Residents identified advantages of group feedback as (1) sharing of “common errors”; (2) increased number of ideas and input; (3) informality of the format. Reasons residents gave for favoring individual reviews included (1) faculty input was more “professional”; (2) faculty was more honest; and (3) group feedback was intimidating to the taped interviewer.

Conclusions: Take home messages: Feedback on the videotaped OSCE using group format was an efficient and effective alternative to individual review with faculty. The format allowed for peer learning, and fostered collegial relationships amongst residents.

3F 5 Relevant variables in feedback processes in clinical education
Monica van de Rijder*, Rokken Stokking and Olke ten Cate (University Medical Centre Utrecht, School of Medical Studies, PO BOX 85000, NR.405, Utrecht 3508 AB, THE NETHERLANDS)

Background: Many variables influence a feedback process. To study quality and effect of feedback it is necessary to have an overview of relevant variables that might influence the quality of provided feedback and the effect caused by this feedback.

Summary of work: (a) Meta-analyses and literature reviews both in the field of medical education and social sciences were analysed on variables that might influence feedback processes. (b) Sixth year medical students (n=101) were asked to write a positive and a negative case about a feedback process in clinical education. We analysed these cases on variables that might influence feedback processes.

Summary of results: Over 60 variables were identified to influence feedback processes. Different groups of variables can be distinguished: variables related to the feedback provider, feedback recipient, feedback message, feedback form, and feedback context. Variables students often mention are: their relationship with the feedback provider and the tone in which the feedback is conveyed.

Take home message: According to literature and students' perceptions many variables seem to influence feedback processes in clinical education. Therefore, studying feedback processes in clinical education requires decomposition of the feedback process into its significant variables.

3F 6 Transaction list analysis: a new method for analyzing simulation data
Steven L. Kantor* (University of Pittsburgh, School of Medicine, M-240 Scaife Hall, 3550 Terrace Street, Pittsburgh PA 15261, USA)

Background: Simulation is increasingly used for learning and assessment in medical education. As a user interacts with a simulation, a record is made to document the user's actions to provide feedback to the user or to assess...
performance. The record that documents this interaction is often in the form of a list (e.g., a list of items selected or actions performed). Little formal work has been done to define basic ways to analyze these lists.

Summary of work: We recorded the items selected by 121 users on 16 computer-based, patient simulations. The data for each user comprise what we call a “transaction list.” As an outgrowth of our work, we propose a new framework for defining attributes of transaction lists and we describe useful approaches to analyze each attribute.

Conclusions/Take-home messages: We propose that transaction lists have observed and derived attributes. The observed attributes include number of elements, sequence of elements, content of each element, and timing of elements. A derived attribute would be the underlying structure of information represented by the observed data. Analyzing simulation data in terms of observed and derived attributes of transaction lists is a potentially useful way to understand simulation performance.

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Short Communications

3G Professionalism 2 – The development of professional values 2

3G 1 Assessment for young physicians' decision making when confronted with medical ethical dilemmas

Tsuen-Chiuan Tso*, Peter H Harasym, Sylvain Codere, Peter CH Chen and Chi-Yi Lin (National Cheng Kung University, College of Medicine, No. 158 Tong-An Street, Da-An-Dist, Taipei 106, TAIWAN)

Background: Assessment for ethical decision-making is necessary to check if medical ethics is effectively taught. However, ethical standards are believed to vary across different cultural social contexts, and the available assessment tools were deemed neither relevant nor feasible. The purpose of this study was: (1) to develop an ethical decision-making instrument that used vignettes; (2) to understand what choice of actions medical students in Taiwan would take when faced with ethical dilemmas.

Summary of work: Fourteen clinical vignettes were developed to evaluate key concepts in bioethics (e.g., consent, capacity, voluntariness, substitute decision-making). The participants, 43 seventh-year medical students, had to pick the best ethical behavior, compared to the standard of “the Bioethics for clinician series” (Canadian Medical Association). Of the 43 students, 29 (72.5%) claimed they had taken a bioethics course. Summary of results: The proportion of answers that agreed with Canadian standards ranged widely from 4.7% to 97.7% (mean 47.8%). Only 6 out of 14 questions had more than half of the students who answered correctly. The three vignettes with the lowest performance involved concepts of: substitute decision-making, involving children in medical decisions, dealing with demands for inappropriate treatment, and euthanasia and assisted suicide. Many of the students stated that they found this assessment both very educational and enjoyable.

Conclusion: This study pointed out the need for medical ethics to be taught or learned in the form of a list (e.g., a list of items selected or actions performed). Little formal work has been done to define basic ways to analyze these lists.

3G 2 Encouraging the development of professional values via a student led professionalism curriculum

Diane Owen* and Richard G Evans (Swansea University, Primary Care Group, School of Medicine, Singleton Park, Swansea SA2 8PP, UK)

Background: What professionalism entails and whether it can be taught or learned is one of the most debated topics in medical education. Most medical schools teach professional values via a formal program of instruction.

Summary of work: As part of the Graduate Entry Programme at Swansea University, a student-led approach has been established. The program encourages students to become involved in organizing “workshops” for their peers to debate and address professionalism issues. Our presentation outlines its organization, and the students’ achievements to date. The students have embraced the concept and have organised successful workshops. These have involved discussion of student identified situations in clinical practice, as well as training on diverse topics such as cultural awareness, identifying and dealing with stress and multi-professional team working. A student constructed code of conduct document has also been produced as a result of one workshop.

The first 2 years have allowed the students to explore the values they bring in the context of helping to developing their own curriculum. Accepting the importance and relevance of this work the students are also developing an early awareness of and sense of responsibility for their own professional values. Student comments and evaluation have been overwhelmingly positive and will be presented.

3G 3 Teaching medical professionalism in PBL

Mutsuhiro Ikuma*, Teruaki Hongo and Arata Ichiyama (Hamamatsu University School of Medicine, First Department of Medicine, #412, 1-20-1 Handayama, Hamamatsu 431-3192, JAPAN)

Background: Teaching professionalism becomes an essential component of medical curricula. The conceptual and theoretical knowledge of medical professionalism can simply be introduced through textbooks, large group lectures or e-learning. However, acquiring professionalism cannot be simple. Ethics may be best learnt when students face realistic situations. In line with this, small group PBL may provide a good interactive occasion to establish the professionalism.

Summary of work: A newly designed PBL course in the second year provides an occasion for introducing professionalism. The PBL scenarios carry the informal, “hidden” curriculum displayed in the values of several topics related to professionalism, ethical and behavioral subjects. Themes included moral reasoning, doctor-patient relationship, surrogate decision-making, individual/common good. Students well recognize the learning issues relevant for professionalism, although there is a tendency that learning the ethical issues is relatively minor and subtle compared to the issues directly connected with basic and clinical sciences.

Conclusions/Take-home messages: The curriculum should target students’ needs, reflecting the ethical issues encountered in clinical and professional practice. It is imperative that learning shall be practical, but ‘not too easy’, and clinically relevant; PBL formatted small group learning may be an additional way of teaching medical professionalism.

3G 4 U.S. medical school course on ethical, cultural and social issues introduced at a medical school in Germany

Regine Wood, Anna Ringelski, Johanna Kretschmann and Raymond H Curry* (Washburn University Feinberg School of Medicine, USA & Charité, Universitätsmedizin Berlin, Charité International Cooperation, Campus Virchow-Klinikum, Ingeborg-Bülow-Straße 2, Stock, Augustenburger Platz 1, Berlin 13353, GERMANY)

Summary of work: A course on ethical, cultural and social issues based on the curriculum of a U.S. medical school
was introduced at a German medical school to contribute to student education in these aspects of medicine. The 5-day course was taught to a total of 75 students and was dedicated to the following topics: Cultural Diversity, Making Mistakes, End-of-Life Issues, Vulnerable Groups, Interactions with the Pharmaceutical Industry. The course was taught in English, and the director and one fifth of the tutors were from the U.S. institution; the participants were all matriculated students at the German medical school. Didactic tools included reading and writing assignments, small group discussions, videos and role plays.

Summary of results: The participants evaluated the course very favourably with average scores ranging from 1.2 to 1.4 (1=best/agree the most and 5=worst/agree the least). Pre- and post-course self-assessment in regard to knowledge, interest and attitudes revealed a statistically significant increase for all course topics.

Conclusion: The integration of a U.S. medical course concept at a German medical school is an effective method to develop medical students’ professional skills and to stimulate international educational activities between institutions.

3G 5 A preliminary study of empathy, emotional intelligence and exam performance in MBChB students

Elizabeth J Austin, Phillip Evans*, Belinda Magnus and Katie O’Hanlon (College of Medicine & Veterinary Medicine, Chancellors Building, 49 Little France Crescent, Edinburgh EH16 4SB, UK)

Summary of work: In the last decade, some medical schools have implemented partial or complete decentralization of their medical training program into schools have implemented partial or complete decentralization of their medical training program into remote or unconventional campuses closer to regional communities and their particular health care needs. At University of Montreal, we transferred the undergraduate curriculum in its entirety to a regional campus called “La Mauricie”, 150 km away from the main campus in Montreal. In this area, there is a chronic shortage of doctors and especially Family Physicians. In 14 months, we were able to bring together and train a local Faculty of more than 125 Physicians and rally the administrative and political bodies for the financial agreement. In the fall of 2004, a first class of 24 students was seeded in pre-medical school with the contribution of a second party University campus, l’Université du Québec à Trois-Rivières (UQTR). In the academic year of 2005, the first 32 students for the new regional campus in “La Mauricie” were admitted in a synchronised curriculum for both the Regional and Main campuses of the University of Montreal medical school. Lessons and drawbacks will be addressed.

3H 1 Distributed learning: the complete decentralization of the undergraduate medical program at University of Montreal Medical School

R Lalande*, P Gagne, M Julien, R Gareau, A Fermon, M J Bédard and C Boardy (Université de Montréal, CP 6128 Succursale Centre-ville, Montreal, Québec H3C 3J7, CANADA)

Summary of work: In the last decade, some medical schools have implemented partial or complete decentralization of their medical training program into remote or unconventional campuses closer to regional communities and their particular health care needs. At University of Montreal, we transferred the undergraduate curriculum in its entirety to a regional campus called “La Mauricie”, 150 km away from the main campus in Montreal. In this area, there is a chronic shortage of doctors and especially Family Physicians. In 14 months, we were able to bring together and train a local Faculty of more than 125 Physicians and rally the administrative and political bodies for the financial agreement. In the fall of 2004, a first class of 24 students was seeded in pre-medical school with the contribution of a second party University campus, l’Université du Québec à Trois-Rivières (UQTR). In the academic year of 2005, the first 32 students for the new regional campus in “La Mauricie” were admitted in a synchronised curriculum for both the Regional and Main campuses of the University of Montreal medical school. Lessons and drawbacks will be addressed.

3H 2 Learning in context: remote students adapt their learning style when in the bush

M A L Moley*, N W Scott and J C Murdoch (University of Western Australia, Rural Clinical School, MidPso1, 35 Stirling Highway, Nedlands WA 6009, AUSTRALIA)

Summary of work: Students entering the Rural Clinical School, the University of Western Australia, spend their entire clinical fifth academic year located at a rural/remote site in small groups. During the previous four years they studied a hybrid traditional/problem based learning (PBL) curriculum which was closely echoed in a web resource, custom built to match the instructional design. They were then part of a large city-based cohort. The students’ footprints inside the web resource (FlyingFish) were analysed over their year three, year four and year five studies, differentiating their pattern of access to support material for didactic teaching, formative assessment and PBL.

Summary of results: Results suggest that students who are isolated (remote) make different use of web-based material that is made available to them (either on line or off line) than they had done in prior study years in the city. Students who made most use of formative assessments were more frequently higher achievers in their final exams. Students report that as remote students, they undergo more intense learning experiences which require considerable new skills in self-management. This circumstantial change is echoed in their learning profiles as shown by their utilisation of the web resources.

3H 3 The twenty-eight year experience of symbiotic medical education in Thailand

N Sirisup*, D Wangsaturaka, Y Sarakul and U Rasomsan (Chulalongkorn University, The Faculty of Medicine, Anandhamahidol Building, Rama 4 Road, Patumwan Bangkok 10330, THAILAND)

Aim: This study aims to describe the lessons learned from the twenty-eight year experience of the first symbiotic medical education project in Thailand.

Summary of work: The concept of using non-university hospitals for teaching and learning in the clinical phase of the undergraduate medical curriculum was first implemented in Thailand in 1978. It was called the Medical Education for Students in Rural Area Project (MESRAP) – the joint project between the Ministry of Public Health (MoPH) and Chulalongkorn University. Sixteen years later, the idea was adopted in the national level as the MoPH has established similar collaboration with seven universities under the Collaborative Project to Increase Production of Rural Doctors (CPIRD).
3H 4 Mutual benefits in long-term generalist rural medical placements

Louise Young* and Patricia Rego (The University of Queensland, School of Medicine, Wayne Medical School, Herston Road, Herston, QLD 4036, AUSTRALIA)

Background: Students’ decisions to pursue a career in a rural location is positively affected by early and repeated exposure to rural practice and life. The Leichhardt Community Attachment Placement (LCAP) project investigated whether students were able to achieve the academic requirements for Medicine while undertaking a generalist, community-based, rural immersion program. LCAP project outcomes were evaluated from the perspective of students, preceptors and community.

Summary of work: Three students experienced 32 weeks of generalist medicine in three towns in rural Australia. Students’ experiences were evaluated using quantitative and qualitative measures of their medical knowledge, clinical skills and changes in attitude and confidence. Preceptors and community representatives were interviewed to assess the impact of having an extra medical person in the town.

Conclusions: Students benefited from the LCAP project in clinical reasoning, clinical and interpersonal skills, one-on-one teaching, and increased confidence levels. Preceptors also appeared to benefit from student placements.

Take home messages: Medical students fulfilled the requirements of the medical program while undertaking a generalist, community-based, rural, immersion program. The negative aspects of sole practice in rural locations may be ameliorated through having the collegial support of another professional - albeit a medical student - on long-term placement.

3H 5 The student experience of learning in a rural clinical environment

P M Lyon*, R McLean, S Hyde and G O Hendry (University of Sydney, Office of Teaching and Learning in Medicine, Faculty of Medicine, A27, New South Wales 2006, AUSTRALIA)

Aim: To explore ‘supported participation’ as a paradigm for learning in the rural clinical environment. For many years, medical students at the University of Sydney have undertaken clinical clerkships in major metropolitan teaching hospitals which were regarded as the ‘gold standard’ for clinical training. In 2001 the university established a rural clinical school.

Summary of work: A multi-method strategy was adopted using focus groups with students, clinical teachers and clinical school staff, and a student questionnaire. The theoretical framework was provided by sociocultural learning theories, in particular the concept of supported participation (Dornan et al. 2005).

Summary of results: Using this framework the study highlights the positive role that rural hospital clerkships can play by creating opportunities and support for learning through active participation in a community of practice. Support takes several forms: organisational; pedagogic; and affective.

Conclusion: The findings are important in the context of both the drive, among medical educators worldwide, to see additional/alternative settings for clinical education and the Australian agenda to foster student interest in rural careers through positive rural training experiences.

3H 6 Report on 12 years’ UK experience with 3 month primary care attachments in final year

Jon Dowell* and Barclay Goudie (University of Dundee, Community Health Sciences Division, MacKenzie Building, Kirsty Semple Way, Dundee DD2 4DQ, UK)

Aim: This study aims to assess the educational value of extended community based clinical attachments and their influence on career choices.

Summary of work: Since 1995 67 students at Dundee have chosen a final year extended (3 month) attachment to a general practice with a nearby community hospital. Anecdotal evidence has consistently suggested this has proved an enjoyable and worthwhile educational experience. It has been thought that these students are more likely to choose a GP career and the GMC’s new register now allows this to be assessed. We shall present an analysis of data on exam performance, career choice, current student feedback and how the nature of the attachment has evolved over the last 12 years.

Conclusion: Three month attachments in primary care provide effective clinical education and promote GP as a career choice.
312 The effects of introducing new criteria for setting passing standards in a graduating OSCE
K A M Boursicot* and J A Patterson (Queen Mary University of London, Barts & The London School of Medicine & Dentistry, 2nd Floor, Robin Brook Centre, St Bartholomew’s Hospital, West Smithfield, London EC1A 7BE, UK)

Summary of work: At Barts and The London School of Medicine, students have to pass a multidisciplinary OSCE as part of the Finals examinations in order to graduate. The OSCE consists of 17 stations, covering clinical examination, communication and practical skills. The examination is fully compensatory, so that the overall average score of the candidates on all stations is compared to an overall pass mark (derived using the Borderline Group Method) to determine pass/fail status. This meant that poor performances on some stations could be compensated by good performances on other stations. Some students could achieve an overall score above the total OSCE pass mark, but fail more than 50% of the individual stations. This was a cause for concern, as some students could therefore graduate from medical school, having failed, for example, all the clinical examination stations. It was felt that students should demonstrate competence across a range of stations rather than score very highly on a few and compensate for unsatisfactory performances on several other stations. A second passing criterion was therefore introduced: in addition to passing on overall score, the students also had to pass a minimum number of individual stations. Analysis of the effects of introducing these 2 criteria on the numbers of students passing this Finals graduating OSCE over 3 years will be presented and discussed.

313 How did we do? Using generalizability theory to evaluate a five judge Angoff standard setting study
Ruth F Barker* (Toronto Sunnybrook Regional Cancer Centre, 2075 Bayview Avenue, T8R5C0, Toronto, Ontario, CANADA)

Background: Formal standard setting processes are becoming more popular in undergraduate health education. Although a large body of literature exists describing the specific methods, few studies evaluate their reliability.

Summary of work: Due to the small number of raters involved, a retrospective review of a five judge Angoff process was completed to determine the stability of the cut score for a final year clinical exam. Statistical analysis and Generalizability theory (single facet, fully crossed design) were used to evaluate the Angoff process.

Summary of results: The correlational analysis was highly significant between all of the rating pairs (alpha = .80), indicating good interrater reliability. The Generalizability and Decision Studies indicated that, for this Angoff standard setting procedure, the small number of judges did in fact produce a stable cut score (phi=.79).

Conclusion: Many agree that the more expert judges available to complete a standard setting process the better. This study showed that even a five judge Angoff Study could produce a stable cut-score, well within the standards found in the literature. These findings may provide an incentive for smaller educational programs to initiate an Angoff standard setting study, even if a large number of raters cannot be convened.

314 The trouble with resits is …
G Pelt*, K A M Boursicot and T E Roberts (University of Leeds, Medical Education Unit, Room 7.20, Level 7 Worsley Building, Clarendon Way, Leeds LS2 9NL, UK)

Background: Much has been written about assessment, in terms of standard setting, validity and reliability; while this is appropriate for the main cohort with large numbers of candidates, it is more challenging with the small number who fail and have to take a specially prepared resit examination. When analysing resit exams it is usually not possible to use the normal methods of standard setting, such as the various borderline methods, because of the small number of candidates. Furthermore the usual reliability metric (Cronbach’s alpha) cannot be compared with the main cohort. Resit candidates are not a random subset of students, but rather a biased subset of the main cohort; this makes statistical comparisons difficult.

Summary of work: Using assessment data from both Leeds and Barts and The London Medical Schools this paper investigates the main concerns with respect to judging the quality of resit examinations with small numbers of students. We will also compare the profiles of resit students to those of fellow students within the same cohort. Finally the paper will suggest a methodology for maintaining the integrity of resit examinations which could be justified in a wider arena.

315 Checkmate: towards a more efficient way of grading exams
F G Diepmaat*, M Vogel and R P A J Verkooijen (OIG - Institute of Education, Erasmus MC, Room F2.31, PO Box 1738, Rotterdam 3000 DR, NETHERLANDS)

Summary of results: From September 2005 until March 2006 21 exams have been processed with Checkmate. On average the grades have been published within 25 days.)

Conclusion: Checkmate turned out to be an efficient tool for getting more control on the grading of exams.
3L  Self-assessment: Is it an ability and can it be developed?

Karen Mann, Joan Sargeant (Dalhousie University, Halifax, Nova Scotia, Canada) and Kevin Eva (McMaster University, Canada)

Background: Self-assessment, or the ability of individuals to assess their own performance accurately, is limited, and that self-assessment ability varies widely across contexts.

Intended learning outcomes: Participants will:
1. increase understanding of self-assessment and factors influencing self-assessment ability.
2. be able to describe activities helpful in developing self-assessment ability.
3. be able to use one or more of these activities in helping learners in their institution to develop self-assessment abilities.

Workshop content and format: The workshop will begin with a brief overview to highlight current evidence and thinking about self-assessment. Following general discussion, participants will divide into small groups. Using cases drawn from the medical education continuum and diverse competency areas, they will explore the following questions:

What is known about self-assessment?

What makes for effective self-assessment of performance (consider cognitive, technical, problem-solving and affective abilities or domains)?

What factors affect self-assessment?

How can self-assessment ability be developed in learners?

What kinds of teaching and learning activities may be helpful?

Finally, small group discussions will be shared and synthesized, along with a discussion of relevant research findings and questions.

Intended audience: This workshop will be of interest to medical and health professions educators in undergraduate, postgraduate and continuing education.

Level of workshop: intermediate.

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3J  Is there a need for European Regional Standards in Medical Education?

Organised by The World Federation for Medical Education (WFME) on behalf of the Thematic Network MEDINE. Hans Karle, WFME (Chairperson), Leif Christensen (Denmark), Jadwiga Mirecka (Poland), Herman van Rossum (Netherlands) and Christophe Segouin (France)

One Task Force of the Thematic Network MEDINE deals with European Standards in Medical Education. Responsible for the Task Force are the World Federation for Medical Education (WFME) and the Association of Medical Schools in Europe (AMSE). The objectives of the Task Force are to work to enhance overall standards of medical education in Europe, making use of the work already carried out by the WFME, to analyse how to adapt the WFME standards to the European context of medical education and to the Bologna process, and to produce a set of quality assurance standards for medical education in Europe. At the session, preliminary results from the Task Force will be presented and the complexities related to European standard setting and accreditation/recognition of medical schools and their programmes discussed.

Presentations: (1) Preliminary Reflections of the EU Thematic Network MEDINE Task Force on Quality Standards (Leif Christensen); (2) European Specifications of the WFME Global Standards for Quality Improvement of Medical Education (Jadwiga Mirecka); (3) Why can we not have a European accreditation system? (Herman J.M. van Rossum); (4) Alternative Approaches to Quality Assurance of Medical Education – The French Model (Christophe Segouin, France); (5) European Standards – Is there a need for an intermediary between global and national standards? (Hans Karle).

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3K  Developing management and leadership education in schools

Henrique M G Martins (Faculdade de Ciências da Saúde, Universidade da Beira Interior, Portugal)

Background: Leadership and management are broad scientific areas with tremendous practice implications in many sectors and increasingly called for in medicine. In recent years the interest of teaching healthcare professionals management attitudes and skills has grown. The benefits of this education can best be harvest if it starts at junior/undergraduate levels yet the contents and formats are still controversial and begin to be explored.

Content: From the facilitator's experience of teaching medical students and junior doctors courses on management and leadership, this workshop will cover what are the main topics worth teaching at each level and how they can be taught, while helping participants to identify opportunities for their introduction/development in medical and nursing schools. As an example, the topic of "how to manage meetings" will be covered in-depth to illustrate how these topics can be taught, as well as to develop participants in a fundamental skill to everyone from faculty to students needing to work in groups.

Format: Participants will be challenged to develop their ideas in pairs and feedback into the group while some time will be put aside for synthesis and content provision on people's roles in teams, how we make decisions, leadership styles, how to conduct an effective meeting.

Intended audience: This workshop is aimed at participants with intermediate to advanced levels of experience in management and leadership concepts and/or practice. They may be involved in either management functions in their student associations, healthcare organizations, or they may work at deanery level or somehow manage their medical/nursing schools.
3N 2 Seeing the bigger picture: peer review – an holistic approach
Janet MacDonald and Clare Kell (Cardiff University, School of Postgraduate Medical & Dental Education, Wales College of Medicine, Biology, Life and Health Sciences, Heath Park Campus, Cardiff CF14 4XN, UK)

The results of a small scale study examining the peer review process in the Postgraduate Medical and Dental School of a large UK University have already been presented. These included some of the perceived benefits, concerns and difficulties experienced by medical education and healthcare lecturers who have participated in the peer review process. This poster seeks to highlight the way in which these, and other findings helped inform the development of a Peer Review of Learning and Teaching Policy Framework. A ‘Change Champion’ was appointed at this stage and an institution wide consultation process which involved participatory methods including educational workshops was conducted. It became evident that the policy framework should be enabling with responsibility for specific design and implementation transferred to local sites. This helped to ensure that the policy framework could be accepted and implemented by a diverse group of staff. Six key values underpinned the peer review policy framework and guidelines were produced. Whilst a variety of models are used within the university, a set of common base-line standards have been identified. Rather than simply observing individual teaching sessions, an holistic approach has been identified with the central tenets of reflection, development and enhancement.

3N 3 Use of critical incident reflections in faculty development in paediatric anaesthetic module
Kirtida Mukherjee* (Medway Maritime Hospital, 8 Carnoustie Close, Molehill Road, Whitstable, Kent CT5 3PH, UK)
Aim: Use of critical incident reflections in faculty development in Paediatric Anaesthetic module

Summary of work: All anaesthetic trainees in the UK are expected to complete a placement in paediatric module but the opportunities are limited in this area. Critical incidents in clinical settings are useful to identify learning needs of the trainees. A critical incident in ventilator setting and drug administration was identified. This index incident was fed back to all supervising consultant anaesthetists for reflective analysis and comments. Anaesthetic trainees were also asked to reflect and identify their own learning needs. All reflections were analysed and summarised. Feedback was used to discuss and identify training needs and faculty development for trainers.

Summary of results: Collation of reflective analysis identified several areas of learning needs which were not previously explicit. Key areas identified were gaps in knowledge and skills, professional attitudes and communication skills. An action plan was formulated and agreed by the faculty members for better paediatric anaesthesia training.

Conclusions: Faculty members are not always aware of learning needs of all trainees in different modules, more so in paediatrics as opportunities are limited in a non specialist unit. Reflective analysis of critical incident may be a useful tool in faculty development to address training needs.

3N 4 Staff development in dental education at the Athens Dental School
A Kossioni*, A Kakaboura and G Vougiouklakis (University of Athens, Dental School, Agiou Meletiou 70, Athens 11252, GREECE)
Aim: Athens Dental School has decided to revise the existing curriculum and introduce innovative educational methods. The aim of the present study was to describe the staff development programme in dental education used to support the revision.

Summary of work: The School has collaborated with a medical education specialist, who designed training courses for staff members, attended by 50% of staff, on course design, case-based teaching and students’ assessment. Computer specialists have organized courses on computer-aided instruction. Dental education courses are also available on-line. Open discussions have been organized among staff to exchange ideas and reorganize courses. Members of the staff using new teaching methods presented them and discussed with colleagues. Teaching-quality assessment using student questionnaires and open discussions provided useful feedback to the faculty. The School has also organized the last Association for Dental Education in Europe meeting, which gave staff the opportunity to attend open sessions and workshops and discuss with colleagues from many Dental Schools.

Conclusions: Faculty development programme in dental education supported the changes in the curriculum. Such programmes should take into consideration the objectives of the School and the needs of the individuals.

3N 5 Feedback loop in faculty development programme design: can patients, fellows and stakeholders achieve consensus through DELPHI?
J McClaran and J Sinclair (University of Oxford Medical School, Department of Primary Health Care, Old Road Campus, Rosemary Rue Building, Headington, Oxford OX3 7LS UK)
Aim: The Oxford Faculty Development Programme in Primary Care was successfully redesigned integrating expertise of the first cohort of Fellows as both adult learners and medical educators, with new priorities of stakeholders, and with stated outcome evaluation and assessment parameters of new Fellows. This presentation aims to explain the novel methods used to achieve consensus and the effect on 2nd course design.

Summary of work: Programme evaluation depended on self-report questionnaire and then a Delphi approach to reach consensus on key components for recommendations for future programmes. Recruiting and course structure and content were modified accordingly, taking into account thematic priorities of University stakeholders. Cohort 2 determined parameters for learner assessment and course evaluation, using Delphi, with course director, administrators, university stakeholders, and medical student and patient representation taking part in the process.

Summary of results: Delphi process proved to be a valuable tool in faculty development curriculum, where views and needs are disparate. Commitment of Fellows and stakeholders to independent study was enhanced.

Conclusions: Consensus is reached more easily if evaluation and assessment parameters are determined early in the process, before participants are invested in their individual approaches; and stakeholder and administrative support for programme directors and confidence in learners is strengthened.

3N 6 Useful analogies to introduce a Vygotskian approach to teaching and learning
Mark Piper* (Northumbria NHS Trust, Wansbeck General Hospital, Woodhorn Lane, Ashington, Northumberland NE63 9JJ, UK)
Aim: To demonstrate the use of analogies as an introduction to applied educational theory.
Background: Educational theory can appear irrelevant to the busy clinician whose educational activity is occasional or opportunistic. Novice clinical teachers want practical guidance in how to structure and deliver their teaching. Educational theory gives insight into the learning process, but how should it be introduced?

Summary of work: We report the use of analogies taken from clinical medicine and life generally to introduce Vygotsky’s principles into practical teaching. The analogies we will expand are: (1) Teach like you treat; (2) A journey in the mountains; (3) Climbing the cliff.

Summary of results: These analogies allow the clinical educator to: (1) Structure their preparation and teaching; (2) Reflect on the learning process; (3) Understand the zone of proximal development; (4) Reflect on the importance of the educational environment; (5) Reflect on the ‘shared experience’; (6) Consider the different educational roles needed in a department.

Take home message: Entry-level educational theory needs to be useful and clear. Analogies allow memorable access to educational theory. They are a good first practical step.

3N 7 The development of an interprofessional mentorship program for faculty at the Department of Radiation Oncology, University of Toronto – a new beginning

E Szumacher*, L Manchul, R Burke, G Kane, C Palmer and J Ringash (Sunnybrook & Women’s College of Health Sciences Centre, 2075 Bayview Avenue, Toronto, Ontario M4N 3M5, CANADA)

Background: Mentoring is essential for a successful career in academic medicine. It has been shown to improve career satisfaction and have a positive impact on academic promotion of faculty members. The UT DRO Executive Committee identified mentorship as a priority issue to be explored and developed to support career development of its academic faculty members.

Summary of work: A review of the literature was conducted. In addition, a mentorship working group within the UT DRO was formed to explore mentorship needs across the 3 disciplines and 2 clinical sites represented within the University department.

Summary of results: Recurrent themes that emerged from the literature review confirmed the importance of mentoring for professional success and the importance of mentor-mentee relationships. Descriptions of different models of mentoring programs were identified. A 17-member mentorship working group consisting of radiation oncologists (12), radiation therapists (3) and physicists (2) identified priorities for the development of a formal mentorship program within the UT DRO. One priority was to establish an orientation package and/or session for new members of the department. All agreed that an inter-professional program would be most desirable to allow better options for matching mentors and mentees according to individual needs. In particular, inter-professional mentorship was determined to be necessary for radiation therapists, who currently have limited academic mentorship opportunities within their profession. Different mentoring needs were highlighted for new (<5 years), mid-career (5–10 years) and senior (>10 years) faculty members. For mid-career members, a more “active” mentorship style (eg. a mentor actively recommending the mentee for opportunities) may be needed to accelerate academic promotion. Senior members will be looked to as mentors but may also need mentoring.

Conclusion: The literature and the results from the working group identified a need for developing a comprehensive interdisciplinary mentorship program within the UT DRO. Among many recommendations, conducting a survey assessing the needs of different groups and development of an orientation program for the new faculty members are the current priorities.

3N 8 A certificate course in Health Professions Education in the College of Medicine & Health Sciences, Sultan Qaboos University

Nadia Al Wardy*, Omar Al Hussaini, Samir Al Hussein, Abdullah Al Asmi, Latifa Al Zaidali, Qassim Al Naimi and Zahra Al Harwahi (Sultan Qaboos University, Department of Biochemistry, College of Medicine & Health Sciences, PO Box 35, Al Khod 123, SULTANATE OF OMAN)

Many teachers in medical schools worldwide are now required to attend staff development programmes to upgrade their skills in different areas of medical education and thus enhance the educational mission of their institutes. This paper describes the conduct and evaluation of a Certificate course in health professions education held in the College of Medicine & Health Sciences, Sultan Qaboos University. The main objective of this course is to upgrade faculty skills in different areas of Medical Education. The Certificate course in health professions education was conducted five times during the period from January 2003 to April 2005 and each time it was held for 3 days. Topics included adult learning principles, skills teaching, and assessment. The course was conducted by international expert faculty in the field of medical education. The teaching format ranged from large group teaching to small group activities. Participants in the course were full time academic and clinical staff from the College of Medicine & Health Sciences and University Hospital, Sultan Qaboos University, affiliated staff from the Ministry of Health teaching hospitals and other health professionals. Evaluation of the course by participants was highly satisfactory.

3N 9 A programme for training of teachers in medical and health education

Gudrun Edgren* (Lund University, Faculty of Medicine, Centre for Teaching and Learning, PO Box 117, Lund SE 221 00, SWEDEN)

Aim: To develop a programme of workshops and courses for teachers to meet the requirement for compulsory training for teachers.

Summary of work: A programme has been developed from already existing workshops and new courses. It comprises 10 weeks over 1½ year, in three steps of 2, 3 and 5 weeks, respectively. The teachers learn about theories of learning, course design and examination. The final step is an individual project, where the teachers become acquainted with literature in education and make their results public. The course formats give examples that the teachers can use in their own teaching. Different forms of assessment are used: self-assessment, peer-assessment, written papers and active participation. 240 teachers have fulfilled step one, 45 step two, 13 step three, and several are in the programme.

Summary of results: Self-assessment, course evaluations, coursework and interviews show that attainment of objectives has been good. Many teachers have been able to apply what they have learned in their own teaching. New ideas about course design and formats have been helpful. The participants have appreciated learning about educational theories and the opportunity to exchange ideas with other teachers.

Conclusion: Teachers appreciate getting a theoretical base for their teaching.

3N 10 Efficiency of a 5-day train the trainer program in medical didactics

Marco Roos*, Martina Kadmon, Veronika Strittmatter, Thomas Bäker, Jelena Zwingmann and Thorsten Steiner* (University of Heidelberg, Department of Neurology, Medizinzentrum KopfKlinik, Im Neuenheimer Feld 400, Heidelberg 69120, GERMANY)

Background: HEICUMED, the new problem based clinical seminar. The purpose of our study was to evaluate the efficiency of this training.

Summary of work: We performed a multi-step evaluation: (1) Quantitative measurement of motivation and coping
strategies of our trainees, using validated questionnaires at the beginning of the training; (2) Quantitative measurement of knowledge change using a Multiple Choice-Test in a "pre-post-analysis" test at the beginning, at the end and after 5 to 6 months of the training; (3) Change of cognitive competencies of didactic skills using semi-structured interviews; (4) Post training evaluation by self-questionnaires, student evaluation and review.

Summary of results: We will present the design and the results of the training. 35 trainees participated in this study. So far the analyses comprise the pre and post-training test. We will present the full results over the study period of 6 months.

Discussion: We will discuss the final results of the multi-step efficiency analysis of a faculty development program in the light of the implementation of a totally new medical curriculum at Germany's oldest Medical Faculty.

3N 11 Learning with and from each other – interprofessional perspectives on teacher training at Karolinska Institute

Maria Weurlander*, Lena Boman and Ester Mogensen (Karolinska Institute, Department of Learning, Informatics, Management and Ethics, Belzellas vag 3, Stockholm S-17177, SWEDEN)

Background: Interprofessional education is regarded important in medical and health care education. The focus in the literature on interprofessional education has been undergraduate and postgraduate education. Centre for Teaching and Learning has offered teacher training courses for faculty at Karolinska Institute since 2001. These courses are open to faculty from all disciplines within health sciences and medicine, both clinical and preclinical disciplines. Since the course participants represent different professions the courses are in a way interprofessional. Interprofessional education can be defined as learning with and from each other. It is of interest to investigate whether our interprofessional teacher courses are beneficial for all faculty categories.

Aim: To evaluate the participants' experiences of the interprofessional aspects of our teacher training courses and whether they consider it valuable to meet and discuss pedagogical matter with faculty from other health professions.

Summary of work: Experiences of the course were evaluated with a questionnaire.

Preliminary results: Participants from four courses have so far answered the questionnaire. The results indicate that the participants in general consider it valuable to meet other professions during the course and that they have gained insight into others' experiences. The majority do not wish the course participants to come from the same profession.

3N 12 Setting the standards for educational supervision: towards a national benchmark

C Allan*, E A Campbell and G Bognall (Greater Glasgow NHS Primary Care Division, Gartnavel Royal Hospital, West House, 1055 Great Western Road, Glasgow G12 0XH, UK)

Aims: To explore the development of national standards for educational supervision in the health services.

Summary of work and results: A recent study of NHS educational supervisors found that educational supervision is a core activity for the established practitioner in the NHS. Supervisors identified a wish for some formal recognition of their skills and experience. Other empirical work in medicine and nursing has found that, in common with clinical psychology, similar training needs emerge. These are skills in: delivery of supervision, assessment of trainees, providing constructive feedback and dealing with poor performance. System issues include lack of protected time and resources to carry out this task. A set of national and/or European standards would aid the training of supervisors and formulate the required parameters for delivery and evaluation. The evidence base for this work is extant. The next step is to draw out the implications of this evidence for explicit and concrete standards and to have these agreed by the relevant stakeholders (trainees, employers, professional bodies).

Conclusions and take home message: Multi-professional standards need to be developed, as there are substantial generic elements in supervisory practice. A national benchmark for supervisory standards needs to be articulated and would legitimise this activity for professionals in the health care arena.

3N 13 Developing faculty curriculum skills while addressing population health needs in Central Asia

P Wallach*, B Bognar, B Casanas, P Charls, J Oriaio, K Conadry, Z Nugmanova, S Vegasdavera, A DeBaldo and E Fedullo (University of South Florida Health Sciences Center, 6351 Meadow Crest Circle, Reno NV 89509, USA)

Aim: Summarize how faculty learned curriculum planning and assessment skills while simultaneously creating course materials relevant to population health issues.

Summary of work: In post-Soviet Central Asia, transforming the medical curriculum to international models of content, evaluation and pedagogy is underway. Rather than teach skills about curriculum design and implementation as theoretical concepts, faculty development efforts focused on creating curricular materials to address pressing health needs, namely, HIV/AIDS.

Summary of results: A team of US medical educators and CAR curriculum experts collaborated in three workshops designed to: stimulate understanding of curriculum reform; ensure that new curricula are relevant to local needs and resources; and incorporate principles of Evidence Based Medicine. CAR faculty defined learning objectives and assessment techniques appropriate to their lessons and developed slide sets, lecture notes and suggestions for interactive classroom sessions. Faculty engaged senior medical students in developing and testing standardized patient cases. Seven lesson modules were developed and will be circulated regionally.

Conclusion: The team approach facilitated the development of a network of medical educators from four countries who are now effective collaborators, who produced relevant and necessary curricular modules, and who can serve as a regional resource for further faculty development projects related to curriculum reform.

3N 14 Techniques for giving constructive verbal feedback – the feedback ‘hamburger’ take-away recipe

Ina Treadwell, Glynnis Pickworth, Tarryn Binde and Marietjie van Rooyen (University of Pretoria, Department of Family Medicine, PO Box 667, Pretoria 0001, SOUTH AFRICA)

Background: Being involved in communication teaching and assessment requires constructive verbal feedback skills to make health professionals aware of their behaviour and how it affects the patient. These skills need to be acquired and honed.

Aim: To create an opportunity for SPs (standardised/simulated patients) and faculty members to acquire techniques for giving constructive verbal feedback.

Summary of work: A workshop on constructive verbal feedback skills was organised at the University of Pretoria. A take-away “hamburger recipe” was illustrated, the ingredients and process resembling elements of constructive feedback. This was followed by a game, based on Jeopardy, in which given feedback and role-plays had to be evaluated and/or improved on. Teams were challenged to apply the knowledge (recipe) they gained.

Summary of results: The participants rated the workshop a positive, dynamic and interactive fun filled experience in which they learnt how to use the “Hamburger” recipe to give constructive and positive feedback without being
judgemental or discouraging. The hamburger concept was experienced as creative and the average rating for the game was 8 out of 10.

Take home message: The “Hamburger” take away recipe can serve as a reminder of all elements to be included in constructive verbal feedback.

3N 15 Teaching to teach: a comprehensive continuing education project on pedagogical competence and teaching skills for the faculty of a medical curriculum

F Consoli*, S Basili, A Fantoni, O Biggio, A Scarono and P Galli (University ‘La Sapienza’ of Rome, Dip Scienze Chirurgiche e Tecnologie Mediche Applicate, v.le del Policlinico, Roma 00161, ITALY)

Education of the Faculty members about pedagogical competence and teaching skills is a key factor for an effective educational process. In order to assist the development of pedagogical competence and teaching skills, the Pedagogical Committee of the ‘C’ Curriculum of the 1st Faculty of Medicine designed and implemented a strategy for a continuing education process, based on the following principles: (1) incorporation of self-educational activities as a normal component of the institutional activities of the Faculty; (2) proposal of a set of events, tailored to meet the different needs and attitudes for groups of teachers of different areas; (3) assumption of the principles of andragogy as a foundation in the design and management of each event; (4) unified view on topics and their priorities, in the frame of an iterative educational process in which the items of instructional design are cyclically focused by the events. Therefore, there is not a predefined pathway, but each member is free to enter the process in any of the events. A special emphasis was given to assessment and multidisciplinary integration. Up to now a set of workshops has been implemented and the educational offer is being widened by short tutorials and monothematic lectures. After the first year, the number of involved members showed an increasing trend, with an overall high degree of satisfaction expressed by participants.

3N 16 Maximising the value of feedback for individual facilitator and faculty development

Jacqueline van Wyk* and Michelle McLean (University of KwaZulu-Natal (UKZN), School of Undergraduate Medical Education, Private Bag X7, Guguletu, Durban 4013, SOUTH AFRICA)

Background: Facilitation must be a rewarding experience as facilitators play a significant role in student learning, especially in a problem-based learning curriculum. Staff development is therefore important in ensuring that facilitators are recruited, trained and evaluated.

Summary of work: Thirty-eight facilitators from a purposive sample completed a survey regarding the value of individual and general feedback reports based on student feedback that they had received from Faculties.

Conclusions: Both clinical (50%) but more specifically non-medically (70%) qualified facilitators found the feedback reports useful. The qualitative comments from individual students were more valued than the Likert scale scores as these comments offered specific direction for facilitators to reflect on and improve their practice. Facilitators also identified ways for feedback to be more useful.

Take home message: Qualitative and quantitative feedback serve summative and formative purposes in facilitator development. While quantitative feedback is important summatively (i.e. quality assurance and promotion), student comments allow facilitators to feel valued and assist them to reflect on and improve their practice (i.e. formative development). Even experienced facilitators require ongoing support and training. Facilitator co-operation is, however, required to encourage students’ participation in facilitator evaluation.

3N 17 Towards a learner centred faculty development curriculum to bridge interprofessional differences

M Martimianakis*, C Dewa and B Hodges (University of Toronto, Wilson Centre for Research in Education, University Health Network - TGH, 200 Elizabeth Street, Toronto, Ontario M5G 2C4, CANADA)

A model for creating and assessing a targeted faculty development curriculum to bridge interprofessional differences is presented. Using a learner centered approach social science researchers and clinical faculty were recruited to participate in the Social Science and Medicine Allied in Research and in Teaching (SMART) program. SMART employs a partnership model and collaborative learning processes with the goal of socializing non-clinical faculty to the pedagogies of clinical education and to introduce clinical faculty to the many ways social science can enhance their clinical practice. The program is designed to help faculty meet the ideals of the modern professorate by breaking down inter-professional barriers to collaborative teaching and research. Prior to attending the program, learner attitudes toward social science and clinical teaching were ascertained. The knowledge baseline of learners’ theoretical paradigms informing each group’s professional work and approaches to teaching were also established. Open ended questions allowed participants to elaborate on their perceived needs and actively contribute to the development of the curriculum by indicating key learning objectives. A mechanism was created to adjust the learning objectives of the SMART curriculum after each session was delivered and participant awareness of their learning needs increased.

3N 18 Long-term effect of a course on in-training assessment in postgraduate specialist education

Bente Malling*, Kirsten M Bested, Karen Skjelvag, Helle T Østergaard and Charlotte Ringsted (Viborg Hospital, Mollerupvej 5, Silkeborg SK 8600, DENMARK)

Aim: A crucial aspect of outcome-based education is assessment. Clinical teachers perceive a need for increased training in assessment. The aim of this study was to evaluate the effect on learning outcome from a course on in-training assessment techniques.

Summary of work: Fifty-one anaesthesiologists attended a 2-day course about in-training assessment. Learning outcome of the course was assessed using identical pre- and post-tests. Longer-term effects were measured six months after the course using the same test. Self-reported use of in-training assessment methods was evaluated.

Summary of results: There were significant increases in knowledge about in-training assessment immediately following the course. The knowledge was retained six months later. Knowledge about specific assessment methods showed further increases in the follow-up period. Participants used the different assessment methods in their own educational practice during the six-month study period.

Take home message: A focused assessment course increased participants’ knowledge about in-training assessment. The knowledge was retained for at least 6 months. Further study is needed to determine whether such faculty development courses contribute to increased use, accuracy, and rigour in in-training assessment in postgraduate medical education.

3N 19 Developing supervision skills: evaluation of an online induction course for new supervisors

Gelisse Bagnall (NHS Education for Scotland, NES - West Region, 3rd Floor, 2 Central Quay, 89 Hydepark Street, Glasgow G3 8BW, UK)

Aim: to summarise evaluation of the impact of the course on confidence to supervise a trainee in clinical practice.

Summary of work: During 2005, NHS Education for Scotland piloted an Induction Module for New Supervisors
in Clinical Psychology. The aim of the Module is to prepare new supervisors to facilitate the learning of their trainees in clinical practice. The Module adopted a blended learning approach, combining 3 face-to-face days with five months of online supported learning at a distance. The online component included e-discussion forums structured around set readings and online collaborative learning to prepare a group presentation. Participants used a framework of supervisory competencies to monitor developing skills during supervision with first trainee. Personal learning logs of supervisory experience promoted reflective learning, at the same time contributing to a formal portfolio of evidence for supervisory competence. All components of the course were systematically evaluated, and this presentation focuses on the impact of the Module on developing competence in supervision.

Summary of results: Although the pilot numbers were small, an in-depth comparison of the pilot group with a matched ‘control’ group suggests that completing the Module had increased confidence in a range of competencies relating to supervising a trainee in clinical practice.

3N 20 Faculty development courses and homework fulfilment

Nancy Fernandez-Garza* and Patricia Montemayor-Flores (Universidad Autónoma de Nuevo León, Facultad de Medicina, Beltran Nuno de Guzín 309, Col Cumbres, 3er Sector, Monterrey N.L. CP 64610, MEXICO)

We designed a faculty development course in which attendants must complete five homework assignments in order to receive medical education credits (MEC). Each assignment was designed to be done in 40-60 minutes. The course consisted of 15 face-to-face hours with two options: 1) one week course, three hours daily, 2) five weeks course, three hours weekly. The assignment delivery was by electronic media; in the daily course they had 48 hours to deliver the assignment, and in the weekly course one week. There were two one week courses, with fifteen and twelve assistants in each. From them 18% and 28% assignments were delivered in time. There were two weekly courses with thirteen and fourteen participants each. In these, the percentage of delivery in time was 41% and 19% for each course. Only after the MEC were given to the participants that fulfill the assignments, the rest of them started to send their assignments. Homework delivery in time is a sign of responsibility and commitment and it is unusual that a professor accept an assignment out of time. Do these professors who did not complete their assignments in time accept from their students homework out of time?

3N 21 Evaluation of a faculty mentorship program

Winnie W S Wong*, J Charles Morrison and Lilly J Medianski (University of Alberta, 1-10 Zelizer Leduc Centre, 130 University of Alberta Campus, Edmonton, Alberta T6G 2H8, CANADA)

Background: Since 1997, all junior faculty in the Department of Medicine were assigned an “academic” mentor. Those with >50% research were also assigned a “scientific” mentor.

Summary of work: In February 2006, anonymous mentor and mentee questionnaires were mailed to past and current participants to evaluate the program.

Summary of results: Forty mentees and 65 mentors (73 academic, 24 scientific) were surveyed. Sixty-nine questionnaires were returned (36 mentees, 33 mentors). Most mentees would recommend their mentor (A:91%, S:81%) and felt that every academic department should have a mentorship program. Mentors and mentees differed in their perception of the program’s benefits:

1) Local/National Contacts
   AMentee 35%, AMentor 50%, SMentee 50%, SMentor 22%
2) Departmental integration
   AMentee 52%, AMentor 68%, SMentee 38%, SMentor 89%
3) Research Funding Success
   AMentee 27%, AMentor 33%, SMentee 69%, SMentor 75%
4) Enhanced Life Balance
   AMentee 39%, AMentor 67%, SMentee 31%, SMentor 75%

Mentors and mentees difference in use of available resources:
1) Mentor Kit (Mentee 29%, AMentor 63%, SMentor 56%)
2) Website (Mentee 26%)

Conclusions: Although it appears difficult to define specific measures of effectiveness, most participants in a formal mentorship program consider it beneficial. Increasing awareness and utilization of career development resources might enhance the program.

3N 22 Comparing the evaluation results for the teachers of educational methods workshops: clinical and nonclinical participants view points

S Soheili*, Z N Hatmi and A Sabouri (Tehran University of Medical Sciences, Department of Social Medicine, Ghods Street, Poursina Ave, Tehran, IRAN)

Background: Considering the importance of academic staff development as a key issue in universities of medical sciences, this case control study was undertaken to compare the results of teachers’ evaluation of two workshops on educational methods.

Summary of work: 30 faculty members through convenient sampling were selected to attend separately two 16 hour workshops and at the end of each workshop the participants were asked to evaluate each teacher’s performance separately. The data collected were analyzed by using SPSS version 11.5.

Summary of results: 89.99% of clinical participants (case group) rated teachers good with a SD of 6.6. In the control group (nonclinical participants) the same teacher’s performance was rated as good by 92.6% with a SD of 7.9.

Conclusion: While the difference in rating between the two groups proved insignificant for the corresponding sample in this study, it can be concluded that the instructors’ competence and high teaching skills would make the teaching course in staff development workshops more effective.

3N 23 The effect of educational training on teachers’ practice about students’ evaluation and testing

M Momennasab*, M H Kaveh and P Ahmadi (Lorestan University of Medical Sciences, End of Razi Street, Khoramabad 6814989468, IRAN)

Aim of presentation: The assessment of students’ achievement and competence is one of the most important challenging tasks facing teachers especially in medical education. This strongly suggests that teachers need to acquire necessary skills to evaluate students. This quasi-experimental study was designed to assess the effect of a workshop on teachers’ practice about students evaluation and testing.

Summary of work: 38 teachers including 18 in intervention and 20 in control groups participated in the study. A two-day workshop was administered for teachers in intervention group. A checklist consisting of assessment criteria was used to assess multiple choice questions (MCQs) written by teachers before and after the intervention. A total of 1140 MCQs were analyzed in both groups. Teachers’ score of writing MCQs was calculated and compared between two groups.

Summary of results: Teachers participating in the workshop showed a significant improvement in their skills in writing MCQs correctly. But no significant change was observed in the control group. The majority of questions were in the knowledge level of cognitive learning domain.

Conclusion: Evidence suggests that workshops can positively affect teacher behaviours and skills.
30 CPD/Training for General Practice

30 1 Four steps: a model to facilitate practice-based learning
Gabrielle Kane* (University of Toronto, Princess Margaret Hospital, 610 University Avenue, Toronto, Ontario M5R 1X5, CANADA)

Aim: Health care professionals undergo a complex learning process to accommodate change in clinical practice resulting from the introduction of new technology and procedures. Radiation Oncology has been dramatically changed by technologies that have generated new approaches to treatment. This study’s purpose was to develop new understanding of a process of change and learning, and facilitate appropriate practice-based education.

Summary of work: Multiprofessionals in a large radiation medicine program participated in 7 focus groups and 9 interviews until theoretical saturation was achieved. Descriptive data were coded and analyzed qualitatively using grounded theory methodology.

Summary of results: Four distinct steps were identified. 1) Initially, staff experienced anxiety until they mastered the applications and were able to visualize new images and graphs; 2) Learning to interpret these representations caused uncertainty; 3) Critical reconstruction as they reflected on and questioned existing rules and assumptions, integrated new experience and developed a new understanding; 4) Finally, legitimization of new knowledge by testing new rules and evidence, and sharing and publishing these findings.

Conclusion: Educational activities can be directed to facilitate each stage of learning, e.g., training in step 1, self-directed practice in step 2, team-based activities in stage 2, and CME for stage 4.

30 2 Can learning needs identified in appraisal be translated into structured educational delivery
C Price* and K Evans (Wales Deanery, Little Maristone, Glasllwch Lane, Newport NP20 3PS, UK)

Aim: To stimulate discussion in the areas of: (1) Aggregating individual’s learning needs from appraisal; (2) Meaningful translation of these needs into delivery across a large deanery; (3) Possible methods of evaluating outcome at an individual level.

Summary of work: In Wales the CPD network has had anonymous access to learning needs identified in appraisal for over 2,000 General Practitioners. This data has informed the choice of topics to be delivered in a “core” CPD program across the country. The individual learning events are designed by teams of CPD Coordinators who are tasked to plan, deliver and evaluate each topic. The results of the evaluation are used to plan changes to the program for subsequent delivery in different geographic areas of the deanery.

Summary of results: The initial response from the GP community has been positive with high attendance and excellent feedback. More work is needed to evaluate learning outcomes and the value of this approach in helping doctors fulfill their learning requirements.

Conclusions/take home messages: It is possible to aggregate learning needs identified. It would not be possible to cover every subject raised, however core items can be identified and programs designed and delivered with a high satisfaction rating. The actual developmental value to the individual doctor has not yet been assessed.

30 3 Attitudinal issues in physician professional development
Suzanne Murray*, Bernard Markow, Seema Nagpal, Sean Hayes and Martin Dupuis (AXDEV Group Inc, 8 Place du Commerce, Suite 210, Brassand, Quebec, J4Y 3H2, CANADA)

Aim: Clearly identifying learner needs beyond knowledge plays a critical role in the development of innovative educational and continuing professional development (CPD) interventions.

Summary of work: This research was designed to identify the cognitive, behavioural, attitudinal, and system issues for Canadian family physicians in their CPD. Dynamic and emerging needs are best and most appropriately examined with mixed-model research that is primarily qualitative in design. This study employed intensive investigation with focus groups, causal analysis, clinical mapping, and gap analysis questionnaire methods.

Summary of results: Key findings indicated that four critical value dimensions influence physician commitment, interest, and readiness to engage in professional learning and change. Those value dimensions included an emphasis on the continuum from science to humanism of medicine, individualization to standardization, oversight to self-regulation, and professional development as separate from clinical practice to being integrated into clinical practice.

Conclusions: This research illustrates the importance of physician values upon their willingness, commitment and readiness to engage in their own CPD. By paying attention to these values, health education professionals and policy makers can be more innovative in their approaches and are more likely to secure the engagement of physicians in the CPD activities that are designed.

30 4 Finnish doctors’ participation in CME/CPD activities
Paivo Kannisto*, Ulla Anttila, Hannu Halila and Jukka Vänskä (Finnish Medical Association, PO Box 49, Helsinki FIN-00501, FINLAND)

Background: CME/CPD is voluntary in Finland. However, since 2004, new legislation obliges community health centres and hospitals to offer their health care personnel “sufficient” continuing education. The Finnish Medical Association (FMA) recommends a minimum of 10 days of external CME/CPD activities a year for doctors, and has surveyed how these recommendations are met.

Summary of work: Surveys have been done systematically in 2001, 2003, 2005 and 2006 as part of the FMA’s annual questionnaire to all working doctors in Finland. Earlier surveys were from 1990 and 1996. The results of various years were compared as well as those of primary care and hospital doctors.

Summary of results: In 1989 doctors participated in external CME/CPD on average 8.8 days, whilst in the 2000s the average was between 7.2-7.9 days. Hospital doctors participated about 2 days more than primary care doctors. 75% of all doctors participated in some CME/CPD in 1989, whilst in the 2000s the proportion increased from 78% to 87%. The poster will also present the latest results (not yet available).

Conclusions: During the new legislation the average days of doctors’ CME/CPD activities have not increased, but a larger proportion has participated in these activities.

30 5 An overview of postgraduate medical education in Georgia
G Chakhava*, G Menabde, I Pavlenishvili, M Kavtaradze and N Kandelaki (Tbilisi State Medical University, Tbilisi 0179, GEORGIA)

Aim: An overview of the results of implementation of a new system of Continuing Medical Education/
Development in Georgia during 2000–2006 and the role of Georgian State Medical Academy in creating and maintaining this system.

Summary of results: By 2005 227 residents have completed the study; in 2005 3,210 applicants have studied new modules (from 2 weeks to 7 months in length). In 2005 488 physicians/specialists have been rehabilitated. In 2000–2005 24,887 physicians and 2,195 providers have been prepared for the certification and 6,297 physicians and providers have been certified. Every year 26,595 physicians and 2,195 providers take part in CPD. In 2005 8,347 physicians have been trained in the framework of Continuing Medical Education (from one to ten days’ training). In 2005 1,126 physicians took part in the course of professional rehabilitation. 136 physicians have been re-certified.

Conclusions: Support and allocation of appropriate intellectual, technical and financial resources is needed from the Georgian Government from foreign partners to succeed in this difficult way. Adoption of internationally accepted standards has the potential to provide a basis for national evaluation of postgraduate medical education.

30 6 The establishment of the new Continuing Medical Education (CME) provider of the Florence University Medical School
G F Gensini, A Conti, MA Guelfi, M Masoni and G Coronil (Florence University, Faculty of Medicine, Viale Margagni 85, Firenze I-50134, ITALY)

Background: The first, experimental, five-year cycle of the Italian CME program devoted to residence-learning is approaching its natural end.

Summary of work: In December 2005 the Faculty CME Center officially started its activity. From then on several Faculty courses have been submitted to and approved by the National CME Commission by means of a peer-review system based on the judgement of three independent referees. Statistics and analysis on the residence learning activity of the Center will be reported. The implementation of a Quality Management System (ISO 9001:2000) for the educational activities of the Faculty Center will be described.

Future perspectives: The Italian Health Ministry is going to define soon the ultimate requirements for the accreditation of CME Providers, thus enabling health professionals to gain CME credits also by distance learning, which will be one of the major activities of the CME Faculty Center.

Take home message: 2006 is the crucial year for Italian CME. The change from accreditation of single events to accreditation of Providers is expected to solve present problems and to pave the road for the future of CME/CPD in the National Health System. The Florence University Medical School devotes its endeavour not only to achieving the best results at graduate and post-graduate level, but also in the field of Continuing Education.

30 7 Am I a teacher? How general practitioners who teach medical students make sense of their identity as teachers
Barbara Lauz* (University of Bristol, Academic Unit of Primary Care, Cotham House, Cotham Hill, Bristol BS6 6JL, UK)

The aim of this presentation is to disseminate the findings from a qualitative interview study, which explored how General Practitioners (GP) who teach medical students perceive their identity as teachers and to stimulate further research in this area. Few studies have examined how GPs view themselves as teachers and how this is linked to learning outcomes despite a trend in the UK and elsewhere for delivering more undergraduate teaching in the community.

This study aimed to answer two questions: (1) How do GPs construct their identity as teachers? (2) What are the characteristics of this GP teacher identity?

Semi-structured interviews with sixteen GP teachers affiliated with Bristol University explored the research questions. Data analysis followed a grounded theory approach within a social constructivist framework. Interpretation of the data confirmed key themes of intrinsic rewards, close intertwining of the GP and teacher role and personal ideas and knowledge of teaching previously reported by two North American studies implying generalisability. New findings identified discrete categories of the declared extent of identification factors that facilitated or blocked this process. This suggested a model how GPs make sense of their identity as teachers, which could serve as a framework for further research.

30 8 A generic integrated model for evaluation of faculty development programmes with family medicine: a case study
Sunasis Chitpitalikhet* (Maharat Nakhon Ratchasima Hospital, Social Medicine Department, CPIRD, MOPH, 49 Changpuak Road, Muang District, Nakhon Ratchasima 30000, THAILAND)

Aim: In Thailand, a family medicine faculty development programme has been adopted from the five weekend national family medicine fellowship program at the University of Toronto. An evaluation plan is needed at the initial stage to be able to make further recommendations and design adjustments and improvements.

Summary of work: Combining the Kirkpatrick, CIPP, and logic models, we develop a new generic integrated model for evaluation including both the teaching and learning context and the service context in a schematic framework. We set indicators and identify data collection methods to demonstrate programme effectiveness.

Summary of results: Based on the new integrated model, the LogFrame for a family medicine faculty development programme is illustrated. Data collection methods at the inputs, outputs, project purpose, and program goal levels are described. The methods to gather credible data are evidence-based and will be quantitative and qualitative. The process evaluation at teaching and learning and service contexts will facilitate stakeholders to implement continuous quality improvement of the programme.

Conclusions/take home messages: We believe that our integrated model for evaluation of the family medicine faculty development programme is a comprehensive, flexible, and practical model for evaluation in the real world context.

30 9 How is training in problem solving treatment received by GP registrars?
Evelyn van Weel-Baumgarten* and Lieke Franke (University Medical Centre, Radboud University, Department of General Practice 117 and Medical Education 306, PO Box 9101, Nijmegen 6500 HB, NETHERLANDS)

Introduction: Patients in primary care frequently present with emotional symptoms. Usually GP-residency programmes offer training for diagnostic and medication skills to deal with these symptoms, but training in psychological treatment is less available. We introduced and assessed the feasibility of a training in Problem Solving Treatment (PST) in the third year, followed by supervision on treatment of patients in the practice

Summary of work: Quantitative outcomes: length of time used for training, supervision and treatment; number of residents using PST and number of patients treated. Qualitative outcomes (obtained through questionnaires): registrars’ opinions about the training as well as the treatment; barriers in performance.

Summary of results: Twenty (of 21) registrars followed the training and subsequently treated 52 patients under supervision. Average attendance during 3 feedback sessions was 70%; all registrars also received personal feedback at least once. Residents liked the practical character of the treatment. Most important barrier in the delivery of PST was lack of time in daily practice and not feeling competent enough.

SATURDAY 16 SEPTEMBER
30 10 A multidimensional approach to CME: collaborative mental health care network
Patricia Rockman*, Lena Sulach and Jose Silveira (Ontario College of Family Physicians, 357 Bay Street, Mezzanine, Toronto, Ontario M5H 2T7, CANADA)

Studies in medical practice have found that primary care physicians (PCPs) generate up to 18.5 questions for every 10 patients seen. Most of these questions are not pursued, thus medical care is performed in relative uncertainty. In addition, PCPs ranked a lack of mentoring as an important variable hindering their career. Hence, the Ontario College of Family Physicians developed the Collaborative Mental Health Care Network (CMHCN), a multi-dimensional collaborative at-a-distance mentorship program, to enhance the capacity of PCPs to deliver mental health and addiction care. This study examined the CMHCN, which provides PCPs multimodal access to Mental Health and Addictions Specialists (MHASs), to discuss clinical questions, as the central component of an integrated CPD program. Participants contacted MHAS mentors primarily using email and telephone. Mentors spent less time communicating with PCPs about cases than required for direct consultation. Mentee questions were often of a relatively complex nature and differed from PCP self report learning needs. Access to, and satisfaction with MHASs within the program was reported as high. Clinical usefulness of the CMHCN reflects high satisfaction and access ratings from PCPs. The CMHCN model is both clinically efficient and cost-effective by decreasing the need for MHASs to assess patients directly; increasing the capacity of PCPs to deliver MHA care more confidently and thus independently.

30 11 Improving patient care by involving people with arthritis as educators of primary care physicians: the Patient Partner Programme
A D Woolf,⁎ K Åkesson, N Amin and H Shoebridge, on behalf of the Patient Partner Education Working Group (Universities of Exeter and Plymouth, Rheumatology Department, Peninsula Medical School, Royal Cornwall Hospital, Trithse, Truro TR1 3LU, UK)

Musculoskeletal conditions are common but training programmes do not adequately cover musculoskeletal conditions, clinical skills are inadequate and physician–patient communication is often poor (Woolf et al 2004). Recommendations have been made for medical undergraduates, validated for primary care, with good clinical skills of history taking, examination and patient communication as core. Patient educators have been used to improve competency of undergraduates to examine a person with rheumatoid arthritis and this Patient Partner Programme has now been modified aimed at improving clinical assessment and communication skills in primary care. The educational objectives and content of the programme were developed by round table discussion with a panel representing patients, primary care and relevant specialties, from the epidemiology and from primary care consultation rates. The educational session is a mock consultation with a patient expert (a Patient Partner) steering the primary care physicians through their history and guiding examination in the knowledge of the significance of key features to make it an interactive learning experience. Quality control is through a comprehensive training programme of patient educators with manual and guidelines for running a session. The Patient Partner Programme is now being implemented globally.

The Patient Partner programme is supported by an educational grant from Pfizer Inc.

30 12 Early experience of needs assessment of EU GPs wishing to work in the UK
Mary Betti (Wales College of Medicine, School of Postgraduate Medical & Dental Education, Section of Postgraduate Education for General Practice, Heath Park, Cardiff CF4 4XN, UK)

Aim: To relate how the assessment of prospective overseas General Practitioner (GP) recruits improved a Welsh Primary Care Organisation’s (PCO) selection and induction decision.

Summary of work: An international recruitment agency presented four Polish GP applicants to a PCO that had been unable to attract GPs to a deprived area in Wales. The PCO welcomed the Welsh postgraduate deanery’s suggestion that the applicants should have their induction needs assessed. In addition to a conventional interview the GPs undertook a clinical knowledge test, a simulated patient consultation and a written problem solving exercise.

Summary of results: The assessment outcomes demonstrated a wide variety of ability; and influenced the panel to reject the candidate initially preferred at interview. Another candidate, who accepted the post, demonstrated competencies compatible (after a reasonable period of induction) with achieving a good standard of independent UK practice.

Conclusions: Take home messages: Detailed competency assessments can add significantly to selection decisions and induction planning when recruiting overseas GPs.

30 13 Consultation skills in future general practitioners – is there a gap to fill?
C Dainty*, P Greed, I Ryland and T K Smith (Postgraduate General Practice Education, Brunswick Park, Summers Road, Liverpool L3, UK)

Background: The new GP curriculum emphasises consultation skills that are essential to enhance doctor-patient communications.

Aim: To gather data on self reporting ratings on consultation skills, within a group of VTS trainees.

Summary of work: Trainees were invited to a training day, where consultation training was provided. Trainees self rated their perceived levels of a range of consultation skills before and after training (an adapted Kirkpatrick framework). Data were analysed using an SPSS version 4 package.

Summary of results: Self reporting by VTS trainees on their consultations skills indicate low levels of perceived skills. Significant differences in improved rating in a variety of areas after training were seen in: (1) Understanding the consultation structure; (2) Confidence in performing a consultation; (3) Framework for approaching a consultation; (4) Identifying their weakness in consultation skills; (5) Improved sense of competence in conducting a consultation. No differences were found in applying knowledge and skills required for a consultation, which may relate to the current level of experience and context in which the trainee currently practices; nor the ability to identify their weaknesses, which will require further training.

Conclusion: Consultation skills training may improve how trainees perceive their skills at an early stage of training for general practice.

30 14 Evaluation and examination of an evidence-based dementia training program for general practitioners
Henri Christian Vollmar, Jörg Lauterberg, Emar Grässel, Mitra Koch, Simone Neubauer, Cornelio-Christine Schürer-Maly, Nik Koneczny, Maria Grossfeld-Schmitz, Rolf Holle, Norman Ehert, Monika Rieger and Martin Buzdavid⁎ (Universitätsklinik Witten/Herdecke, Witten, GERMANY)

Aim: To relate how the assessment of prospective overseas General Practitioner (GPs) were trained in evidence-based diagnosis and therapy of dementia.
Facilitating change in teaching practices

Elaine Van Melle (Queen's University, Office of Health Sciences Education, 82 Barrie Street, Kingston, Ontario K7L 3N6, CANADA)

Medical schools are under increasing pressure to adopt new approaches to teaching (Gulpinar, 2005; Ruiz, 2006). Implementation of new initiatives, however, is difficult and does not always lead to the desired level of innovative practice (Fullan, 2003). A contributing factor is the tendency to portray change as a predictable process based on the application of predetermined strategies (Weick, 1995; 2001). The aim of this presentation is to explore a new framework for facilitating change in teaching practices. The framework is based on the principle that adoption of new teaching practices depends upon the extent to which educators are able to make sense of the change, particularly in light of their current practices. Based on a blend of individual, social and organizational facets of sensemaking, the framework was applied to one department’s efforts to integrate information and communication technology into teaching practices. The findings of the study revealed that significant transformation in teaching practices happened rarely and was non-linear, emergent and unpredictable in nature. The findings suggest that facilitating change in teaching practices requires the creation of an environment where collaboration, experimentation and a diversity of approaches is encouraged.

Appraisal for general practice registrars

Mair Hopkin* and K Evans (Cardiff University, Dept of Postgraduate Medical Education, GP Section, School of Postgraduate Medical Education, Wales College of Medicine, Heath Park, Cardiff CF14 4XN, UK)

Aim: This presentation aims to outline a pilot project for GPR appraisal by their GP Trainer using an electronic based system.

Summary of work: The content of training for GPs was taken from the guideline of dementia developed at the Witten/Herdecke University. All participating GPs (n=132) received three hours training in diagnosing dementia and obtained information about the IDA-study design. One subgroup (n=87) was trained for two additional hours in dementia therapy. A 20 item multiple choice questionnaire had to be completed before (pre-test) and after the training (post-test), the latter being amended by an evaluation sheet.

Summary of results: The mean gain of knowledge (correctly answered questions) was 4.0 ± 2.6 comparing pre- and post-test (n=132 GPs; p<0.001, CI 3.6-4.7; Chi-square-test). In the group trained for diagnosis only (n=45), the gain averaged 2.0 ± 1.9 correct answers. The group with additional training for therapy (n=87) achieved a difference of 5.1 ± 2.3 correct answers (p<0.001). Most of the participants rated the quality of the training as good to excellent.

Conclusions: Participants achieved a substantial gain of knowledge. The extent was associated with attendance in respective training modules. An ongoing trial (WIDA-study) with a dementia blended learning concept will add further information.

Evaluation of educational needs of practical skills in general physicians in EDC of Lorestan University of Medical Sciences

Shahla Poyamani*, Fariba Tahhani and Akbar Poyamani (Lorestan University of Medical Science, EDC, End of Razi Street, Khoramabad 6814989468, IRAN)

Aim: This descriptive cross sectional study was carried out to determine the essential practical skills and educational needs of general physicians and collection of suggestions for improving efficacy of teaching common practical skills in medical students and general physicians and to determine the barriers.

Summary of work: Data were collected by a questionnaire.

Summary of results: The most essential skills were: CPR skills in pediatrics and adults; intubation and foreign body removal from throat and larynx. Improving efficacy of teaching common practical skills were needed most in emergency skills for reduction of simple fractures or simple dislocation, nasal foreign body removal and CPR.

Conclusion: This study indicates that the practical skills of general physicians are far from acceptable and medical students have not learned the required skills well and under supervision. This should be of great concern to the educational decision makers.

Survey of physicians’ opinion on the effectiveness of continuing medical education

M H Meshkibaf*, F Majidi and Pakooin (Fasa University of Medical Sciences, Department of Medical Education, Ave Sina Square, Far, Fasa 74615-168, IRAN)

Aim: Continuing medical education (CME) is one of the necessary programs in medical education. With rapidly expanding medical information, it is important for physicians to upgrade their professional knowledge. CME programs are one of the methods which can be applied to fulfill this aim. CME programs can be implemented through various educational methods such as seminars, printed materials, audio visual presentation, etc; of these, seminars are practiced most during the year. However, the quality and the outcome of the programs vary. Therefore it is necessary to evaluate the CME program every time.

Summary of work: In order to evaluate the outcome of CME, we introduced the Killer Scales questionnaire to participants attending CME seminars at this university for the period 2002-2005 and analyzed their opinions by SPSS statistical analysis program.
Applying a modified Prochaska's model of readiness to change for general physicians on depressive disorders in CME programs: validation tool

Mandana Shirazi*, Ali Akbar Zeinaloo*, Majid Sadeghi, Ahmad Sabouri Kashani, Mohammad Arbabi, Farshid Alaedini, Kirsti Lonka and Rolf Wahlström (Tehran University of Medical Science, EDC, Tehran, IRAN)

Aim: To assess the validity and reliability of an 11-item questionnaire for stages of readiness to change according to a modified Prochaska model (including attitude, intention and action stage) in the context of continuing medical education (CME) on depressive disorders for general physicians (GPs) in Tehran, Iran.

Summary of work: Three hundred and fifty GPs were recruited for filling in a questionnaire in order to assess content validity and modifying the questionnaire. Fifty-nine GPs were involved for testing reliability and 39 GPs for testing concurrent validity. Content validity of the questionnaire was assessed by expert consensus. Concurrent validity was assessed by correlating the results of a semi-structured interview with those of the self-assessment questionnaire. For testing reliability there was a test-retest approach.

Results: A panel of experts was held at four times and the final version of MPQ was compiled by the panel. Total ê coefficient for concurrent validity of the whole questionnaire was 0.80. and the total ê coefficient of reliability was 0.89 for the whole questionnaire.

Take-home message: The validity and reliability of the Modified Prochaska Questionnaire for assessing GPs’ readiness to change in the field of depressive disorders were found to be high in the Iranian context.

CME and gender: is there any difference in GPs’ educational needs?

Abdolhossein Shakurnia* and Nahid Mohammadiazadeh (Ahvaz Jound Shapour University of Medical Sciences, Immunology Department, School of Medicine, Golestan Bul, Ahvaz, IRAN)

Background: Needs assessment is an important part of planning effective continuing medical education (CME) Programs. Needs assessment can be conducted through a variety of methods, including self-assessment questionnaire. The purpose of this study was to collect data on CME needs assessment of male and female general practitioners (GPs) in Ahvaz (IRAN) leading to a comparison of their viewpoints.

Summary of work: In this descriptive cross-sectional study a self-administered questionnaire consisting of demographic data and 194 questions about diseases were designed, in Likert style. 350 physicians were selected by a randomized sampling method. 281 GPS filled in and returned the questionnaires (80%).

Summary of results: 54.2% of respondents were male and 45.8% female with the age average of 36 ± 6.6. The opinions of GPs about educational needs were analyzed according gender issue. The highest priorities for female GPs were with average of 2.14, 2.6 and 1.94, respectively (scale 0-3). The highest priorities for male GPs were rheumatology, heart and renal diseases with average 1.94, 1.94 and 1.93, respectively. There was no significant difference in the viewpoints of male and female GPs on educational needs, except in gynecology, which was mainly in demand by female GPs.

Conclusion: Despite the current general notion, the results of the study showed that the CME educational needs are nearly the same in both male and female GPs.
3P 1 Young medical doctors’ and medical students’ contribution to undergraduate and continuing medical education
Radim Licenik (Palacky University Faculty of Medicine, Tr. Svobody 8, Olomouc 77 200, CZECH REPUBLIC)
Palacky University Medical Students’ Association established The Section for Scientific Research in 1998 and The Section for Medical Education in 2001. The main goal is to contribute to medical education improvement. Young medical doctors and medical students have cooperated on a number of educational activities for many years. In 2002, an interdisciplinary working group for communication skills in medicine was founded. The “Breaking Bad News Course” has been developed by our students’ Communication Skills Unit in May 2002. A pilot version of the course was run in October 2002. We arranged the course for the participants in The Hematology Conference and for undergraduate medical students in 2003. In response to the absence of relevant communication skills training in continuing medical education we decided to offer the course for physicians and other health care professionals in three district hospitals during 2005 and 2006. The course has a theoretical and practical part. The theoretical part includes an overview of basic principles of communication with the patients and their relatives, a rules of crisis intervention and a survey of the common mistakes in doctor-patient communications. The practical part focuses on a case analysis, practice of answering difficult questions and a series of role-plays.

Summary of results: Preliminary findings indicate that PAL tutors benefit from the experience and contribute to the development of PAL in which 3rd year assisted learning (PAL) occurs informally. This paper describes the development of PAL in which 3rd year medical students co-tutor 1st years in patient-centred interviews with simulated patients (SPs).

Summary of work: Volunteer 3rd year students (n=23) attend a workshop on teaching communication skills and then participate in teaching and observation sessions. Evaluation includes written feedback from PAL tutors, faculty, SPs and 1st year students. PAL tutors are observed in their teaching sessions and receive structured and immediate feedback on their performance. Group interviews with PAL tutors explored the strengths and weaknesses of this approach.

Summary of results: Preliminary findings indicate that PAL tutors benefit from the experience and contribute to the development of communication skills of novice students. PAL tutors appear to have developed some effective teaching skills and report greater confidence in interviewing skills.

Conclusions: Medical curricula can incorporate experiential PAL activities. Formal acknowledgement lends weight to its importance.

3P 2 Developing teaching skills in medical students: peer assisted learning in patient-centred interviewing
Ti Tierney*, D Nestel and F Harrison (Imperial College London, Department of Bioengineering and Surgical Technology, South Wharf Road, London W2 1NY, UK)
Background: In the UK, the General Medical Council expects new graduates to “be able to demonstrate appropriate teaching skills” and to “be willing to teach colleagues and to develop their own teaching skills” (GMC, 2003). Few medical curricula support the acquisition of students’ teaching skills although peer assisted learning (PAL) occurs informally. This paper describes the development of PAL in which 3rd year students co-tutor 1st years in patient-centred interviews with simulated patients (SPs).

Summary of work: Volunteer 3rd year students (n=23) attend a workshop on teaching communication skills and then participate in teaching and observation sessions. Evaluation includes written feedback from PAL tutors, faculty, SPs and 1st year students. PAL tutors are observed in their teaching sessions and receive structured and immediate feedback on their performance. Group interviews with PAL tutors explored the strengths and weaknesses of this approach.

Summary of results: Preliminary findings indicate that PAL tutors benefit from the experience and contribute to the development of communication skills of novice students. PAL tutors appear to have developed some effective teaching skills and report greater confidence in interviewing skills.

Conclusions: Medical curricula can incorporate experiential PAL activities. Formal acknowledgement lends weight to its importance.

3P 3 Knowledge and clinical performance: are they correlated with residents’ teaching skill?
Ruangsak Leekkhachonsuk*, Danai Wongpaisutana and Saknan Manotaya (Chulalongkorn University, Dept of Obstetrics and Gynecology, Faculty of Medicine, Bangkok 10330, THAILAND)
Aim: To determine whether teaching skill is associated with knowledge or clinical performance in Obstetrics and Gynecology residents, King Chulalongkorn Memorial Hospital, Thailand.
Summary of work: A questionnaire evaluating residents’ teaching skill was completed by medical students using a global rating scale. The results were compared with residents’ score from in-training examination and clinical performance score from the medical staff. Correlation between teaching skill and knowledge, teaching skill and performance were done by using bivariate correlation.

Summary of results: Forty-nine medical students were enrolled to evaluate residents’ teaching skill. Twenty-eight Obstetrics and Gynecology residents were evaluated in this study. The correlation between teaching skill and knowledge was not significant (r=0.066; P=0.25). The correlation between teaching skill and clinical performance was not significant (r=0.172; P=0.28). However, clinical performance and knowledge showed a significant correlation (r=0.558; P=0.002).

Conclusion: Clinical performance and knowledge had no correlation with teaching skill in Obstetrics and Gynecology residents. However, results show that clinical performance and knowledge had positive correlation.

Take home message: This finding reminds us that a doctor with good knowledge and performance may not be a good teacher.

3P 4 A longitudinal resident as teacher course spanning undergraduate and graduate medical education
Susan Pasquale*, Jeffrey Luker and Anne Larkin (University of Massachusetts Medical School, Office of Medical Education, 55 Lake Avenue North, Worcester MA, USA)
This paper describes the curriculum, and its impact, of an innovative and highly rated longitudinal resident as teacher course at the University of Massachusetts Medical School. The course introduces teaching skills curricula during the second year of medical school and integrates it into the residency years to prepare students across undergraduate and graduate medical education for their roles as teacher and learner during residency. The course was developed with the premise that integrating facets of graduate and undergraduate medical education, offers students significant learning experiences by bringing together diverse perspectives of the teaching/learning process. Students along the medical education continuum together build knowledge about residency teaching and learning. Among other results, students reported increased confidence levels in their teaching skills from pre- to post-test. Post-test data indicated that 88% of students “agreed” and 12“strongly agreed” that the course equipped them with “skills which will enable them” to provide teaching that supports effective learning,” an increase from pre-test data which indicated 50% “agreed” and 50% “disagreed.” Students noted, “I never realized what a responsibility we had as residents to teach our peers; I will be a better teacher because I have been given the appropriate tools.”

3P 5 Doctor as teacher: inspiring faculty of the future using the Disney creativity strategy
Peta Foalaff*, Jane McIntag, Michelle Mccarley and Jim McGarrick (Institute of Clinical Education, Peninsula Medical School, St Luke’s Campus, Hewetree Road, Exeter EX1 2LU, UK)
Aim: Doctor as Teacher is a key principle of the GMC’s Good Medical Practice. Promoting this philosophy to medical students (the faculty of the future) can present a challenge as they may not recognise this role, being more focused on their own learning needs. We present a strategy that addresses this dilemma by inspiring
students to integrate teaching with learning via creativity and productivity.

Summary of work: A fourth year special study unit (SSU) in teaching and learning was developed by members of our School's teaching staff. The Disney creativity strategy was used to plan and manage the SSU programme and to facilitate small group activities within each session. Students were taken on a scholarly journey from Dreamer (what is Doctor as Teacher?), to Critic (what works, what doesn't?) and Implementer (production of a teaching and learning resource).

Conclusions/Take home message: This three-phase approach proved effective in developing students' knowledge, skills and attitudes towards Doctor as Teacher; from initial learning needs assessment through to design and implementation of innovative teaching and learning resources. The Disney creativity strategy provides a framework that can successfully enable current faculty to inspire faculty of the future.

3P 6 Special Study Module: students as teachers
Celia Popovic (University of Birmingham, Medical Education Unit, School of Medicine, Edgbaston, Birmingham B15 2TT, UK)

Aim: to share lessons learnt from the delivery of a teacher training module to medical students.

Summary of work: In recognition of the need for qualified doctors to be able to teach others (patients, junior doctors, undergraduate students etc.), we developed a teaching skills module for fourth year medical students. Students organised a teaching session and observed a peer teaching. Initial training and guidance were provided. Students took responsibility for organising and delivering their session.

Assessment was in the form of a lesson plan and two reflective accounts, one of their own teaching session and one arising from the experience of observing a peer.

Summary of results: The overwhelming majority of students found the experience valuable and learnt some basic teaching techniques, however some found the process confusing, and did not realise that the delivery of the teaching session was as important as the final summative assignment.

Conclusions/take home messages: Teachers, like Doctors, are developed not born. If we are to develop doctors capable of teaching others (peers, patients, other health professionals etc.) teaching skills need to be included in the undergraduate medical programme. The lessons from our experience may help others to develop their own student teaching programme.

3P 7 Orientation week and white coat ceremony for first year medical students at Ankara University, Faculty of Medicine
K Kemal E, O Palaloglu, T Akutlu, A H Aytug-Kosan, M Demiroren, M Ozer*, M F Acan, I Gonullu, H Bulbuloglu, I H Ayhan, T Kanahan, C Akbay and T Cavusoglu (Ankara University, Departments of Medical Education & Pediatrics, Faculty of Medicine, Morfoloji (Dekanlik) Binasi, Sihhiye, Ankara 06100, TURKEY)

Background: With the introduction of the new curriculum at Ankara University Faculty of Medicine the first week was programmed for orientation and information. The aim was to introduce the students to what was to come in the curriculum and the school.

Summary of work: The major activities were those that introduced the students to problem-based learning (PBL), the components of the curriculum and the school's various teaching and learning facilities. In addition to lectures about these, one session was devoted to a live PBL session performed by an experienced tutor with a group of students and watched by the other students. Other activities were intended to open new horizons for the students and included activities such as a medically oriented film (Patch Adams), a workshop on group dynamics, lectures on duties and possible areas of service for doctors. The orientation week ended with a white coat ceremony that also included a lecture given by a senior faculty member and a mini-concert.

Conclusion: These activities provided acquaintance of the students with the school and the school society and their concerns were reduced. The group dynamics workshop provided an introduction to the concept of "learning in group" that was essential to the PBL process.

3P 8 Pastoral care in the integrated undergraduate curriculum
C Nicol* and A Fleet (University of St Andrews, Bute Medical School, St. Andrews, Fife KY16 9TS, UK)

Aim: To describe the pastoral care of undergraduates in an integrated curriculum.

Summary of work: Despite the rise in the academic attainment of entrants to medical courses, students appear poorly prepared for independent study. The introduction of an integrated medical curriculum is supported by an early and pro-active pastoral care system. Students are assigned to personal tutors for the duration of the course. These tutors are readily accessible to advise on academic and non academic matters and help the students organise and take responsibility for their own learning experience. A key feature of this is progress review. After the first six weeks of tuition, the students are tested in midterms assessments covering all examination modalities. Students who are not progressing well have an informal, obligatory meeting with their tutor and the course organiser. This non confrontational setting enables the student to identify for themselves areas in which there are problems and allows suggestions to be made which assist with their solution. This early intervention results in a smaller proportion of students doing poorly in the end of module examinations.

Conclusion: Early intervention appears to reduce the number of serious failures through the course and decrease the drop-out rate.

3P 9 Clinical educational supervisors: responding to undergraduate student needs
Deborah Markham*, Ed Peile and Yvonne Carter (University of Warwick, Medical Teaching Centre, Institute of Clinical Education, Coventry CV4 7AL, UK)

Aim: The 4-year graduate-entry course explicitly encourages medical students to be self-directed in learning. Students are taught in pairs on rotating attachments in a wide variety of clinical environments. Learning is embedded in the clinical environment which students often find unfamiliar and threatening at first and initially opportunistic learning opportunities may seem inaccessible. Students reported feeling unsupported as they made the transition to apprentice clinicians.

Summary of work: A pilot scheme allocated 32 students commencing clinical partnerships to one of 4 clinicians to support their learning and development as professionals. All participants wished to continue, finding the mentorship, support and career advice invaluable. Continuity was particularly valued; students asked to keep individual supervisors until a handover meeting with their Foundation year supervisor 2.5 years later.

Summary of results: Based on the pilot, 36 supervisors (10 students each) were recruited from all geographical areas and clinical specialities within the teaching base. Training focussed on developing learning-plans and supporting students in difficulties. Training and speciality-led support and coaching helped the supervisors develop their roles by the end of the pilot.

Conclusions/take home messages: Student feedback guided provision of a learner-centred means of supporting clinical learning; modelling and developing professionalism for graduate students.
3P 10 Developing an informal appraisal system for medical undergraduates: experience of a pilot scheme
Kathy Duffy* and Gerard J Byrne (South Manchester University Hospitals NHS Trust, Undergraduate Medical Education, 1st Floor, Education and Research Centre, Wythenshawe Hospital, South Moor Road, Manchester M23 9LT, UK)

Background: There are well established support mechanisms available to medical students in South Manchester. However, many of these rely on self-referral by a student and some students may 'slip through the net': Also students consistently report that they do not receive enough feedback on their progress. A system of Pastoral Support and Liaison Meetings (PSaLMs) was therefore established with the following aims: (1) allow opportunity for individual students to report difficulties or concerns and to identify students needing support; (2) give students personal feedback on their progress; (3) gain feedback from students on ideas to improve student experience.

Summary of work: Pilot scheme involved all 3rd year medical students (89).

Students attended a talk introducing PSaLMs. A self reflection form was circulated with some key questions. students attended a 20 minute individual appointment with the Hospital Dean and Manager. students completed a pre and post questionnaire about their expectations, and subsequent experience, of PSaLMs.

Summary of results: 100% student attendance. High levels of student preparedness. High levels of student satisfaction reported: Mean response to 'was PSaLMs valuable?' on a Likert 1 to 5 scale, was 4.2 (compared to 3.4 Mean expectations). Detailed evaluation and feedback will be presented.

Take-home messages: Informal appraisal for undergraduates is valued and useful. Delivery is very demanding of staff time.

3P 11 A mentor programme for professional development
Terese Stenfors-Hayes*, Lena Bonan* and Sofia Tranaeus (CUL/LIME, Development Unit for Medical Education, PO Box 63, Helsinki 00014, FINLAND)

As part of the new programme in Dentistry, a mentor programme was introduced during autumn 2005. The aim of the programme is to provide support and guidance for the students in their professional development as dentists. All mentors are licensed dentists and lecturers at the Department of Odontology and received special training before the programme started. The mentors follow their mentees throughout the entire five year programme. To obtain coherence, a framework of topics to discuss during the meetings has been developed. Between the meetings, the mentors as well as the mentees use reflective log books to create continuity and to support the process over time. To evaluate the first year of the mentor programme, questionnaires have been sent out to both mentors and mentees. Furthermore, group interviews with mentors have been made. In short, the mentors believe that their role as a mentor helps their own personal development and is very worthwhile. Our presentation will give an overview of the mentor programme and present the results from the evaluations.

3P 12 Effective learning and study skills course for 1st year medical students
Halil Ibrahim Durak*, S Elif Torun and Gulsen Kandiloglu (Ege University, Department of Medical Education, Faculty of Medicine, Okcular Binasi-Bornova, Izmir 35100, TURKEY)

Background: Many capable medical students experience frustration and failure in school. Mostly, it is not because they lack the ability but because they are not aware of their learning styles or do not have effective learning strategies and study skills.

Summary of work: In the guidance of cognitive and metacognitive strategies that should be adopted by the students, we set up a 24-hours long effective learning course at the beginning of the year. Guided invention was the main educational strategy that applied by large group discussions, administration of learning style and study skills inventories, case discussions and homework assignments. The course got specific positive written feedbacks on the blocks’ generic questionnaires. 63 students (21%) clearly stated that the effective learning course positively influenced their learning functions. A thematic analysis of the students’ assignments showed that 69.3% of the students can explicitly describe their learning approach and study skills while 73.4% can identify their own learning functions’ strengths and weak points.

Take-home messages: (1) Learning styles and study skills inventories are useful for creating personal learning profiles and interest to course content; (2) case-based group discussion is a useful tool for reflection to further regulative measures in individual learning; (3) demonstrating practical study skills tools (such as note-taking, reading tips) and allowing students to practice are very useful.

3P 13 Medical students’ study orientations
Juha Nieminen*, Annamari Heikkilä, Klas Karlén, Italo Masiello and Kirsti Lonka (University of Helsinki, Faculty of Medicine, Research and Development Unit for Medical Education, PO Box 63, Helsinki 00014, FINLAND)

Background: This study examines medical students’ study orientations and their self-reported study behaviour.

Summary of work: We asked students (N=362) from two Nordic medical schools to complete a questionnaire on study orientations. In addition to rating statements, we asked students to indicate to what extent they actually behaved in meaning- and reproduction-oriented ways when preparing for examinations. Such a procedure allowed us to construct two scales on each study orientation: one measuring students’ beliefs and one probing their behaviours in practice. Self-reports of typical exam grades and credit accumulation were also collected.

Conclusions: Our preliminary results from a traditional medical school showed that reproduction-orientation was associated with high grades, but also with slow credit accumulation. In the presentation we will examine, whether a similar pattern of results is shown in a PBL-based medical curriculum.

Take-home messages: Our results raise interesting questions about the nature of medical learning environments, and about the consequences of differing study practices in medicine. Methodological challenges in measuring meaning-oriented learning and implications for future research will also be discussed.

3P 14 Impact of peer assessment in the professional development of medical students
Anne Nofziger, Elizabeth Naumberg*, Barbara Davis, Chris Mooney and Ronald Epstein (University of Rochester School of Medicine and Dentistry, 601 Elmwood Ave, Box 601, Rochester, New York 14642, USA)

Peer assessment is used to provide feedback on work habits, interpersonal behaviors, and professional competence. This study aimed to understand students’ perspective on the impact of peer assessment on their professional development. Second- and third-year students at the URSMD participate in formative peer assessment. Peer assessments include Likert items and free text narrative. In May 2004, second- and fourth-year medical students rated the importance of peer assessment on a 5-point Likert scale, wrote a narrative describing feedback received, reaction to feedback and whether it has changed, and the impact of the feedback. Content analysis of narratives was performed.
3P 15 Peer assisted learning in clinical procedures

Jeremy Morton*, Fiona Frame, Lisa Anderson, Janette Moyes and Michael Ross (University of Edinburgh, Medical Teaching Organisation, Chancellors Building, 49 Little France Crescent, Edinburgh EH16 4SB, UK)

Background: Medical students need to consolidate their learning in real clinical situations. However, UK healthcare and educational reforms have made this an increasingly challenging objective (du Boulay and Medway, 1999).

However, standardised and patient-oriented workplace-based training can be fostered through peer-assisted learning (PAL). PAL improves students' clinical skills, increases exposure to patients (Field et al, 2004) and offers a platform for improved feedback and support (Ross and Cumming, 2005).

Summary of work: In the workplace, we found the practical skills performance of a representative sample of final year students to frequently fall below a competent standard. 23% of all final year students considered the provision of feedback in the workplace to be inadequate and 36% believed there was a need for greater ward-based teaching support in clinical procedures. Consequently, we devised a PAL project to enhance students' practical skills, drive patient contact, promote feedback and engender confidence. The development phase of this project was facilitated by a locally devised framework (Ross, 2006). We would like to demonstrate how this model contributed to the formulation, administration and delivering of this initiative.

Conclusions: Simulation-based training in clinical procedures should act as an adjunct not a replacement for clinical experience. PAL can be harnessed to encourage such workplace-based learning.

Take home message: A focused project plan, highlighting key challenges, is essential when considering a PAL initiative.

3P 16 Peer-assisted learning in musculoskeletal system clinical examination

Joanne Burke*, Keith Graham, Saed Fayed, Robert G Matthew and Max Field (University of Glasgow, Faculty of Medicine, Division of Education and Administration, Medical Education Unit, Wolfson Medical School Building, University Avenue, Glasgow G12 8QX, UK)

This study evaluates peer-assisted learning (PAL) as a method of training junior students to use the GALS (Gait, Arms, Legs, Spine) screening examination for the musculoskeletal system (MSS).

Six fourth year students trained in pre and post test was significant (p<0.05).

3P 17 Actively partnering with students in a quality improvement program: role of student leaders and impact on educational experience

Toni M Ganzel, David L Wiegman* and Mary T Coleman (University of Louisville, School of Medicine, Medical Dean's Office, 323 East Chestnut Street, 3rd Floor, Abell Administration Center, Louisville KY 40292, USA)

The purpose of this short communication is to present five years of experience partnering with students in a quality improvement program to improve their formal curriculum, student support services and learning environment. Based on feedback from the 2001 AAMC Graduation Questionnaire and informal conversations with students, students perceived that the administration wasn’t responsive to student concerns. This led to a quality improvement initiative, with the administration actively partnering with students to identify targeted areas of concern and develop strategies for improvement. Each year, the Senior Associate Dean for Student Affairs convenes a series of retreats to train the student leaders on principles of quality improvement and the role of leadership in effecting positive change. The student leaders identify 5-6 issues to target for improvement, form improvement committees for each issue and, utilizing the principles of quality improvement and develop action plans for improvement.

Results of the graduation questionnaire, the LCME site visit and student feedback indicate a sense of student empowerment, a renewed confidence in students’ ability to identify problems and develop constructive solutions and improved satisfaction with their educational experience. Actively partnering with students in a quality improvement program can improve their educational experience and the institution.

3P 18 Assessing the quality of teaching from two methods of scenario based learning and peer group review in student clinical skills

Mahdi Abdolahi, Leile Mossannejad* and Sobhanian Saeed (Jahrom Medical School of Sciences, Motahari Street, Fars, Jahrom 74148, IRAN)

Background: Students must be able to interpret, relate and incorporate new information with existing knowledge and apply the new information to solve novel problems. This study compared the potential of location scenarios in a real clinical setting and peer group review of students' clinical skills.

Summary of work: This study is a cross-sectional study of nursing students' experiences. Students were randomly divided into two groups – peer group review and scenario based learning. Data were gathered from pre and post test by short essay question and student learning from the two methods was compared by independent sample t-test.

Summary of results: The mean score of knowledge of students' clinical skills, diagnostic ability, the nursing process, knowledge about nursing care and giving information to the patient from the peer review group in pre and post test was significant (p<0.05).

Conclusion: As a result of the effectiveness of peer review on student clinical skills we suggest using various methods of teaching in the clinical setting including peer group review for creative and cooperative learning of problem solving skills.
**3P 19** Evaluating an academic support program: an additional component

Norma Saks* and Robert Lebeau (UMDNJ-Robert Wood Johnson Medical School, 675 Hoes Lane, UHHC D-347, Piscataway NJ 08854-5635, USA)

Background: The Cognitive Skills Program (CSP) at UMDNJ-Robert Wood Johnson Medical School has provided academic support to students for over 20 years. CSP faculty meet individually with students to improve study strategies, test taking skills and time management in the context of basic science courses and clinical clerkships. Improving the effectiveness and efficiency of study are primary goals. The CSP is a popular program that attracts many students, from the highest achieving to those in academic difficulty.

Summary of work: Yearly positive evaluations of the CSP have been important for funding and staffing. Evaluation has included counting numbers of students seen in individual consultation, numbers of sessions provided, and distributing a student satisfaction survey.

To document and evaluate the changes students implement in study approaches, we more recently developed a Strategy Effectiveness Rating Form (SERF). During individual consultations students use the form to document strategy use and to rate on a scale of 1 (very ineffective) to 5 (very effective) how well each strategy is working.

Conclusions: The CSP is perceived by students as a helpful program. The SERF is a useful tool for generating timely feedback on the effectiveness of strategy changes, and for evaluating individual CSP sessions.

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**Workshop 3Q** Key learning theories for medical educators

Dario Torre (Medical College of Wisconsin, USA), Barbara J. Daley (University of Wisconsin – Milwaukee, USA), James L. Sebastian (Medical College of Wisconsin, USA) and D. Michael Elnicki (University of Pittsburgh, USA)

Background: The knowledge and understanding of learning theories is important for medical educators as it can guide teaching practice, assist in developing a philosophy of teaching and learning, provide basis for selecting instructional strategies, foster the development of learning objectives, competencies, instructional materials, as well as, curriculum implementation and evaluation. In this presentation, we first describe key learning theories that underlie practical applications in medical education, and second, provide educational applications or methods linked to these learning approaches.

Intended outcomes: Upon completion of this workshop participants will be able to: 1. Differentiate among behavioral, cognitive, humanistic, social and constructivist theories of learning. 2. Create instructional strategies based on these learning theories, such as concept maps, reflective journals, and behavioral objectives leading to competencies. 3. Articulate how these instructional strategies can guide their future practice as medical educators.

Format and content: The format of this presentation will be discussion and application of learning theories. The focus will be on new and unique aspects of these theories that have implications for the continued development of medical education: (1) Learning theories (Behavioral, Cognitive, Humanist, Social, Constructivist); (2) Developing Instructional Strategies (Using behavioral objectives for developing competencies, Reflective journaling for critical and reflective thinking, Concept Maps: A strategy to link theory to clinical practice); (3) Applications to medical education.

Intended audience: Academic physicians who have had teaching experience

Level of workshop: Intermediate to advanced.

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**Workshop 3R** Accept, Revise, Reject: How to review educational research papers

Sonia Crandall (Wake Forest University, Winston-Salem, NC, USA), Steven Durning, Paul A. Hemmer and Louis Pangaro (Uniformed Services University of the Health Sciences, Bethesda, MD, USA)

Intended outcomes: Participants will develop and be confident in their skills in reviewing medical education research abstracts and manuscripts.

Format and content: There will be a brief, initial presentation of the "Criteria for Reviewing Educational Research" to include:

1. Problem Statement, Conceptual Framework, and Research Question; Relevance.
2. Research Design; Instrumentation, Population and Sample.
4. Discussion, Conclusion, Interpretation; Presentation and Documentation.

In small groups, workshop participants will then work through an example of a submitted manuscript to identify strengths and weaknesses, for the purposes of 1) providing feedback to the authors, and 2) informing decisions on acceptance for a research conference (such as RIME) and to journals. There will be large group discussion and final voting on the “fate” of the submission.

The workshop will conclude with a discussion of the actual reviews of the manuscript and how the authors addressed the reviewers’ comments.

Intended audience: This interactive workshop is designed for individuals interested in learning the skills of reviewing manuscripts in medical education research and development. It is helpful, but not required, if participants have a familiarity with the processes of learning and teaching in medicine and the general types of research in this field—novices and experienced reviewers are encouraged to attend.
Workshop

3S  The role of needs assessments in designing teacher training programmes for medical residents

Jamii O Busari (Dept of Pediatrics, Atrium Medical Center, Henri Dunantstraat 5, Heerlen, Netherlands) and Bart Wolf (St. Lucas Andreas Hospital, Jan Tooropstraat 164, Amsterdam, The Netherlands)

Background: Presently, medical residents are prominently involved in the education of medical students and peers in many medical institutions. The evidence in the literature shows that the medical educational process benefits from the teaching medical residents provide and that teacher-training courses are effective in improving their teaching skills. An often-encountered problem is how to effectively design, implement and evaluate such programs. Educational needs assessment is an educational strategy that has been found to be effective and useful for this process.

Structure: (1) Introduction; (2) Brainstorming in groups; (3) Feedback from exercise; (4) Conclusions.

Content: The workshop consists of 4 groups, each with a chairman and a speaker. A different task is assigned to each group: Group 1: Identify educational needs; Group 2: design intervention; Group 3: implement intervention; Group 4: Evaluate effect of intervention. Participants choose a topic to work on for the exercise, and the interaction is active.

Intended outcomes: (1) Participants understand the relevance of "needs assessment" in designing educational interventions; (2) Participants get a sense of the important elements required in developing educational interventions; (3) Participants are provided with an insight of the potential pitfalls associated with designing and implementing educational interventions.

Intended audience: Medical residents, Clinical teachers, Educationalists and Curriculum planners

Level of workshop: Intermediate - some knowledge or experience of the topic is desirable.

Additional reading:

Workshop

3T  Analysis of small group learning

Antoinette S Peters (Harvard Medical School, Boston, Mass, USA)

Background: Goal-oriented small groups have two concurrent tasks: the identified project and group cohesion. Typical group process has its ups and downs as the group struggles to establish an approach to the work, share information, opinions and ideas, elaborate upon those ideas, resolve differences and finally complete the work. Small group process is predictable, involving identifiable phases. The purpose of this workshop is to observe how behaviors change through the phases and to relate those behaviors to principles of learning.

Objectives:
1. To identify typical phases of group process.
2. To explore how behavior within groups facilitates or inhibits individual learning.

Format:
1. The workshop leader trains the participants to collect objective observational data. Participants record as accurately as possible the group members' behavior, not their general impression or interpretation of what they observe.
2. Through observation of a videotaped tutorial, participants identify behaviors that occur during the first, middle, and last five-minute segments of interaction.
3. Participants report their observations of each phase and the facilitator writes the data as reported on the white board. As participants report, the facilitator helps them differentiate between objective data and their impressions.
4. Once all the data have been recorded in 3 phase-related segments, the leader asks the participants to characterize each phase based on those behaviors, and to analyze how the phases differ. As each phase is characterized, participants discuss how typical behaviors are facilitators or barriers to learning in a group.

Level of workshop: Intermediate (some experience with tutoring might be informative; no research experience is needed, however).

Technology Petting

3U  Technology Petting 1

3U 1  Labyrinth

Rachel Ellaway (University of Edinburgh, MVM Learning Technology Section, The Medical School, Hugh Robson Link Building, 15 George Square, Edinburgh EH8 9XD, UK)

Professional education is predicated on the ability to apply knowledge in context. Computer-assisted learning in healthcare subjects that supports 'knowing in practice' tends to focus on the idea of virtual patients; simulations (of many kinds) of clinical encounters. While there have been a number of virtual patient authoring and delivery systems built over the years these have tended to be based on very specific forms of student activities and/or they require complex media types such as 3D or video, which both limit flexibility and increase development costs. The Labyrinth system developed at the University of Edinburgh has taken a lateral perspective on the support of virtual patient authoring and delivery by following game-informed learning principles; taking the essential educational aspects of computer gaming rather than the whole game world. This session will give participants the opportunity to experience the use of Labyrinth first hand.
3U 2 Interactive e-Learning software for Neurologic Skills Training
David Lee Gordon* (University of Miami, Center for Research in Medical Education, PO Box 016960 (D-41), Miami, Florida, USA)

Computer-based systems are particularly useful in the demonstration and training of neurologic skills and findings. Interpretation of neurologic examination findings depends primarily on visual observation, making flat-screen simulation with the use of pictures, videos, and animations, a practical method of training in this area. Furthermore, neurologic symptoms are common, neurologic diseases comprise a large percentage of healthcare costs and global disease burden, and most primary-care clinicians diagnose and manage neurologic conditions without referral to a neurologist. Stroke in particular is a leading cause of both death and disability worldwide. Effective use of the neurologic examination and recognition of key neurologic findings can greatly improve a clinician’s diagnostic accuracy and result in significant cost savings through more-judicious use of expensive diagnostic testing. As part of a comprehensive, competency-based, neurology curriculum, we developed three software programs—Essential Neurologic Examination, Essential Neurologic Findings, and Acute Stroke—that make extensive use of videos, animations, and interactive exercises to teach the neurologic examination and demonstrate and explain key neurologic findings. One can access all three programs via CD-ROM or the Internet.

3U 3 Teaching evidence-based clinical skills in minor surgery
Andrzej Staniszewski*, Donata Kurpas, Patricia Owens, Anouk De Smedt and Marc Nyssen (Wroclaw Medical University, Department of Family centred learning is emphasized. Students/trainees better integrate theory with practice and gain confidence necessary when dealing with patients. Self-development and self-directed student-centred learning is emphasized.

3U 4 Continuous competency registration on handheld devices
Merete Ipsen* (Aalborg Sygehus, Afdrling H, Hobrovej 18-22, DK-9000, DENMARK)

Aim: To improve competency registration (postgraduate - according to the Danish National Board of Health) in a clinical situation.

Summary of work: An e-program for PDAs was created. The program should 1) be used instantly after an educational situation, 2) give a better overview of the competency level, 3) offer suggestions to accomplish the competencies. The interns in part one (three departments) were active in the creative process and used the e-program in the final half of their stay, and in part two (five departments) the interns used the completed e-program from the beginning of their stay.

Summary of results: Obtained by direct interview and a questionnaire. The interns in part one achieved a better overview of the competencies and they were more focused on getting the competencies. As a side result they emphasised that training and support for the e-program was essential for them. Part two results will be presented at the conference.

Conclusions: Competency registration on PDAs provides more focus on competency level and competency gain. Some of the factors implied are: that data can be presented graphically and the constant use of registration applies more mental awareness to the issue.

3U 5 Piloting hand-held computers with wireless access to portfolios and web-based support materials in undergraduate medical education
S J Cotterill*, S Jones*, R A Walters, P Horner, J D Moss, A M McDonald on behalf of CETL4HealthNE (University of Newcastle, School of Medical Education Development, Faculty of Medical Sciences, Framlington Place, Newcastle NE2 4HH, UK)

Background: Use of Personal Digital Assistants (PDAs) by healthcare professionals is becoming more widespread. However, relatively little is known about their potential to support undergraduate education or about using PDAs for wireless access to Web-based resources in this context.

Summary of work: A pilot study of the use of PDAs by medical students doing their clinical rotations at The James Cook University Hospital has been undertaken as part of the CETL4HealthNE programme. The study aims to evaluate the educational and support impact of the use of PDAs to provide students with wireless access to formulae, clinical guidelines, ePortfolios and other Web-based materials. Supervisors can sign-off procedures on the student’s PDA using a scribe in a similar way in which they would sign-off a paper-based log book. Thirty students were issued with PDAs in March 2006 that had been configured to access a secure wireless environment established as part of The ‘Hospital at Night’ scheme. Here we present data on support time/costs and findings from questionnaires and focus groups designed to capture information on prior experience with IT, initial perceptions of PDAs, and student evaluation at the end of the clinical rotation with regard to usability and applicability to medical education.
Symposium 3
4A Research in Medical Education

Chairpersons: Charlotte Ringsted, Center for Clinical Education, Rigshospitalet, dept. 5404 (Teilumbygningen), Blegdamsvej 9, DK-2100 Copenhagen, Denmark and Cees van der Vleuten, University of Maastricht, Netherlands

This symposium will focus on the concept of ‘Design-based research’ (DBR). DBR is an emerging paradigm for studies on educational interventions. In DBR practitioners and researchers work together to produce meaningful change in contexts of practice. Educational interventions are viewed holistically as an interaction between materials, teachers, and learners. The purpose of DBR is to create and extend knowledge about developing, enacting, and sustaining innovative learning environments. The characteristics of DBR are:

1. A dual goal of designing learning environments and developing theories or ‘prototheories’;
2. Using continuous cycles of design, enactment, analysis, and redesign;
3. Leads to sharable theories that communicate relevant implications to practitioners and other educational designers;
4. Must account for how designs function in authentic settings;
5. Relies on methods that can document and connect processes of enactment to outcomes of interest.

Following a brief introduction to DBR and presentation of two examples by T Dornan and D Dolmans this symposium will discuss the applicability of this approach to medical education. For further reading see the theme issue in Educational Researcher Jan/Febr 2003;vol 32(1), the theme issue of Educational Psychologist 2004;39(1), and the web-site of ‘The design-Based Research Collective, www.designbasedresearch.org.

Short Communications

4B Curriculum Evaluation 1 – from the perspective of the qualified doctor and health care professional, in different settings

4B 1 Surveying alumni to assess achievement of a medical school’s educational objectives
Wayne Woloshuck*, Allan Jones, Pamela Veale, J-F Lemay, J-G DesCoteaux and Sarah Weeks (University of Calgary, Faculty of Medicine, Health Sciences, 3330 Hospital Drive NW, Room G701B, Calgary, Alberta T2N 4N1, CANADA)

Background: The University of Calgary Medical School 3-year curriculum identifies educational objectives students must achieve by the time they graduate. The opinions of alumni about their preparedness for each objective at graduation can provide a unique perspective on whether the school was successful in achieving its objectives.

Summary of work: A 9-page survey was mailed to 706 physicians who graduated between 1992-2002, inclusive. Data from 360 (51%) alumni including gender (M=173, F=187), practice discipline (Family Medicine=148, Specialty=212) and preparedness to perform the objectives (1=very under prepared; 4=very prepared) were analyzed using a 2-factor Anova.

Summary of results: Overall mean scores ranged from 2.63 (identify opportunities for research) to 3.66 (communicate effectively). 10 of 15 objectives had means > 3.0 (prepared). Analysis revealed that males felt more prepared to apply basic science concepts and form management plans. Females felt more prepared to apply a biopsychosocial approach, communicate effectively, and conduct a comprehensive medical history and demonstrate professional behaviors. Alumni in specialty fields were more prepared to identify a patient’s medical problem and opportunities for research.

Conclusions: Although gender and practice discipline differences were noted, overall alumni graduated feeling educationally prepared.

Take home message: The medical school was successful in achieving many of the educational objectives.

4B 2 Are Welsh medical students sufficiently prepared for the Surgical Pre-Registration House Officer posts?
J A Howell, S A Bradbury-Williams and H Sweetland (Welsh College of Medicine, Cardiff University, c/o 6 Thornwood Close, Thornhill, Cardiff CF14 9HE, UK)

Aims: The Tomorrow’s Doctors report states that: “Students must be prepared for their first day as a Pre-Registration House Officer (PRHO).” Despite this, many educators and PRHOs still believe that graduates are ill equipped to make the transition from student to doctor. Therefore, the aim of this study is to evaluate this claim.

Summary of work: During November ’05, questionnaires were sent to Consultant Surgeons and surgical PRHOs based at hospitals across Wales. Participants were asked to report their views on the appropriate level of student preparation needed to function effectively as a PRHO, and the adequacy of that preparation in eight key clinical competencies.

Summary of results: 52.0% of Consultants and 39.4% of PRHOs (difference 12.6%, 95% CI -9%-32%, p=0.260) felt junior doctors were ill prepared to successfully manage surgical patients. 44.0% of Consultants and 39.4% of PRHOs (difference 4.6%, 95% CI –16.4%-24.7%, p=0.678) claimed that there was inadequate preparation in suturing and cannulation. 72% of Consultants felt that PRHOs’ knowledge of anatomy was inadequate. Only 3% of PRHOs agreed (difference 69%, 95% CI 50.6%-79.8%, p=<0.0001).

Conclusion: Students may benefit from more focussed teaching directed at the surgical management of patients. The introduction of annual anatomy refresher classes for students and a basic surgical skills course for newly qualified PRHOs could also prove beneficial.

4B 3 What would young doctors have wanted from their education?
A Hoppe*, G Birgegård and E Persson (Uppsala University, Educational Unit, Faculty of Medicine, Akademiska Hospital, Kunskapscentrum, Entrance 61, 1st Floor, Uppsala S-751 85, SWEDEN)

Summary of work: We have performed an enquiry among 102 young doctors, who graduated 2 years previously, to get their views on how a traditional medical school prepared them for the profession.

Summary of results: The majority felt well prepared in the areas of communications skills but less in areas of handling acute medical situations. Women scored lower on preparedness in the latter areas. There was a correlation between satisfaction with the medical school and being well prepared. A majority would have wanted much more integration of preclinical and clinical knowledge, more of reflection, deep learning and focus on understanding. Especially during the preclinical years they had experienced a strong focus on details instead of biological context. There was a strong correlation between satisfaction with the medical school and...
having found encouragement in these fields. A majority would have wanted more of early patient exposure as an instrument for integration.

Take home message: Young doctors who have worked for two years express a wish for more integration, more focus on understanding, reflection, application and less on learning and reproduction of details in the medical education. Clearer outcome definitions are needed to offer effective training of wanted skills.

### 4B 4 Getting feedback: a comparison of strategies to receive curricular evaluations from medical alumni

H Doll*, J Dahmen, O Poloczek, C Schlett, K Gardeik, G Federkeil and M Butzloff (Witten/Herdecke University, Medical Deanship, Alfred-Herrhausen-Str 50, Witten 56448, GERMANY)

Background: Retrospective evaluation of their medical education from a practice point of view by alumni can demonstrate strengths, weaknesses and deficiencies of curricula. Two different strategies to obtain curricular evaluations from alumni are compared.

Summary of work: Strategy 1: In 2004, Centre for Higher-Education-Development (CHE) sent out by mail a link to a standardized online questionnaire using the data pool of the state medical chambers in Germany.

Strategy 2: In 2005 Witten/Herdecke University sent out paper and online questionnaires (same volume and content of questions as in strategy 1) by mail and email using a data pool by the Alumni secretary of the UWH. Return rate of “Strategy 1” was 13% (5,140 of 38,000) and “Strategy 2” 58% (264 of 452). Baseline data (age, sex, etc.) show no significant differences of respondents.

Conclusions: “Strategy 2” demonstrates that a university-administered survey strategy had considerably higher return rates. Potential confounding factors like the small overall student pool at UWH and subsequently return rates. Potential confounding factors like the small overall student pool at UWH and subsequently return rates. Potential confounding factors like the small overall student pool at UWH and subsequently return rates. Potential confounding factors like the small overall student pool at UWH and subsequently return rates. Potential confounding factors like the small overall student pool at UWH and subsequently return rates. Potential confounding factors like the small overall student pool at UWH and subsequently return rates. Potential confounding factors like the small overall student pool at UWH and subsequently return rates. Potential confounding factors like the small overall student pool at UWH and subsequently return rates. Potential confounding factors like the small overall student pool at UWH and subsequently return rates.

Take home message: Keeping and updating an own database for alumni can enable faculties to obtain comprehensive evaluations from a practice point of view.

### 4B 5 Characteristics and performance of medical graduates from the users’ point of view

H Tanthachatur*, Y Jariya and S Klanarong (Buddhachinaraj Hospital, School of Medicine, 90 Srinamtripidok Road, Amphur Muang, Phitsanulok 65000, THAILAND)

Background: Naresuan University and Buddhachinaraj Hospital, School of Medicine are going to develop a new outcome-based curriculum. To accomplish this task, information about the graduates’ characteristics and performance from the hospitals were the key factors to be considered.

Aim: To explore the characteristics and performance of the medical graduates from the viewpoint of the users by WHO’s 5 stars doctor criteria.

Summary of work: Questionnaire surveys were sent to directors of all hospitals in which medical graduates from Buddhachinaraj Hospital were working. The questionnaires were scored by global rating scale of 5.

Summary of results: The response rate was 116 out of 151. Score on care giver (3.63), community (3.79), community leader (3.54), decision maker (3.59) and manager (3.66) showed no significant difference in each characteristic. The other characteristics and performance such as life long learning and professionalism had a higher score of 3.76 and 4.02 respectively.

Conclusions: After graduation, doctors from Buddhachinaraj Hospital, School of Medicine went to work in the different hospitals in the community and the feedback showed that their characteristics and performance satisfied the users in all WHO’s characteristics.

### 4B 6 Evaluation of undergraduate midwifery education

Masoumeh Simbar* and Giti Ozgoli (Shaheed Beheshti Medical Sciences University, 59 (Western of 5th Floor) 9th Street Darian-no, Sattar-khan Avenue, Tehran, IRAN)

Introduction: Accreditation of medical science education is an important part of the function of all universities and an insurance of the future effective and skilled health personnel activities around the world. In 2003, Shaheed Beheshti Medical Science University commenced a wide project implementation to evaluate different educational activities of its departments through internal and external evaluation.

Summary of work: This was a descriptive study in the midwifery department. The participants were 23 lecturers and trainers. The information was collected by a self-completion questionnaire containing ten sections related to a set of objectives, and 47 closed response questions. Evidence review was collected by a checklist. Content validity and reliability of the questionnaire and checklist were assessed beforehand. Data was analyzed by SPSS.

Summary of results: Problem based learning as the best method for application of basic science in clinical science was utilized by 61% of cases. Teaching methods such as small group discussion, case report, feedback lecture was used by 78, 65 and 61 percent of the lecturers respectively, while methods like role playing, simulated patient and patient problem management were less utilized. 65% of lecturers received the educational plan before session commencement. Lecturers submitted their lessons time table, lesson plan and educational handouts in 30, 30 and 17 percent of cases before session commencement and in 8, 13 and 9 percent of cases after session commencement. Further results will be reported in the presentation.

Conclusions/take home messages: Regarding the above mentioned post evaluation data midwifery education needs a reform in the near future.

### 4B 7 Comparison of curriculum-on-paper with curriculum-in-action for the educational goals concerning medium-sized group learning

Debbie A D C Jaarsma*, Willem S de Grave, Albert J I A Scheppher and Peter van Beekelen (Utrecht University, Faculty of Veterinary Medicine, Yalelaan 1, PO 80163, Utrecht TD 3508, NETHERLANDS)

Aim: Ten years ago our faculty changed from a traditional lecture-based curriculum towards a curriculum with a main focus on medium-sized group learning. In this paper the original goals and ideas of the curriculum development committee for medium-sized group learning (curriculum-on-paper) are compared to the perceptions students have about their group learning (curriculum-in-action).

Summary of work: A student-questionnaire was developed translating the stated educational goals into four clusters of items (28 statements on 1-5 Likert scale) based on the existing literature of small group functioning: influence of case/ problem quality (1), group discussion (2), tutor/teacher performance (3), motivation (4). Students of the first four years of their studies completed the questionnaire directly after following a small group session (n = 660, response rate = 98%, attendance rate = ca. 80%).

Summary of results: In the perceptions of the students the goals concerning good case quality (mean = 3.7, SD = 0.56) and high performing tutors/ teachers (mean = 4.0, SD = 0.64) were met. The goals concerning effective group discussion and interaction (mean = 3.2, SD = 0.53) scored unsatisfactory.

Conclusions/take-home messages: Pay attention to the implementation process of an educational innovation and the factors influencing it. Monitor the educational innovation carefully over the years: emphasize all aspects of the “plan, do, check, and act” cycle.
**4C 1 Evaluation of a recently implemented virtual learning environment (Moodle) - a survey of veterinary teachers’ and students’ experiences at Glasgow**

V.H.M Dale*, S.Bierbaum, M.Sullivan (University of Glasgow, Faculty of Veterinary Medicine, Teaching Unit, 464 Bearden Road, Glasgow G61 1QH, UK)

Summary of work: Moodle, a Virtual Learning Environment (VLE), was first used to support undergraduate veterinary education in the 2005-6 session. Staff and students were invited to complete an online questionnaire on their experiences of using the VLE, within Moodle. These included closed questions (1 to 5 Likert scale ratings, where 5 was the most positive response) as well as open questions. As the evaluation is ongoing, only interim results are presented here.

Summary of results: Within three weeks of the questionnaire going live, 36 teaching staff (36.4%) and 60 students (11.3%) had responded. Early results indicate that the majority of users spend up to 30 minutes on a typical web page day using Moodle. Few staff or students had used a VLE before (2.8% and 13.3% respectively), however confidence levels in basic tasks such as uploading/viewing course materials were high (average 4.1 and 4.8 respectively). Staff and students were less confident about using the more interactive features of the system – such as marking/uploading assignments (3.1 and 3.3) and participating in discussion forums (3.2 and 3.3). Staff and students rated the following comparably: teachers’ confidence in using Moodle (3.3 and 3.3); and students’ confidence in using Moodle (3.5 and 3.9). Staff and students were satisfied with the layout of Moodle courses (3.7 and 4.0), and all courses were rated well by undergraduate students (between 3.3 and 4.8).

Conclusion: Staff and students have adapted well to the introduction of Moodle.

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**4C 2 Integrating a contextual curriculum map for the Medical School by using building block technology to extend the Blackboard VLE**

Nadia Robertson, Alison Gray and Wynne Carter* (University of Dundee, Ninewells Hospital and Medical School, Computing and Media Service, Level 8, Dundee DD1 9SY, UK)

Summary of work: The University of Dundee has integrated the Medical School’s multi-dimensional curriculum map into Blackboard using Building Block technology. The presentation will provide a brief overview of the transition from using a stand-alone in-house application to a complete re-development of the system. The extension software, CMAPinBb, was designed to integrate the Medical School’s full range of learning activities (diet, timetable etc., navigable through the Blackboard Calendar), resources (presentations, SCORM Packaged Learning Objects etc., stored in the Blackboard Content System), outcomes (supporting multiple classifications, e.g. Scottish Doctor, Tomorrow’s Doctor), core clinical problems (contextually spanning the 5 year course) and themes (linking the underlying principles). The presentation will highlight areas to consider when embarking on this type of project and very briefly mention some of the technical approaches used for developing it (JSP/Java, Hibernate and Oracle) and provide some feedback on its effectiveness so far.

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**4C 3 Implementing on-line logbook to improve teaching and learning for medical students**

Jenny Fang Jiang (The Chinese University of Hong Kong, Faculty of Medicine, Prince of Wales Hospital, Room 9B, Block B, Staff Quarters, Shatin, NT, HONG KONG, CHINA)

Summary of work: This paper reports on the development of a web-based medical education environment that embraces a new approach to the creation and management of complex data and the retrieval of this data effortlessly.

Medical education embraces a wider learning community than that normally envisaged in the development of current web programs. It is particularly unique in that the notion of classroom is extraordinarily dynamic. Medical students learn within an environment that is constantly varying. As a consequence the stakeholders in medical education are many and varied. They involve students and lecturers and doctors, as well as university administrators and hospital staff to mention but a few. Current educational-support technology, such as Web-CT and Blackboard, fails to adequately cope with the challenges of maintaining, in an effortless way, the necessary interactions and information essential to facilitating the creation of a medical education learning environment. We developed a new technology which we refer to as an on-line logbook system. It was especially designed to collect and maintain data relating to the procedures/examinations that students have performed or observed during their medical and surgical clerkship. It allows students, lectures and administrators to view this and relevant associated data, each from a different perspective.

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**4C 4 Is collaborative learning in PBL promoted by using asynchronous learning network methods?**

J. McHarg* and J. McLachlan (Peninsula Medical School, St Luke’s Campus, Heavitree Road, Exeter EX2 2LU, UK)

Background: A virtual learning environment (VLE) was set up in support of the curriculum at a new medical school which delivers an undergraduate face-to-face programme.

Summary of work: We evaluated students’ use and perceptions of the VLE employing qualitative and quantitative methods.

Summary of results: One key finding was that students did not use the VLE to share learning information. In the first two years of the programme problem-based learning is central to the curriculum and collaborative learning is encouraged. However, we found that students did not use their group areas on the VLE to share learning information. In a face-to-face curriculum students preferred to do this by word of mouth to selected friends. Using best practice from asynchronous learning networks (ALNS), such as promoting the growth of a learning community and swift trust, tutors have succeeded in gaining students’ use of the VLE in support of PBL.

Conclusions: Students’ learning at school and university is self-centred and collaborative learning does not naturally develop without some encouragement.

Take home messages: Using techniques learned from successful ALNs, students in a face-to-face programme will readily form virtual learning communities and become more collaborative learners.
4C 5 Horus-FP: supporting foundation programme learning using open-source software
Boulton, M Brown, T Dorman*, M Miles, Murray and Pawley (University of Manchester, School of Electrical & Electronic Engineering, Central System Centre, Room E11, Sackville Street Building, Manchester M60 1QD, UK)
Summary of work: Many complex, work-based educational programmes, such as the MMC Foundation Programme for medical students, are composed of a series of placements. During the programme, the trainee is regularly assessed against a set of pre-defined competencies and has periodic appraisals. The trainee is also required to attend scheduled teaching sessions, encouraged to add reflective entries to their portfolio and the overall process must be quality assured by the MMC Foundation Programme in the North Western Deanery.

4D 1 How residents learn: clinical activities remain pivotal
P W Teunissen*, F Scheele, A J A Scheppler, C P M van der Vleuten, K Booij, S van Luijk and I A M van Dieren-Steenwonde (Free University Amsterdam, Jan Steenstraat 62, Haarlem 2023 AP, NETHERLANDS)
Background: Residency training programs will have to integrate modern views on education into the clinical workplace. Empirical evidence regarding the learning processes of residents is lacking. We conducted a qualitative study to investigate how residents learn in the clinical workplace.

Work done: A total of 51 gynecology and obstetrics residents participated in seven focus group interviews. Participants discussed how they learn and what factors influence their learning. A grounded theory approach was used to analyze the transcribed tape-recordings.

Conclusions: Based on empirical evidence, we constructed a theoretical framework of work-based learning processes of residents. This evidence shows the central role of participating in clinical practice. Our framework depicts which steps residents go through when learning from activities. In our presentation we will go into the role and significance of feedback and reflection in different phases of resident training programs.

Take-home messages: (1) Participating in clinical activities is fundamental in residency, we were able to partly unravel this intricate process; (2) There should be a balance between independency of residents and external feedback on performance related to the level of experience of a resident; (3) This evidence, showing the importance of clinical practice, is valuable for integrating modern educational views into everyday practice.

4D 2 Work satisfaction, quality of life and leisure time of residents at the Soroka University Medical Center, Beer Sheva, Israel
Asaf Acker*, Haim Rozenvi and Asaf Toker (Ben Gourion University of the Negev, Nachshol 12, Beer Sheva, ISRAEL)
Aim: To examine the work satisfaction, quality of life and leisure time of residents in the SUMC.

Summary of work: A validated questionnaire was delivered by hand to 252 residents in the SUMC.

Summary of results: 137 residents responded to the questionnaire. Residents’ satisfaction level with patient care, self fulfillment and internal work relations was high. However, satisfaction level with work load, income, quality of life and leisure time was low. As a consequence, the general index of satisfaction level, which summarizes all the variables, was low. There was no difference in satisfaction between male and female residents. Residents who got their medical education outside of Israel were more satisfied than Israeli residents concerning work load and income. Nevertheless, they were less satisfied with their self fulfilment. The only difference between surgical residents and non-surgical residents was in work relations.

Conclusions/take-home messages: The residents in the SUMC are satisfied with their work environment but not with their quality of life and leisure time. Dissatisfaction may cause physicians’ burnout, which might affect quality of care. Further attention must be given to that matter – a step which will eventually improve patient care, and delay, to some extent, the burnout of physicians.

4D 3 What demands are made of interns in a resource-constrained environment?
Francois Cilliers (University of Stellenbosch and FAIMER Institute, Centre for Teaching & Learning, Centre for Health Sciences Education, PO Box 19063, Tygerberg 7505, SOUTH AFRICA)
Background: Little has been published indicating what knowledge/skills young doctors should bring to, and what they should acquire during, their internship. This report documents the results of a survey of the demands made of interns during the initial phase of their internship and their preparedness to meet these demands.

Summary of work: A postal questionnaire survey of all 2004 medical graduates of Stellenbosch University was undertaken 4±6 months into a 12-month internship. Interns were asked what they felt particularly well and poorly prepared for. 58/147 interns responded. Open responses were coded and analysed using the principles of thematic analysis. Non-parametric statistics were used for comparative analysis of quantitative data.

Summary of results: Demands made of interns in the initial phase of their internship varied from inserting umbilical catheters in neonates to inserting intercostal drains and performing laparotomies. Overall, 47/56 respondents indicated having had to ‘handle situations without adequate support from more senior medical staff’, 24/47 daily or weekly. Respondents working in hospitals with ≥300 beds were significantly more likely to report inadequate support than those working in hospitals with <300 beds (p = 0.045).

Conclusion: Interns in resource-constrained environments must bring a high level of clinical competence to their internship.

4D 4 Importance of the senior resident’s role in teaching competences
E Nemr*, M Nase, J Nassif, W Abou-Hamad, F Haddad, A Haddad (Saint Joseph University Medical School, Hotel-Dieu Hospital, Bvd Alfred Naccache, Beirut, LEBANON)
Aim: Competence-based education is the cornerstone of residency programs. This presentation aims to evaluate the role played by senior residents in teaching different competences to junior residents.
Summary of work: 51 junior residents answered the following questions:

Q1: “For each competence (medical knowledge, patient care, clinical skills, communication, team work, professionalism), rate the degree of satisfaction regarding your training (0 = unsatisfied, 1 = somewhat unsatisfied, 2 = somewhat satisfied, 3 = satisfied). Q2: “For each competence, what percentage came from your own initiative, your peers (other junior residents), senior residents or attending physicians?”

Summary of results:

<table>
<thead>
<tr>
<th>Competence</th>
<th>Junior residents (%)</th>
<th>Senior residents (%)</th>
<th>Attending physicians (%)</th>
<th>Total (%)</th>
<th>Degree of satisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical knowledge</td>
<td>62.29</td>
<td>4.06</td>
<td>15.49</td>
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</table>

Take-home messages: The senior residents play a role as important as the attending physicians in the training of junior residents. Therefore, post-graduate programs should better prepare the residents for their important teaching responsibilities in order to insure a better acquisition of the different competences.

4D 5 Teaching effective communication to Medical Residents

Hannah Kedar (The Hebrew University of Jerusalem, Faculty of Medicine, Centre for Medical Education, PO Box 12272, Jerusalem 91120, ISRAEL)

Aim: In recent years, patients seek more information from physicians; patients and/or their families search the internet and come up with questions and doubts; and more often they react to physicians in an aggressive manner. In addition, the current patient-centered approach requires physicians to improve their effectiveness of data-gathering as well as attainment of patient compliance and cooperation. The competent physician must develop effective communication skills to cope with these situations. The purpose of the present paper is to suggest a model for teaching effective communication for residents as well as to present feedback results.

Summary of work: A 1½ day workshop designed to teach empathic communication has been offered in the past 4 years to each new cohort of residents at a university hospital. At the workshop, participants recorded difficult encounters with patients or their relatives, were taught a model of Empathic Communication and role-played difficult encounters with patients, followed by feedback and discussion.

Summary of results: The feedback data to be presented reflect high appreciation of the workshop.

Take home message: Results emphasize the need to foster communication skills in post-graduate studies.

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4E Simulation/Standardized Patients 1 – frozen, plastic or real?

4E 1 Evaluating a process for realistic scenario development in the assessment of procedural skills

D Nestel*, R Kneebone and F Yadollahi (Imperial College London, Department of Biosurgery and Surgical Technology, South Wharf Road, London W2 1NY, UK)

Aim: We have developed an approach to assessing clinical procedures that integrates technical with communication and other professional skills - integrated procedural performance instrument (IPPI). We link simulation models with actors to create realistic scenarios for teaching and learning procedural skills. In this presentation we will describe the development process and evaluation of scenarios used in IPPI. Our starting point is the technical procedure (intravenous infusion, subcutaneous injection) or clinical examination (rectal examination) which we map alongside a range of patient characteristics (age, sex, cultural background, spoken languages, disabilities etc) and emotional states (anxiety, anger, hostility etc).

Summary of work: We have developed scenarios for over 15 procedures. Although initially crafted by our multidisciplinary team, a critical step is extensive consultation with clinicians, simulated and real patients. IPPI participants, clinicians and simulated patients rate scenarios for realism.

Summary of results: Preliminary results demonstrate reasonable levels of realism with mean scores of 3.3 to 4.8 (0-8.1-4) on a 6-point scale from not at all (1) to highly (6) realistic.

Conclusions: We believe that this approach to scenario development is valid offering guidance for others involved in creating realistic patient-focused roles for scenarios.

4E 2 Human simulator program in a medical physiology course: exam score effects

James N Pasley*, Michael Petty, Jehad Albataineh and Mohammad Jaffar (University of Arkansas for Medical Sciences, College of Medicine, Mail Slot #558, 4301 W. Markham Street, Little Rock, Arkansas 72205-7199, USA)

Summary of work: A computer driven patient simulator mannequin was used to demonstrate basic science concepts of cardiovascular and pulmonary physiology in a Medical Physiology course and to investigate student performance on exam questions in cardiovascular and respiratory physiology after the practical application of the course including the Sim-Man material to assess the experience. After the encounters with Sim-Man, students were examined on the material covered in each section of the course including the Sim-Man material to assess the experience.

Summary of results: Scores on the cardiovascular and respiratory exams were increased (p<0.05) compared to previous years when a Sim-Man experience was not available. Year 2 was augmented with team-based learning strategies to promote student accountability of content material. Currently, year 3 data are being analyzed.

Conclusion: Patient simulator encounters appear to be of benefit in reinforcing material in medical physiology and may soften the divide between the pre-clinical and clinical years of medical school.
Simulated surgical skills training: why not in sub-Saharan Africa?

Miliard Derbew and Hurl Byrne* (University of Toronto, Faculty of Medicine, The Donald R Wilson Centre for Research in Education, 200 Elizabeth Street, 1 Eaton S Room 565, Toronto, Ontario M5G 2C4, CANADA)

The objective of this paper is to present a case for establishing a surgical skill training center in sub-Saharan Africa. Traditionally, surgical trainees learn and practice surgical skills under the supervision of attending surgeons in the operating room. However, this Halstedian apprenticeship model may no longer be optimal, as it is increasingly difficult for the operating room to be the predominant venue for the acquisition of surgical skills. As a result, there is an increased need to develop supplementary approaches for teaching surgical skills outside the operating room. Teaching technical skills in a simulated laboratory cuts back on the operating time, decreases stress of learning, avoids ethical and medico legal issues, allows and tolerates mistakes, corrects performance errors and provides opportunities to explore the limits of each technique. Formative and summative feedback are normally practiced. Experience of practicing countries has shown that technical training can be established on simple, inexpensive and portable models which are widely available. The major costs are associated with staffing and facilities. Application of surgical skill training will help developing countries which are suffering from serious shortage of surgeons to produce more qualified surgeons less expensively.

Performing liver biopsies: validating the use of fresh frozen cadavers

A S Arora and D H Bruining* (Mayo Clinic, Department of GH, Mayo Foundation, 200 First Street SW, Rochester MN 55905, USA)

Background: Percutaneous liver biopsy is an important procedure in diagnosing and staging of liver diseases. Most gastroenterology fellowships require proficiency in this technique, though “standard” training involves practising with a piece of fruit before attempting the procedure on patients. Fresh frozen cadavers (FFC) are ideal to train for this procedure as they are rapidly frozen, can be thawed within 24 hours, do not need embalming fluid and the blood is not drained.

Aim: To validate whether a FFC could be used in the training of liver biopsies. Summary of work: 6 experienced consultant hepatologists were invited to biopsy the liver of a FFC and see if this was a realistic model for training.

Summary of results: All consultants felt that the anatomic landmarks were easily determined and that the delivery of local anesthetic and skin puncturing was realistic. Moreover, they were all able to discern the various skin layers prior to biopsying the liver and that the “feel” of the liver was realistic. The sample size obtained was more than adequate for each attempt.

Conclusion: The use of a FFC to perform liver biopsies is a valid and feasible method for training Fellows. This can be developed to assess competence and alleviate anxiety in the training of liver biopsies.

Integration of standardized patients (SP) into ward round training for final year students

S K Briem*, B Kraus, J Jünger, H Lauber, W Herzog and C Nikendei (University of Heidelberg Medical Clinic, Allgemeine Klinische und Psychosomatische Medizin, Im Neuenheimer Feld 410, Heidelberg 69120, GERMANY)

Background: Ward rounds are an essential activity for doctors in hospital settings and represent complex tasks requiring not only medical knowledge but also communication skills, clinical technical skills, patient management skills and team working skills. However, although the need for ward round training is emphasised in the published literature, there are no reports about ward round training in a simulated setting with standardised patients.

Summary of work: 18 final year students participated in a ward round training session lasting two hours with three standardised patient scenarios and role-plays. Final year students took on roles as either doctor, nurse or final year student with role-specific instructions and provided each other with SP and peer-feedback during the training.

The training was assessed using final year student focus groups, student acceptance of the training and pre/post self-assessments.

Summary of results: The ward round training proved to be a feasible tool, well accepted by final year students and leads to a significant improvement in students’ self-assessment of important ward round skills. Moreover it increased the motivation for ward rounds on their own responsibility.

Conclusion: Ward round training with standardised patients is greatly appreciated by final year students and is seen to be an important part of their education.
Assessment 2 – Use of Feedback

4F 1 Characteristics of written feedback on students' reflection reports
Hanne Dekker*, Jelle Geertsz, Johanna Schirron-Adeama and Janke Gehm-Schotanus (University Medical Centre Groningen, Faculty of Medical Sciences, Research & Development in Medical Education, A. Dessenlaan 1, Groningen 9713 AV, NETHERLANDS)

Background: Reflection is the keyword in preparing students for life long learning. To stimulate reflection students have to make reflection reports concerning their professional behaviour. The written feedback that medical teachers give on these reflection reports is important in enhancing the reflection process. In this study we addressed the following question: which kind of written feedback is evaluated effective in stimulating this process? Answering this question requires insight in the nature of written feedback.

Summary of work: A sample of 90 portfolios was taken from a total group of 782 first and second year portfolios. All written feedback comments on the reflection reports of students on their professional behaviour were collected. Fifteen educationalists and ten medical teachers were asked to classify the feedback comments. HOMALS (HOMogenuity analysis Alternating Least Squares) was used to analyse the classification and to derive feedback dimensions. An expert panel (n = 21) interpreted the effectiveness of the written feedback comments.

Conclusion: The HOMALS indicates that there are three dimensions: opinions, questions and advice. The dimension 'questions' was judged as the most effective means for stimulating the reflection process.

Take home message: If you want to give effective written feedback on students' reflection reports, formulate questions.

4F 2 Learning technical surgical skills by medical students: the role of verbal feedback from students' reflection reports
Adom Dubrowski*, George Xeroulis, Mark C Porte, Vicki Leblanc and Richard K Reznick (University of Toronto, Department of Surgery, The Wilson Centre, 200 Elizabeth Street, Eaton South IE 583, Toronto, Ontario M5G 2C5, CANADA)

Background: Teaching of basic technical skills to medical students in a simulated setting is increasingly common. The large number of students to be taught coupled with mounting faculty priorities mandates an exploration of novel teaching methods. We examined the effectiveness of various methods of instructions and feedback on the acquisition of technical skill in medical students.

Summary of work: Ninety students were randomized into 6 groups and learned suturing and knot tying skills into 6 groups and learned suturing and knot tying skills. Group 1 received basic instruction with no additional feedback, Group 2 received computer-based feedback about the economy of their movements, Group 3 received computer-based feedback about the economy of their movements without expert reference values, Group 4 received expert feedback at the end of training, Group 5 received concurrent feedback from an expert and Group 6 accessed an interactive video to self-regulate the amount of instruction. All groups were pre-tested, practiced 18 trials, post-tested and tested on a one-month retention test. Performance was assessed by expert analysis using computer generated and expert-based evaluations.

Conclusions: All groups showed improvement from pre-test to post-test. Only Groups 2 (computer feedback with expert reference values) and Group 4 (expert feedback at the end of training) showed skills retention.

Take home message: Computer-based feedback is an effective method of instruction. Thoughtful incorporation

of computer-based video training into technical curricula can make efficient use of faculty time. Expert terminal feedback is most effective in training novices in technical skills in a simulated surgical environment.

4F 3 Multisource feedback in specialist training in Denmark – a pilot study
Gitte Eriksen*, Jens Seberg, Hans Kirkegaard and Birgitte Bruun Nielsen (Aarhus University Hospital, Department of Gynaecology and Obstetrics, Skeby Sygehus, Bredestrupsvej, Aarhus DK-8200, DENMARK)

Aim: To present the development of a web-based multi-source feedback (MSF) assessment tool. The evaluation of the need for certification of the trainer, acceptability, ethical aspects, implementation experience and impact of organisational support will be addressed.

Summary of work: Based on the mock-ups in specialist training 31 competences (teamwork, communication, management and interpersonal skills) were defined. 12 competences were selected for each specialty. Senior doctors/trainers were trained in feedback/coaching. Forty-seven doctors in specialist training and 16 trainers received MSF. The project was evaluated using qualitative and quantitative methods.

Summary of results: The web-based tool was evaluated as time-effective, easy to use and the generated reports were perceived as well-structured and useful for verbal feedback. A response rate of 89% was achieved. The tool was accepted among peers, co-workers and others. Of the trainees 95% recommend the MSF to be used in specialist training. Detailed results of the evaluation will be presented.

Conclusions/take home messages: Preliminary conclusions: A web-based MSF tool seemed time efficient and acceptable in a clinical setting. Training of trainers in coaching was of great importance. Follow-up plans were suggested to increase the overall effect/impact of MSF in specialist training.

4F 4 Feedback – is everyone hearing the message?
Heather L Hageman*, Dorothy A Andriole, Alison J Whelan and Donna B Jeffe (Washington University, School of Medicine, 660 South Euclid, Box 8097, St Louis MO 63109, USA)

Aim: We sought to identify predictors of students' perceptions regarding sufficiency of feedback from clinical-clerkship faculty.

Summary of work: Using multiple linear regression, we analyzed our 2001-2004 graduates' responses to Association of American Medical Colleges' Graduation Questionnaire (GQ) sufficiency-of-feedback items ("Faculty members provided me with sufficient feedback on my performance", 5-point scale, 1 = strongly disagree to 5 = strongly agree) for five clerkships (mean of pediatrics, medicine, obstetrics/gynecology, psychiatry, and surgery) in association with individual student's demographic and academic data.

Summary of results: Of 459 graduates, 261 completed the GQ with identifiers enabling linkage of students' data. In the regression model, better evaluation of the five clerkships' educational quality correlated with higher levels of sufficiency of feedback (p < .001); women (p = .025) and MD/PhD-program participation (p = .042) correlated with lower levels of perceived sufficiency of feedback. Race/ethnicity, clerkships' grade-point average, and Alpha Omega Alpha (AOA) election were not associated with perceived sufficiency of feedback.

Conclusions: Although educational interventions largely focus on the providers of feedback (teachers), differences among the receivers of feedback (learners) – but not grades – seem to influence perceived sufficiency of feedback communication.
Feedback in simulation and in reality
David Matheson*, Andy Buttery and Bryn Baxendale (University of Nottingham, Medical Education Unit, Queens Medical Centre, Nottingham NG7 2UH, UK)

Aim: The aim is to present initial findings on 213 final year medical students’ experience of feedback and how/whether their attitudes evolved over a day spent in a high fidelity simulation centre, and to consider their willingness to give and receive honest feedback on performance as well as their experience of seeing feedback given in clinical settings.

Summary of work: The students spent a day in the simulation suite where they worked in teams to respond to a variety of critical care scenarios. Participants were observed from an adjoining room via CCTV. Immediately following a scenario, each student who took part was debriefed by a fellow student aided by a facilitator while at the end of the day all students were given an individual in-depth debrief by the facilitators. At the start and end of the day, the students completed questionnaires with both qualitative and quantitative questions, covering, inter alia, their experience of, and their feelings towards, feedback with a colleague in a clinical setting.

Summary of results: Student feelings were varied and depended largely on who was feeding back to whom and how this was being done. They were very sensitive to the context in which feedback was given.

Short Communications

Professionalism 3 – Different approaches to the assessment of professionalism

Assessing professionalism with the Objective Structured Clinical Examination (OSCE)
Ann Jefferies*, Brian Simmons and Deborah Clark (University of Toronto, Department of Pediatrics, Room 775, Mount Sinai Hospital, 600 University Avenue, Toronto, Ontario M5G 1X5, CANADA)

Aim: As part of competency-based medical education, we examined assessment of professionalism using the OSCE.

Summary of work: Sixty-four candidates from 10 Canadian neonatal–perinatal training programs participated in two OSCEs that assessed seven core competencies (CanMEDS roles). Stations included interactions with standardized patients (SPs) and standardized health professionals (SHPs). Ten of 26 stations incorporated professionalism.

Evaluation tools included checklists, global ratings for each competency and SP/SHP process ratings. Professionalism was assessed with a professionalism global rating and with the SP/SHP rating for empathy. Individual checklist items reflecting professionalism were identified retrospectively and responses tallied to create a professionalism checklist score for each station.

Summary of results: Median number of professionalism checklist items per station was 7 (range 1 – 11). Professionalism global scores correlated significantly (p<0.05) with station checklist scores (r=0.36), SP/SHP empathy scores (r=0.31) and professionalism checklist scores (r=0.14). Interstation reliability expressed as Cronbach’s alpha was 0.52, 0.63, 0.69 and 0.36 for the professionalism global, station checklist, empathy rating and professionalism checklist respectively.

Conclusions: Holistic global and process ratings may be more reliable than individual checklist item scores when assessing professionalism in the OSCE.

Ethics and professionalism in medicine: experience in the application of Hall Tonna Inventory of Values
Claudia Hernández*, Mary Ana Gorden, Graciela Medina, Luz Leticia Elizondo, Daniel Dávila and Miguel Angel García (Tecnológico de Monterrey School of Medicine, Hospital San José/Ciencias Clínicas, Av. Morones Prieto No 3000 Pte, Col. Doctores, Nuevo León 64710, MEXICO)

Background: The Educative Research Project of Ethics and Professionalism in Medicine has as the objective to evaluate the annual progress of a first year students group in a new academic curriculum with an explicit emphasis on Professionalism outcomes and compare it with a group of students recently graduated in a previous curriculum.

Summary of work: A five tools evaluation system was generated based on outcomes which measure the integration of knowledge, skills, values and attitudes in medicine: Longitudinal Format for Students Feedback; Tutorial System; Portfolio; Hall Tonna Inventory of Perception of values (HTIV). HTIV has been selected as a tool to measure in an objective way the progress of the students and the effects of the implementation of an academic curriculum based on Professionalism outcomes.

The implementation of HTIV allows the establishment of a Map of Values (base values-past, central values-present, vision values-future and leadership style) of the Tecnológico de Monterrey School of Medicine based on the analysis of the Code of Ethics and Principles of the School of Medicine. These reports were also obtained for the implementation group and control group leading us to establish a comparison between both groups and the map of values of the Institution.
4G 4 Development and implementation of an instrument to measure academic and professional performance of graduate alumni from medical school in Colombia

Mary Bermudez*, Maria Helcy Rodriguez and Rodolfo Dennis (Javeriana University School of Medicine, Calle 94, No 23-17 AP 403, Bogotá, COLOMBIA)

Background: Graduate student academic and professional performance evaluation as part of accreditation processes is necessary to assure quality in higher level education. As no valid and reliable tool was available, we decided to develop and validate one such instrument.

Summary of work: Focus groups and interviews were performed to identify potential domains and specific items to develop the questionnaire. Face, content validity and construct validity were measured. Initial preliminary instrument had 67 items within 5 domains. Quality of items and reproducibility were evaluated with statistical tests. Factor analysis was used to extract factors and Cronbach’s Alpha to evaluate internal consistency. After factor analysis and trimming of redundant items, the final instrument had 45 items within 8 domains and was used to evaluate medical graduates from Javeriana University in Bogotá, on a sample of academicians and employers. A modified version was used with patients. Both are available from the authors on request.

Conclusions: A valid and reliable instrument to measure medical alumni’s academic and professional performance was developed. For both experts and patients, ethics and human values were the most important domains. This instrument may allow Medical Schools to assess and compare their programs and to improve quality.

Take home message: Evaluation of graduated students is necessary to assure the quality of education. A valid, reliable and easy to use instrument that takes into account ethics and human value domains is necessary.

4G 5 Experiences from examining ‘professional development’ by use of video-taped ‘difficult patients’

Eva E Johansson* and Ulf Lindström (University of Umeå, Institution of Public Health & Clinical Medicine, Family Medicine, Umeå 90185, SWEDEN)

Aim: Consultation skills are trained in a course named professionalism; on “what to think of and how to act” written examination of skills, knowledge and attitudes development. The aim is to present experiences from a written exam on video cases. The way to sum up different approaches in human interaction and thought the exam gave dignity and standard to performance evaluation as part of accreditation processes.

Summary of results: Students were attentively engaged in scenes, followed by exam questions. The patients initially presented diffuse problems, such as headache and sleeping disorders. In successive scenes they revealed psychosocial circumstances, such as abuse and criminality.

Conclusion: A written exam on video cases is a possible way to sum up different approaches in human interaction and communication. Although professionalism is a very individually formed entity, there are general guidelines and models of conduct to know of and reflect upon.

4G 6 Peer evaluation: an important assessment of professionalism and communication in an internal medicine residency program

Denise M Dupras* and Randall S Edson (Mayo Clinic, College of Medicine, 200 First Street SW, Rochester 55901, USA)

Background: Peer evaluation is not a new concept in medical education. The number of internal medicine residency programs using peer evaluation during their training programs is currently unknown.

Summary of work: In 2004, we introduced peer evaluation to our internal medicine residency program. The questionnaire focuses on the ACGME competencies of professionalism, interpersonal skills and communication. We collected all of the submitted peer evaluations for the categorical interns during the academic year 2004-2005. We identified residents who received a score of 1 (“Needs improvement”) or 2 (“Just below average”) on a 5 point Likert scale and categorized the comments included with each evaluation.

Summary of results: The return rate for the peer evaluations was 79%. There were 17 (0.12%) ratings of 1 and 283 (1.99%) ratings of 2 spread across the competencies. Out of 48 categorical interns, 6.2% received a “1” rating and 33.3% received a rating of “2”. Peers reported specific behaviors needing improvement.

Conclusions: Internal Medicine resident peer review is an important component of evaluation during the training program. Peers will report specific behaviors that identify problems in professionalism and communication that will allow early intervention during residency training. Peer evaluation is feasible and important in evaluation of residents.

Short Communications

4H Integrated case-seminar – tool for studying cooperation of primary and secondary health care

Antti Koivukangas*, Tiina Hyttinen, Tiina Keski-Opas, Pauliina Suomela and Irma Virjo (University of Tampere, Vaskoolinkatu 25, Seinäjoki 60320, FINLAND)

Background: Undergraduate medical students from University of Tampere study two-week periods of internal medicine and surgery at Seinäjoki Central Hospital (SCH), and general practise in eight health centres (HC). Each period ends with a joint seminar of all groups. It deals with real patients, who were referred from HCs to SCH and vice versa. Students present the cases. The aim is to analyse the procedure of care, and learn especially the co-operation of primary and secondary healthcare.

Summary of work: In year 2005 there were 12 seminars, with altogether 116 patients; 6–12 patients/semester, the mean number was 9.7. The majority of patients were elderly. Students (n=245) and teachers (n=31) were asked to evaluate various characteristics of the seminars on a scale from 1 (very poor) to 5 (very good). Altogether 226 (92.2%) of students and all teachers returned the questionnaire.

Summary of results: Mean score for “Overall evaluation of seminar” of students was 3.9 and of teachers 3.8. Teachers’ scores for “Variety of patients” and “Handling cases from many points of view” were 3.9 and 4.0 and students’ scores correspondingly 4.0 and 4.1.

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Conclusions: Internal Medicine resident peer review is an important component of evaluation during the training program. Peers will report specific behaviors that identify problems in professionalism and communication that will allow early intervention during residency training. Peer evaluation is feasible and important in evaluation of residents.
Conclusion: These results indicate that this kind of seminar based on real cases is an excellent way to learn co-operation of primary health care and secondary care.

4H 2 The Kirkcaldy and Levenmouth Community Attachment Scheme: responding to the challenges of health care education
Trevor Gibbs*, Gerry Humphris and Kathleen Fotheringham (University of St Andrews, Bute Medical School, Little Brooksy, Queens Terrace, St Andrews Fife KY15 9ER, UK)

Background: Two specific challenges presently relevant to medical education are: (a) trying to develop early clinical exposure, (b) introducing multi-professional awareness. As a very traditional university, providing only a pre-clinical course, the Bute Medical School has found the task of inculcating these two areas into its curricula particularly demanding.

Work done: By working with the local Community Health Partnerships (CHPs) in developing a Community Teaching Centre, and using the CHP staff as tutors to facilitate the learning of specific and relevant themes, the School has developed a particularly unique Community Attachment Scheme, which envelops the topics related above and, we suggest, adds value to Continuing Professional Development for staff involved.

Conclusion: By being constructive with the opportunities created by organisation of NHS services, the facilitation of student learning has allowed personal development for all concerned. It has allowed several important issues to be addressed within the same learning construct. However, the success of the venture has led to an added challenge of students seeking greater opportunity to study in an already crowded curriculum.

Take home message: Dealing with the challenges of student learning not only produces positive results, but creates new challenges as a consequence.

4H 3 Opening faculty doors to the community: challenges and evaluation of a 5 year teaching process based on volunteer contributions
M F Patricio*, A Pais-de-Luca and J Gomes-Pedro (Institute of Introduction to Medicine, University of Lisbon, Faculdade de Medicina de Lisboa, Av Prof Egas Moniz, Piso 1, Lisboa 1649-028, PORTUGAL)

Background: The discipline of Introduction to Medicine was introduced in the FML curriculum in 1995 to sensitize first year students for the “human aspects” of medicine. Community Teaching is the major challenge, only possible thanks to the collaboration of more than 60 volunteer tutors in each year.

Summary of work: Tutorised educational visits to several community-based institutions (old age homes, nurseries for vulnerable children, prisons, rehabilitation programmes, minorities such as gypsies or communities from Portuguese ancient colonies, etc) were offered as unique opportunities for students to discover resilience and vulnerability in (un)known dramatic realities. Seminars for sharing these experiences occur under students’ responsibility promoting further discussion on ethical dilemmas. Evaluation by students (n= 2169) along 5 years on “tutor’s support”, “importance of educational visits”, “fulfilment of initial expectations”, “global evaluation”, “contribution to personal and professional development”; “criticisms and suggestions” will be presented.

Summary of results: Results show that the very positive evaluation of the visits is essentially “tutor dependent”. Implications for teaching in terms of “criteria for selection” and “volunteer nature of the tutors” will be approached.

Conclusions: Visits to paramedical/social community institutions are highly evaluated by students and teachers as crucial components of medical training. Difficulties/problems linked to its implementation must be addressed by faculties.

4H 4 One medical student, one family participatory community approach in Family and Community Medicine, 2003-2005
Teerasak Luksanam* (Sawanpracharak Hospital, 43 Attakawee Pakhumno District, Nakthonsawan, THAILAND)

Background: Medical treatments are usually decided by specialists and physicians mostly focus on physical illness, neglecting human dignity, mind and spirit. The Family and Community Medicine I curriculum has been established to empower students to work effectively in the community effectively and to absorb knowledge and values from the community.

Summary of work: In the fourth year, medical students undertook a family and community medicine attachment for about 4 weeks. Before the attachment students’ preparation consisted of a lecture, self directed learning and group discussion about the community approach. Students have to study a family’s life style, together with public heath problems. The uniqueness of this curriculum was to assign one student per family. While the students practiced in a village, the team of teachers visited them every day for consultation both about knowledge and problems of living. A database of the community was collected using questionnaires which were analyzed. Students then selected the important and feasible issues with which the community was also concerned and in which they were willing to participate.

Summary of results: Students indicated five benefits of community practice: (1) the ability to study the whole community and the family; (2) teachers’ supervision; (3) participation with a real rural community for such a period of time aided their learning; (4), warmth and sincerity of the family with which they lived; and (5) participation in the community. Members of the community were satisfied with this program, had a better attitude towards physicians and became more alert in caring for themselves.

Conclusion: Students were able to apply theory to practice in the community and the community was satisfied with the program.

4H 5 Practising community health
Zvonko Sosic*, Gordana Pavlekovic, Hada Cikes and Mladenka Vrkic-Keglevic (University of Zagreb, Medical School, Andrija Stampar School of Public Health, Rockefellerova Str 4, Zagreb 10000, CROATIA)

Summary of work: A field program in the community aims to help students to understand how environmental and other factors influence health and to what extent health is a result as well as a prerequisite of wellbeing; how moral, cultural, social and other values influence health. Students live in the community, assisting in implementation of specific programs, and participate in regular activities relating to health services. Visits to local industries, historical and cultural sights are important parts of teaching. At the end the student is able to recognise health needs of the community, to assess efficiency of measures for particular health problems, and to critically examine health services. Skills such as communication skills, health education, presentation, interview, as well as assessment of living and working environment, epidemiological survey, organisation of vaccination etc. are acquired. According to our experience, students are willing to participate in and commit themselves to any program with a clear purpose and goals. Observation alone has small effect. The best results are achieved through activities that local health services are interested in, developed together with the teachers, and when there is a clear need in the community for such activities achieving direct benefit for the community. Two weeks in the community is necessary.

Take home message: Open university teaching to community is a challenge to be embraced by Faculties in the pursuit of Medical Humanization facing the dramatic changes in modern societies and health care systems.
4I 1 The amazing case race: making hospital orientation fun and educationally relevant
Adrienne Newman, Debbie Leach, Sally Kent-Ferguson and Eleanor Flynn* (University of Melbourne, Faculty of Health Sciences, Faculty Education Unit, Level 7, Medical Building, Victoria 3010, AUSTRALIA)

Hospital orientation programs by including everything interns "need to know" are didactic and boring. Evaluation of our 2005 program revealed only memories of clinical skills sessions. For 2006 we used a context specific education model and integrated the hospital tour, the clinical skills sessions and the information giving into two circuits of tasks to be achieved on the wards. It was loosely based on the television show "The Amazing Race" but morphed to two days of an intern's life looking after an elderly female patient who attends most of the hospital during her short admission. 8 teams of 5 interns were arranged for gender, medical school, results and hospital familiarity to ensure equity. Wearing bright t-shirts they competed by providing the correct care for Mrs Brown in each task within set times. The teams then taught each other the important tasks using their chosen frameworks (eg Jerry Springer for patient complaints). The senior staff assessed the tasks and teaching, awarding team and individual prizes using formal criteria. Immediate and later evaluation by staff and interns was very positive. The presentation will show film clips, detail the tasks, assessment rules, and evaluation, and invite suggestions for new tasks or teaching formats.

4I 2 Narrative of a seizure: the patient's perspective through art
J N Hudson, M A Hamilton-Bruce* and H Smith (University of Wollongong, Graduate School of Medicine, Wollongong NSW 2522, AUSTRALIA)

Background: With the focus on patient-centred medicine today, health-care educators and providers are asking “How best can we teach and learn the patient’s perspective?” Contemporary models for teaching communication skills urge us to listen to the patient’s problems and goals as a prominent part of the agenda. This however, may conflict with the clinician’s agenda of diagnosing and managing the ‘presenting problem’. But will management be ideal if we fail to listen to and value the patient’s story? Consider a patient managing with epilepsy. How does this person make sense of their life and gain purpose and meaning?

In a recent article on the value of teaching medical humanities, Wetzel et al urge us to involve students emotionally, to stimulate the right brain to encourage self-reflection, and to help them understand… the nature of suffering, the nature of personhood (and patienthood) and the experience of illness in parallel with the traditional instruction on pathophysiology of disease. They add “…for the patient story is an inevitable human activity that gives meaning to our lives.” In this session, a patient will articulate his story via the medium of art. His experience of living with epilepsy has been expressed through a series of visual images. After viewing images of the artworks, participating in small discussion groups and hearing the artist’s perspective, participants can take those ideas, internalise them, and carry them forward into their lives and/or clinical practice. On accepting the 2005 Arthur C Guyton Teacher of the Year Award in Physiology, Gore reminds us of the words of Vine Deloria, a Native American elder from North Dakota “…the people who tell the story, shape the culture.” If patients can share their story, perhaps they can help build a culture of valuing their perspective, and also encourage health professionals to personally and/or professionally gain from the experience.

4I 3 The fourth wall
Torild Jacobsen*, Anders Baechim, Marjet Lepp and Edvin Schei (University of Bergen, Lst 016, Kaldarveien 31, Bergen N-5018, NORWAY)

Background: The principle of ‘The fourth wall’ is an established convention from the naturalistic theatre. It deals with communication between the audience and the actors. This session explores how the “wall” may be identified in a fiction based communication training for medical students and elucidates possible didactical consequences.

Summary: The training model was exposed at an international workshop for medical teachers. The workshop was videotaped and analysed qualitatively. The analysis of the empirical material revealed three main locations when the wall moved as the learning process evolved: 1) a traditionally theater location, where the wall was transparent for the audience, opaque for the participants. 2) A timeout and reflection location, where the wall was double opaque. 3) A hot seat location where the wall enclosed everybody in the room. All three locations may have didactical consequences for a learning process.

Conclusion: In this study we found that the fourth wall is moving and changing according to the didactical needs. This changing of positions turn the metaphorical wall into a useful device for understanding the didactical processes in sessions where fictions are being utilised.

4J 1 Enhancing patient safety by re-building human errors: prospective memory failures and synthesizing error analysis
Peter Dieckmann*, Silke Reddersen, Theo Wehmer, Klaus Mehli and Marcus Rall (Tuebingen University Medical School, Department for Anaesthesiology and Intensive Care Medicine, Center for Patient Safety and Simulation, Silcherstrasse 5, Tuebingen D-72074, GERMANY)

Background: Several reports show that patient safety is not high enough. Human error is considered as root cause in up to 70% of critical incidents. Incident reporting systems (e.g. www.pasis.de) are a valuable tool for finding problem areas. However, the information contained is usually not sufficient to understand causes (and reasons) of human errors. Synthesizing error analysis tries to actually reconstruct the reported and other errors using different techniques. It goes beyond descriptions. Re-building the error and systematically varying the conditions under which it happens (or not) requires a very deep understanding of error prone situations.

Summary of work: We tried this approach in a workshop with eight anaesthesiologists with different expertise. We verbally described situations in which actors had to understand the intention (error causes and reasons) or remember it (prospective memory). We asked participants to mentally change the intention (error causes and reasons) or remember it (prospective memory). We also tested these assumptions using a patient simulator.
Designing a patient safety and quality outcomes medical curriculum

David Mayer*, Paul Barach and Ara Tekian (University of Illinois at Chicago, 1740 W. Taylor MC 315, Chicago, Illinois 60612, USA)

Background: Patient safety and quality care have emerged as major concerns and drivers for improving healthcare. The Institute of Medicine's report, To Err is Human: Building a Safer Health System, led to considerable discussion on the need to redesign current medical education systems to meet these concerns.

Summary of work: Experts from around the world in patient safety, quality care, curriculum innovation, informatics, risk management, legal, and simulator science met during the summer of 2005 in Colorado to discuss the planning and implementation of a standardized patient safety curriculum for UGME and GME. Some of the objectives included bringing together stakeholders for the development of a patient safety curriculum; performing a needs assessment and designing a longitudinal curriculum that meets the required goals and objectives; identifying the appropriate educational methodologies; and planning a pilot curriculum.

Conclusions: Discussion of patient safety issues with the concerned stakeholders yielded a plan for a two-week pilot multidisciplinary patient safety course.

Take home messages: Patient safety courses make a difference in the students' understanding of the issues, and it is time for change in the education and training of physicians to address problems associated with quality, safety, and patient care.

Workplace education to improve patient safety

Kirsty Foster* and Heather E Jeffery (Royal Prince Alfred Hospital and University of Sydney, 200 Fitzgerald Avenue, Maroubra, Sydney NSW 2035, AUSTRALIA)

Aim: To describe development and impact of an interprofessional educational initiative to improve patient safety in a neonatal intensive care unit.

Summary of work: As part of ongoing quality assurance, a team of neonatologists, neonatal nurses and a medical educator developed an education module on "Error Reduction" designed for workplace learning. The SCORPIO (Hill, 1997) teaching method was used with mixed disciplines among tutors and participants. Course content was informed by unit specific data taking into account frequency and potential danger of errors. The education targeted prescribing and administration of drugs, blood transfusion, administration of expressed breast milk and baby identification.

Summary of results: Seventy-five nursery staff have so far attended the module and evaluated it highly, especially welcoming the opportunity to revise in a safe environment. An integrated approach explicitly linking data collection, education and quality of care has resulted in deeper understanding of the concept of risk and reasons for investigating incidents in a no-blame culture. Obtaining meaningful outcome data in this field presents a challenge.

Take home message: Provision of education which is relevant, practical, interactive and in context encourages deep understanding with potential impact on patient care and safety.

Safe medication practice tutorials for final year medical students

ID Coombes, C Mitchell*, D Stowasser and J Brammer (University of Queensland, Department of Respiratory Medicine, Princess Alexandra Hospital, Ipswich Road, Woolloongabba, Queensland 4102, AUSTRALIA)

Aim: To develop and evaluate a practical safe medication practice module for safe and effective prescribing.

Summary of work: Students attended eight tutorials, presented by pharmacy, medical and nursing staff. Topics included: introduction to human error and medication safety, taking and confirming medication histories and identifying drug related problems, introduction to prescribing, adverse drug reactions, starting, dosing, changing, ceasing and monitoring; antibiotics, anticoagulants, insulin, IV fluids and electrolytes, graded assertiveness, and effective communication, discharge prescribing and communication. Students attending other sites were a parallel control group.

Summary of results: Eighty-five students perceived the content and delivery of tutorials as practical and relevant to internship. There was a significant increase in their confidence to prescribe particularly in specific high risk situations such as, anticoagulation, electrolytes and insulin (change over term; p<0.05). There were significantly fewer prescribing errors made by the intervention group in the summative assessment compared with the control group (p<0.05). Performance in the trainee intern program at the intervention site demonstrated a significantly greater ability to identify and prevent medication errors when compared with control site (p<0.05).

Conclusion: This program has been well received with increased confidence and ability to prescribe safely and effectively in common situations.

An interprofessional approach to healthcare students learning about patient safety

D S Bar*, A Hutchinson and P Stark (University of Sheffield, Academic Unit of Medical Education, School of Medicine and Biomedical Sciences, 85 Wilkinson Street, Sheffield S10 2GJ, UK)

Background: Errors in healthcare are common and costly in human and financial terms. An interprofessional introduction to understanding of the need for and of systems supporting safe practice involves students from dentistry, medicine, nursing, orthoptics and speech and language therapy at the University of Sheffield.

Summary of work: Student groups reported their understanding of expressions that might be used to give a patient an idea of a level of risk in taking a drug. There was wide variation in what students thought expressions such as ‘rarely’, ‘possibly’ and ‘never’ meant with clear implications for clinical practice. Students also responded to what they would and what they should do in a range of healthcare scenarios including a mislabelled blood sample, a patient about to be harmed, poor professional behaviour by senior clinicians, a fellow student asking for concealment of a personal health problem and a drunk teacher. Marked differences seen between the ‘would do’ and ‘should do’ responses were not profession specific.

Conclusions: Students should be encouraged to use language optimally. Disparities in responses to the scenarios suggest an early impact of healthcare hierarchies.

Take home messages: Interprofessional learning using patient safety as a theme is relevant, revealing and educationally valuable.
4M Preparing medical education manuscripts for journal publication

William C McCaghie (Northwestern University Feinberg School of Medicine, Chicago, IL, USA) and Monica van de Rijder (University Medical Center Utrecht, The Netherlands)

Background: Professional opportunities flow directly from publications. Writing reflects the outcomes of one's scholarship. Good writing benefits scholars' scientific fields generally, scholars' specific audiences, and scholars themselves. Yet most scholars struggle with writing, even those with many publications. The acquisition and maintenance of writing skills is a result of sustained, deliberate practice, not chance.

Objectives: This workshop will address ways to improve scholarly writing. We will present (a) suggestions for improving writing skills at different phases in the writing process, (b) an overview of the scope of journals in medical education and related fields, and (c) useful resources about writing.

Structure: Following introductions, we will probe the problems that workshop participants encounter when writing. Then we will present a general overview of the writing process: planning, outlining, writing, and reviewing. We will focus on the practical skills needed for each phase and offer suggestions for deliberate practice. Finally, we will present information about the habits and preferences of different journals.

Outcomes/take-home messages: Planning, organizing, and self-management are key ingredients of the writing process. Writing skills can be acquired and improved from deliberate practice. They do not occur by chance.

Who should attend: This workshop is intended for individuals who are interested in learning about and improving their skills at writing manuscripts for journal publication. Scholars who would like to share their writing experiences are also welcome.
4N 4 Integrating refugee health professionals into the UK NHS workforce: successful initiatives and lessons learned
Ceri Butler*, Lesley Southgate and John Eversley (University College London, Department of Primary Care and Population Sciences, 26 Fernhurst Crescent, Tunbridge Wells, Kent TN4 4TD, UK)
Refugees face many obstacles in resuming their careers in the UK. From initial orientation, communication skills and sitting the necessary professional examinations through obtaining sufficient clinical experience, to progression once recognised, refugee health professionals require support and guidance. In acknowledging the need to help refugees integrate into UK society combined with the workforce needs of the NHS, between 2001 and 2004 the Department of Health Steering Group allocated over £2million to projects aimed at supporting the integration of refugees into the NHS workforce. This paper highlights experience of the initiative from the perspectives of the key players including the DH, Professional organisations, Higher Education Institutions and NGOs in the partnerships and collaborations and the significant number of refugee health professionals that have been assisted to resume their careers in the UK. To date, 20% of London resident doctors have resumed their careers in the UK. Drawing on the evidence of funded projects, this paper puts forward models of good practice. It also explores the lessons that have been learned over the last five years and provides a forward looking strategy of where future resources would be best placed.

4N 5 Does studying abroad prepare graduates to work in foreign countries?
J Dahmen*, H.Doll, O.Palacek, C.Schiet, K.Gardzik, G.Fedenkai and M Butzloff (Witten/Herdecke University, Medical Deanship, Alfred-Herhausen-Str 50, Witten 58448, GERMANY)
Background: Due to the economic and cultural globalisation and an increasingly internationalised job market, occupational mobility and a sufficient qualification are expected from today’s medical graduates. In all medical professions the ability to work abroad may serve as an important learning opportunity and extends career options.
Summary of work: A survey among 452 medical alumni (58% return rate; n=264) of Witten/Herdecke University (UWH).
Conclusions: 82.6 % (218 of 264) of Witten/Herdecke medical alumni partially studied abroad. 30.7% (67) of the 82.6% worked post-graduate six or more months in a foreign country. Out of all students who worked at least six or more months postgraduate abroad, only 1.5% (11) did not spend time in a foreign country during their studies.
Take home message: Studying and working abroad is a central element of medical education for UWH students and extends into first postgraduate employments. Spending part of the medical studies abroad appears to be a predictor for an international postgraduate employment and thus a potential career opportunity.

4N 6 International medical graduates and home grown medical students – learning together
J P Fisher*, K Anderson, M Sykes and M Keaney (REACHE Northwest, Hope Hospital, Stott Lane, Salford M6 8ND, UK)
Aim: To describe a method of training international medical graduates in communication and clinical skills, through use of medical student volunteers.
Summary of work: We have recruited medical student volunteers to assist in the teaching provided to our refugee doctors who are preparing for work in the UK. The two groups of students practise OSCEs together, taking turns to play the role of exam candidate, patient actor and examiner.
Summary of results: The sessions have proved popular with both the international graduates and the medical students. The international graduates benefit from having home grown students to correct their English, teach them appropriate colloquialisms and discuss the UK approach to the patient. The medical students benefit directly from extra OSCE practice and indirectly through increased exposure to different cultures and to peers with very different life experiences.
Conclusion: This is a simple easily reproducible model for those trying to help international medical graduates integrate into a new health care system.

4N 7 Strategic plan and new vision of development
Ivane Bokeria* (Tbilisi State University, 1, Chavchavadze Av, Tbilisi 0128, GEORGIA)
The reform in Higher Medical Education is necessary as a result of the following factors: the implementation in Georgia of a new law about higher education, the second stage of institutional accreditation and fundamental changes in medicine. Before the implementation of a new strategic plan of development in the Faculty of Medicine in Tbilisi State University we carried out a self-evaluation by looking at the following: mission and target; core curriculum; system of assessment of students; academic staff; management and administration; self renewal. We used the WFME Global Standards in Basic Medical Education. On the basis of a SWOT-analysis we studied the strengths and weaknesses sides, also opportunities and threats to development. On the basis of the analysis of results we implemented a new strategic plan, which includes required changes in three directions: implementation of new teaching programs (syllabus) in accordance with European standards, introduction of new methods of teaching and structural development of faculty. At the beginning of 2006 we founded a School of Occupation Therapy and Allied Health Professions and a Committee of Curriculum and Quality Assurance; we implemented ECTS and now we are preparing a process for selection of academic staff. The principal target of the strategic plan is to assure the competence of students at the Faculty of Medicine at Tbilisi State University.

4N 8 Leonardo MEDSKILLS project – Burns Module
Donata Kurpas*, Andrej Staniszewski, Rosa Suarez, Luca Pugliese, Anouk De Smedt, Marc Nyssen and Andrej Steciwko (Wroclaw Medical University, ul. Pozwiska 17C/40, Wroclaw 51/128, POLAND)
The main goal of the MEDSKILLS project is to provide an on-line transnational reference work for the teaching of medical skills. The promoter of this project is the Vrije Universiteit Brussel. The “MedSkills” Project comprises 13 work packages. The partners of the Burns module come from Poland – coordinator of the module (Wroclaw Medical University), Spain (Universidad Politecnica de Madrid; SAMUR) and Italy (Università degli Studi di Perugia). The primary target beneficiaries of the project are teachers and professors, responsible for teaching medical skills to nurses, medical students, residents, experienced doctors, intervention teams and firemen. The module will explain, illustrate and analyze the burns events using visual and audio material; principles of evidence based medicine will be met through the use of real-life scenarios. A modern approach will be followed concerning adequate responses, state of the art actions and medications. The developed module will be made readily available (in electronic form via the web) throughout Europe, free of author rights, in order to be used as it is, or to be incorporated into a teachers’ own course. The “MedSkills” targets education and it opens a dialog between European countries to discuss the needs for a uniform medical skills knowledge base.
The establishment of the center for monitoring, assurance, improvement and development of quality of the study programs and teaching at the Medical Faculty in Niš

G Kocic*, M Vasic, and D Pavlovic (University of Niš, Faculty of Medicine, Bulevar Dr Zorana Djindjica 81, Niš 18000, SERBIA & MONTENEGRO)

The Bologna Declaration makes explicit reference to quality assurance including the promotion of European co-operation in quality assurance, with a view to developing comparable criteria and methodologies. The Tempus programme is designed to help the process of educational reform in the partner countries. Since the Tempus Programme focuses on the development of higher education systems, a proposal for the internal quality assurance system at the Faculty of Medicine in Niš (Serbia and Montenegro) was prepared. Developmental guidelines of the Centre are an integral part of the systematic, already initiated activities and changes in the period of inclusion of the Faculty of Medicine into the Bologna Process. It includes the following elements: Students’ program evaluation, Students’ course evaluation, Monitoring of teaching procedure and Internal quality evaluation (self-evaluation). At the Faculty of Medicine, University of Niš, the Center for Monitoring, Assurance, Improvement and Development of Quality of the study programs and teaching has been established. In order to carry out its work, the Center has formed the following commissions: Commission for study program reform, Commission for ECTS adoption, modes of credit accumulation and student-burden, Commission for education efficacy analysis, Commission for teaching quality control and assurance, with mandatory student participation.

Connecting health and educational policies: the role of medical education in Brazil

Adriana Aguiar* and Paulo Rodrigues (UNESA/UEB/ABEM, Rua Visconde de Silva 321/301, Rio de Janeiro RJ 2227 1090, BRAZIL)

In 1988, the Brazilian Constitution was promulgated and health formally became a right of citizenship, creating the Brazilian Comprehensive Health Care System (SUS). In 1990, Law 8080 established SUS’ basic rules, in order to provide full coverage of health services to the overall population, following the principles of decentralization, comprehensiveness, social participation, and network organization. This emphasis on a broad concept of health, encompassing access to health promotion and disease prevention, as well as to adequate diagnosis, treatment and rehabilitation cannot be grounded in the predominantly traditional profile of a specialized medical workforce still prevalent. In 1996, a new law in education was passed, mandating that leaders in several professional areas engaged in the debate about national guidelines in higher education. The National Guidelines for Medical Education were issued in 2001 and highlight the development of competencies such as self-directed learning, communication, leadership and empathy through curriculum integration and exposure of students to a variety of settings that compose the SUS network. This paper discusses initiatives that have been implemented in order to accomplish the parameters of the National Guidelines, focusing on the work of the Brazilian Association of Medical Education and its potential consequences for health care in a developing country.

Towards an improved teaching and evaluation model

Svetan Papovic, Milan Simice, Nevena Senec*, Djordje Povazan, Aleksandar Milicic, Dubravka Klagjar (Faculty of Medicine Novi Sad, Hajduk Veljkova 3, Novi Sad 21000, SERBIA & MONTENEGRO)

Summary of work: The steps towards substantial reform of medical education at our Faculty aimed at raising standards of teaching and at integration into the European area of higher education resulted in the redesigned curriculum introduced in the school year 2005/06.

Summary of results: The structure of the new curriculum was tailored to provide future medical practitioners with broad knowledge and practical skills, trying to avoid information overload. The number of hours is reduced and balanced, basic premedical courses were eliminated, and related subject groups were linked together with the aim of creating future study modules. Furthermore, early integration of clinical disciplines enables students to gain experience in clinical settings. In order to provide optimal study conditions and to motivate students to attend lectures and practical training, considerable...
restrictions with respect to enrolment policy were made. Some initial feedback on the effects of new teaching and examination methods is expected at the end of the current school year.

Conclusions: We will present the outline of the ECTS credit system, which will be implemented in the school year 2006/07 with a view to further harmonization with the medical curricula in the region aimed at improving mobility of our students.

4N 14 Developing teaching skills for medical educators in Russia: A cross-cultural faculty development project
Jeffrey G Wong* and Kadria Agisheva (Medical University of South Carolina, Suite 601 CSB, 96 Jonathan Lucas Street, PO Box 250617, Charleston SC 29425, USA)

Aim: We investigated whether or not a successful US-based faculty development program could be transported to Russia for improving the teaching skills of medical faculty.

Summary of work: The intervention was a modification of the Stanford Faculty Development Program (SFDP) model. Forty-eight Kazan State Medical University faculty (Kazan, RUSSIA) participated. Oral presentations and teaching materials were translated into Russian. Seminar effectiveness was measured via retrospective pre-post questionnaires asking attendees to rate their teaching abilities. Behavioral change was assessed through “Commitment-to-Change” (CTC) statements. Participants were surveyed twice: one-month and 12-months post-intervention. The paired pre-test mean scores were compared to the means of both 1-month and 12-month post-test scores using the student’s two-tailed T-test. Raw percentages of fulfilled CTC statements were reported.

Summary of results: Survey response rates: 98% (1-month), 81% (12-months). Global teaching performance improved [pre = 38.4, 1-month post = 43.7, 12-months post = 42.5; p <0.001] as did ratings of specific teaching behaviors [pre = 100.2, 1-month post = 121.3, 12-months post = 116.8; p<0.001]. 90/121 (71%) CTC statements were rated positive post intervention.

Conclusions: Faculty development seminars were successfully transported across cultures.

4N 15 Bachelor/Master/PhD in medical education
Monja Tullius* (University of Göttingen, Referat Lehre, Robert-Koch-Str. 40, Göttingen D-37075, GERMANY)

Aim: An analysis of the relevance of a two- or three-cycled medical education for the German labour market.

Summary of results: In an online-questionnaire-based cross-sectional study including 442 medical students and 29 employers it could be shown that both sides, employers and future-employees, see potential for quality improvement by introducing the bachelor/master/PhD model to medical education. Especially the employers see many work fields for future bachelor graduates (mainly in management, assistance and documentation) and expect optimized medical services from the introduction of the bachelor/master/PhD model into medicine.

Conclusion: The results of the study clearly point out many alternative fields of work to the classic curative activity for graduates of a two- or three-cycled medical education. On the other hand especially the students worry about an amplification of a “production of narrow-gauged physicians” due to an early specialization in the master program.

4N 16 Implementation of ECTS in Georgia
Nino Chikhladze (Tbilisi State University, 1 Chavchavadze Ave, Tbilisi 0128, GEORGIA)

The decision of Georgia to join the Bologna Process involved many changes in the High Education School. The transition period in Georgia in the sphere of Higher Medical Education was a process of reform. In the current period (from 2004/2005 to the 2005/2006 teaching year) it became necessary to change the existing Credit System to the European Credit Transfer System. Implementation of ECTS at the Faculty of Medicine at Tbilisi State University demanded revision of the whole system of the curriculum and organisation of the teaching at the Faculty. In the initial stage we defined the factors which influence the system (absence of experience of implementation of ECTS in Georgia, overloaded curriculum) and then we optimized and redesigned the curriculum, implemented guidelines for syllabuses, and a new system of assessment etc. Following this we implemented the European Credit Transfer System, which is a necessary condition to conform to European standards in medical education. Experience in Higher Medical Education is a lighted candle, from which other candles will be lit, making it more realistic for post-soviet countries to join in the European Medical Education arena.

4N 17 System of assessment and transition from five to a hundred
Nato Pitskhelauri (Tbilisi State University, 1 Chavchavadze Ave, Tbilisi 0128, GEORGIA)

Recently the Faculty of Medicine of Tbilisi State University has changed its existing system of assessment (five balls*) to a new system of assessment (one hundred balls*). We studied the strengths and weaknesses of the old and new system of assessment for students. Also, using a questionnaire, a study was conducted with students about the system of assessment at the Faculty of Medicine. Following analysis of the results we can draw the following conclusions: the new system of assessment is student-centered and acceptable to students; it is transparent, and objective. We hope that implementation of the new system of assessment and ECTS will assist the mobility of students at the Faculty of Medicine of Tbilisi State University and create the possibility for them to visit and learn in different universities in Europe. (* ‘balls’ are gradations of assessment)

4N 18 First experiences on ECTS implementation at the Faculty of Medicine, University of Niš
D Pavlović*, M Vasić, G Kočić and A Vasić (University of Niš, Faculty of Medicine, Bulevar Đorđa Djindjića 81, Niš 18000, SERBIA & MONTENEGRO)

The Serbian Law on Higher Education, in effect since September 10, 2005, enabled the allocation of 360 ECTS credits to the integrated medical study program implemented at our faculty since 2004. Internal use of ECTS up to now has implied the adjustment of teaching to the ECTS system (transfer to one-semester courses, modularity, more practical and individual work, continuous monitoring of student work, continuous knowledge checks). ECTS credit allocation to all study program components meant the calculation of the amount of work for each course. Established basic ECTS data were applied: 1 Credit Point (CP) = workload of 27 working hours, equals 60 CPs per year and 30 ECTS credits per 1 semester = 1500/1800 hours workload per year for full-time study programme; 1 working day = 8 hours; lecture period of 15 weeks per semester. Two methods were used in parallel to calculate ECTS credits: mathematic and rational. The elements used for the rational model were lectures (mandatory presence), practice/field work, seminars, colloquia, test preparation, consultations, practical and oral exam preparation.

Conclusion: The Commission for ECTS Implementation within the Centre for Quality Monitoring, Assurance, Improvement and Development preferred the rational model – an appropriate way to assess and control student workload.
**4N 19** The development of multi-professional education – an international comparative study between Denmark and the UK

Glynis Buckle and Simon Gregory (Leicestershire, Northamptonshire & Rutland, Healthcare Workforce Deanship, Lakeside House, 4 Smith Way, Enderby, Leicester LE19 1SS, UK)

Aim: To explore and compare multi-professional education in two similar healthcare systems, determine key factors and apply the lessons learned.

Summary of work: A literature review, followed by semi-structured interviews with medical educators in both countries, combined with practice team based visits. Application of the lessons learned to an innovative programme encouraging GP trainees to use patient focus to learn together with their colleagues.

Summary of Results: Key themes that arose included: (1) The importance of Task Based Learning focussed on the patient; (2) Learning together can be a powerful agent for change; (3) Learning from and with each other and valuing diversity is key; (4) Furthermore each individual must feel valued within and for their own profession and within the learning environment; (5) From their own professional background each bring different approaches to thinking, learning and clinical practice. These can act as barriers and driver to learning; (6) Recognition of the gulf between theory and reality.

Conclusions: Multi-professional education is something that most people ascribe to but it needs explicit, robust mechanisms to ensure effectiveness.

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**4N 20** Conformity rate of Semnan Medical College with WFME

M Saberian*, S Hajighajiani, M R Rezvani and M E Aminbeidokhti (Semnan University of Medical Sciences, Educational Development Center (EDC), Bassuy Blvd., Semnan 3519899957, IRAN)

Aim: This study was performed to determine the level of conformity of Semnan Medical College (SMC) with WFME quality standards in medical education programs.

Summary of work: This is an internal evaluation study based on standards. Collecting data was done by questionnaire and checklist. The study group are managers, academic staff and students. Data were analysed by proportional and absolute frequency calculation.

Summary of results: Findings showed that SMC totally conformed with WFME standards (60.33%); in mission and goals (58.66%); curriculum (71.9%); evaluation of educational feedback (62/5%); students (73.4%); academic staff (90%); resources (88%); management (50%); and CME (100%).

Conclusions: By having a suitable programme, this institute can increase its conformity with WFME standards and have an active and effective presence in medical education throughout the world.

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**40** The role of a project manager in effecting change in medical education

Claire Gout (North Western Postgraduate Medical Deanship, 4th Floor, Barlow House, Minshull Street, Manchester M1 3DZ, UK)

Background: The UK is currently undergoing its greatest change in medical education for many years, with the introduction of the government initiative “Modernising Medical Careers” (MMC). The North Western Deanery recruited a project manager to support this change.

Summary of work: A project plan was established, with timelines to monitor work flow, but flexible to incorporate new developments. The work has involved a number of aspects, including: (1) Promoting educational changes, including training supervisors to use new assessment tools; (2) Supporting organisations in planning their programmes to meet new curricula; (3) Clarifying human resource issues and preparing guidelines; (4) Workforce planning to ensure the successful transition of posts and trainees into the new system; (5) Identifying resources required for management changes.

Conclusions: The successful implementation of MMC in the North Western Deanery has been facilitated by: (1) Good communication with educational leads, service managers and trainees; (2) Keeping ahead of latest developments; (3) Working closely with the Deanery team to ensure consistent activity; (4) Ensuring effective structures are in place to maintain work following initiation.

Take home messages: A project manager with appropriate skills can effectively support change in medical education. Success will be demonstrated by the post no longer being required!

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**40 3** Course administrators as the missing quality link

Christine Jansson* and Matti Johannes Nikkola (Karolinska Institutet, Department of Cell and Molecular Biology, Stockholm S-171 77, SWEDEN)

The aim was to analyze the potential of course administrators in the development of our programs in Medicine and Biomedicine. A survey was conducted to map course administrators’ views of their own capacity and potential. Reports such as self-evaluations of the programs were analyzed for descriptions of course administrators or their work. Course administrators have different roles from copy machine operators to course committee members. They often have extensive experience of work with students and teachers and possess untapped or unacknowledged corporate knowledge. Administrators can be knowledgeable of regulations and rules and educate novice teachers in these matters. Administrators receive direct hits from frustrated students or teachers when things do not work.
work. According to the reports analyzed, our programs consist of teachers and students and deans only. Course administrators are taken for granted with no potential for training nor development. Competent course administration is one of the cornerstones of higher education. At the moment, medical programs aim at organizational change by studying successful business organizations, such as Southwest Airlines, which have realized that it takes more than pilots and passengers to run a good service. The same is probably true for medical schools that aim to fly high.

404 Organisational development strategies are required to support medical management and leadership roles

Robert Cogg*, Peter Spurgeon, Seamus Carey and John Clark (Institute of Clinical Leadership, West Midlands Deanery, Birmingham Research Park, 97 Vincent Drive, Edgbaston, Birmingham B15 2SQ, UK)

A comprehensive study was undertaken to determine how to enhance the effectiveness of Medical Management roles within a healthcare system undergoing reform. The project surveyed a large sample of NHS trusts across community, integrated and acute sectors. Qualitative focus groups and quantitative survey data from 84 Medical Managers revealed consistent messages. Departmental ‘Medical Leads’ through to ‘Medical Directors’ inclusively prioritised: ‘Training opportunities’, ‘Improved administrative support’, ‘Clearer accountability structures’ and ‘Greater engagement in strategic decisions’ as essential to improving their work-role.

Baseline trust data further revealed little evidence of effective succession planning and recruitment strategies for Medical Management posts. These messages were reinforced by attitudinal questionnaire results from 314 responders across all staff disciplines, regarding their impression of Clinical Directorates. Positively all groups felt ‘Clinical Leadership’ has been enhanced since directorates emerged, yet individually they questioned the effectiveness of the CD roles and Directorate structures, citing their restricted influence over professional groups and clinical activities.

Burgeoning international interest in Medical Leadership needs to be tempered with the reality that organisations are failing to support and performance manage their existing Medical Managers. The ‘Added Value’ medics provide managerial functions needs to be central to devising organisational development and training strategies that are ‘fit for purpose’.

405 Communicating institutional mission and values to internal and external constituencies: the dos and don’ts for medical educators

Julio César Gómez*, Pilar Talayolla and Antonio Talayolla (Universidad Westhill, Domingo García Ramos #56, Col. Prados de la Montana 1, Guadalajara, Mexico DF CP 05610, MEXICO)

A school’s mission and institutional purpose serve as a statement of institutional philosophy and should guide every aspect of the medical program. In order for this mission to be fully implemented and “lived” at the institution, it must be effectively communicated both externally and internally. For a medical school to be responsive to community health care needs, it is crucial to have effective means of communication with external constituencies. External constituencies include partner hospitals, prospective students, local health care providers, NGOs, state and federal ministries of health, and the local community. In addition, communication of the mission among administrators, faculty, staff, and students is essential for quality improvement; internal constituencies should serve as “ambassadors” for the medical school mission and objectives; The communication process at the “On. Santiago Ramon y Cajal” School of Medicine at Westhill University in Mexico City, will be used as a case study. Methods for developing effective communication among internal and external constituencies will be discussed.

406 An investigation into preparedness for transition to a new style of specialist training in the UK

Marcia Reid* and Sue Cavendish (LNR Healthcare Workforce Deanery, Lakeside House, 4 Smith Way, Grove Park, Enderby, Leicester LE17 1SS, UK)

In this study, we investigate preparedness within local training programmes for the transition to a new-style of specialist training from August 2007. Since 2005, UK medical graduates now undergo a two-year Foundation Programme providing generic training. At the end of this Foundation Period, trainees will move into run-through specialty training. There are currently no ‘run-throughs’ which replace the current SHO and SpR structure, will be introduced from August 2007. There will be a transition period in which specialties will have both old- and new-style training grade doctors. Preparation time for the new-style training is short, and it is imperative that the changes within any specialty do not have a negative impact on patient care. A questionnaire study of 45 specialty training programmes showed that little attention has been paid to the impact of the new training. This paper outlines the implications for medical education and training in supporting a smooth transition while ensuring continuation of high quality training.

407 How do you engage medical students and staff with Personal Development Planning?

Deborah Murdoch-Eaton*, Andy Pellow and Pauline Kneale (University of Leeds, School of Medicine, Medical Education Unit, Room 7.18, Level 7, Worsley Building, Clarendon Way, Leeds LS2 9QH, UK)

A PDP model incorporated within paper-based progress files (PF) was unsuccessful in engaging students. PDP was viewed to function outside mainstream teaching and of little real value. An electronic PF was developed for phase 1 students, incorporating elements of future professional standards and course materials. We recognised staff engagement was integral to students’ participation. Course managers were consulted on including course components. Some courses, notably PPD are now wholly embedded within the PF. A single site now allows students to document progress, and develop plans for future learning. Annual Phase 1 student appraisal includes PF review. Evaluation: Students participated in PF completion when required by course components, but formal review of these by staff is less likely and will require increased student self-motivation. Future plans: Single methods of learning and recording process do not suit all individuals; this variability will be monitored to consider pros and cons. Staff development remains pertinent.

408 Challenging human resources for health in Guinea

Alain Le Vigouroux*, Moussa Koulibaly and Amara Cisse (Ministry of Public Health, c/o French Embassy, SCAG, BP70, Kanaky, GUINEA)

The public health sector in Guinea, a national inheritance, offers only a limited vision of the labour market for professionals obliging the majority to juggle their activities in order to survive. The yearly recruitment of young doctors by the public sector does not exceed 10%. Few doctors are trained in the practise of family medicine. Infant and maternal mortality rates are high and the prevalence of AIDS progresses. To achieve the Millennium Development Goals (MDGs) the actual teaching process needs to be reorganised, particularly the apprenticeship
system. This initiative takes into account the reforms recommended by the West African Health organisation. As a result of the external evaluation of the faculty of medicine, the official opening of a library, the creation of a co-operation unit, and the installation of a numerus clausus are being implemented. The reinforcement of partnerships, particularly in the teaching of obstetrics, paediatrics and HIV is on-going. Family medicine development, training specialists in paediatrics and obstetrics would promote the private sector. In these areas this would be achieved through pilot experiments in the private sector in Guinea and promotion of in-service training in the sub region, with the support of multi and bilateral agencies.

40 9 Clinical leadership – successful development of a training programme for General Practice Registrars?
Veronica Wilkie*, Hugh Flanagan and Robert Cragg (West Midlands Deanery, Institute of Clinical Leadership, Birmingham Research Park, 97 Vincent Drive, Edgbaston, Birmingham B15 2SQ, UK)

The NHS deems ‘Clinical Leadership’ development essential for all doctors following high profile events whereby patients’ lives were unduly placed at significant risk. Whilst provision of clinical leadership courses for secondary care registrars is extensive and long-standing, general practice trainees experience less comprehensive, patchy delivery. Responding to needs identified by GP registrars and their trainers, a 2-day course was devised. Five courses each involving 24 GP Registrars have been run to date. The curriculum includes introductions to ‘leadership theory’, ‘team-working’, ‘change and performance management’, delivered interactively using practice based case scenarios. Delegates completed detailed self-perception inventories to identify their personal leadership and team behaviours. Extensive delegate feedback through pre and post course questionnaires, alongside semi-structured interviews proved very positive revealing the course helps bridge pre-existing knowledge gaps amongst registrars. Delegates were more likely to rate this course as essential towards the end of their training. Evaluations identified additional learning requirements for future course development. Our training proved effective, adopting practical clinical management scenarios with which GPs could readily identify. Core leadership competencies for primary and secondary care trainees appear analogous. Opportunities for practical reinforcement of these skills would further enhance the quality of learning.

40 10 Developing leadership capacity in health and social care education: leadership development across the higher education/healthcare interface
Judy McKimm* and Sam Held (University of Leicester, Department of Medical & Social Care Education, Maurice Shock Medical Sciences Building, PO Box 138, Leicester LE1 9HN, UK)

Background: Traditionally, healthcare and higher education organisations run separate leadership development programmes for aspiring and current leaders. A national education project trained over 60 leaders in health and social care education, produced web based and printed resources and established a programme team with a common approach to leadership development. Resulting from positive feedback on the programme and research findings, initiatives have been established linking universities with NHS organisations.

Summary of work: Forty people from healthcare and higher education in one UK region are taking a leadership development programme aimed at developing educational leadership capacity and informing strategic educational direction for the health authority and local universities.

Conclusions: Participants report benefits in learning and networking with leaders from healthcare and higher education backgrounds and having access to acknowledged experts in leadership. Capacity is being developed locally so that education strategies can be developed and implemented across organisational and professional boundaries. Take home messages: Effectiveness of leadership development for health and social work educators is enhanced through higher education and healthcare leaders learning together instead of following separate programmes. Strategic and policy implications for the purpose and future of leadership development for health care educators need to be explored and addressed nationally and internationally.

40 11 New Leaders Scholarship Program - practical reinforcement of clinical leadership theory proves effective amongst primary and secondary care trainees
Peter Spurgeon*, Veronica Wilkie, Robert Palmer, Robert Cragg and Carolyn Hicks (Institute of Clinical Leadership, West Midlands Deanery, Birmingham Research Park, 97 Vincent Drive, Edgbaston, Birmingham B15 2SQ, UK)

Post-Evaluation analysis of Clinical Leadership courses for both ‘Primary’ and ‘Secondary care Registrars’, suggests practical reinforcement of leadership theory is desired to cement learning and sustain professional development. Eight successful trainees were competitively short-listed from primary and secondary care to participate in the ‘New Leaders Scholarship program’. The West Midlands Deanery Scholarship ran as a 3-month learning set with each ‘scholar’ identifying a leadership focused project designed to improve patient care. The registrars worked collectively overcoming barriers associated with developing and implementing their respective projects. The scholars self-directed their learning and research effectively. Evaluations revealed that registrars found the Scholarship rewarding, with the learning curve both steep and challenging. The scholars’ projects were implemented with varying degrees of success. The clinical leadership courses the scholars attended as a pre-requisite provides a suitable knowledge base from which the registrars can independently enhance their knowledge and skills, to facilitate real service change. The Scholarship program highlighted enthusiasm amongst trainee doctors for developing patient services. Facilitation of learning sets proved essential, encouraging scholars to look outside of their own specialty to think broadly around the issues identified. Learning was enhanced by the eclectic background of scholars from across primary and secondary care.

40 12 Developing new partnerships between higher education and the NHS: offering a sociological perspective
Elizabeth Anderson (University of Bristol, Academic Unit of Psychiatry, Cotham House, Cotham Hill, Bristol BS6 6LH, UK)

Aim: Using the Clinical Academies in the UK as an example of innovative partnerships between Higher Education and the NHS, this paper will apply sociological theory to define some of the challenges faced by medical educationalists as new structures evolve to support undergraduate medical education.

Literature Review: This paper will describe firstly, the concepts of a “negotiated order” and organisational culture (Hallett, 2003). Secondly, Lipsky’s notion of “the street level bureaucrat” (Trowler, 1998). These both come from an interactionist perspective, and can be used to support a multi-level approach to policy implementation and change management.

Application: New roles have been successfully renegotiated in Clinical Academies and a functional relationship does exist between HE and the NHS, but it is complex and finely balanced (Lewkonia, 2002). The fragility can be compounded by “deviant” behaviours at an individual level.

Conclusions: Change can be successful, if it allows individuals time to absorb the impact on their roles and
re-negotiate their responsibilities as doctors and teachers. In order to avoid ‘sabotage’, change management principles based on empowerment and participation need to be employed.

4O 13 Quality assurance in medical education: the Universitas Padjadjaran Experience

Dinan S Bratukoesoema* and Tina D Judistiani (Padjadjaran University, Faculty of Medicine, Jalan Raya Bandung, Sumedang Km 21, Jatinangor Sumedang, INDONESIA)

Aim: Quality assurance (QA) is an important and challenging activity to conduct. A continuing and cyclic process of designing, implementing, judging and improving may reflect the success of QA. We have implemented the new PBL curricula for the last five years in which the process of QA has been carried out.

Summary of work: Establishing QA is delicate, more complicated with the new standards and goals, set nationally and globally. We started QA with a very small group in the medical education and research development unit. This was a bold change as never before has it been structurally implemented, yet it is run continuously and consistently.

Summary of result: A portfolio of quality assurance good practices can never really follow the changes, as it changes with time. It yields enormous findings, resulting in enormous changes in almost all aspects. One thing to be assured is that these changes are designed for a better state of medical education in our faculty of medicine, becoming the role model for and acknowledged by other faculties of medicine in Indonesia and South East Asia.

Conclusion: Quality assurance is no longer an option, but indeed a basic tool for global competition.

4O 14 Measuring the postgraduate educational climate in a university hospital

Claus Möger (Aarhus University Hospital, Denmark)

Background: In a time with focus on efficiency improvement in medical and surgical treatments, and changes in organization and management structure in the Danish hospital sector it was found imperative also to focus on the integration and improvement of postgraduate medical training and learning.

Aim: To monitor the ‘temperature’ of the postgraduate medical education climate in a university hospital, while new managerial and organizational structures were introduced, in implementing the reform of the Danish Specialist Training Act.

Method: A questionnaire survey was conducted every half year before and after the introduction of new educational activities and organizational changes in the period February 2003 to December 2004. 252 Doctors participated in the survey with a response rate of 55-74%.

Conclusions: The educational culture is very sensitive to organizational changes and needs continuous focus and innovative thinking to maintain a high educational level. When the culture is weak it gets very dependent on single person enthusiasm and vice versa.

4O 15 How quality assurance implementation speeds up development: Saraburi Hospital Medical Education Center, Thailand

Duangjai Panruanyongyurat and Mullika Suwankeeree* (Saraburi Regional Hospital, Department of Otolaryngology, 18 Tedaban 4 Road, Saraburi 18000, THAILAND)

Saraburi Hospital Medical Education Center (MEC) has implemented the Quality Assurance (QA) process since 2002. During the past three years, it has driven various development projects of Saraburi MEC and played a great role in many useful activities. Quality Assurance adoption is an activity that helps us looking back at ourselves and our past so that we can objectively improve ourselves. Saraburi MEC has been annually assessed by the committee from Faculty of Medicine, Thammasat University. In 2004, MEC passed the assessment in all 9 QA elements. Appraisal of these 9 QA elements is vital to education quality improvement in various areas such as management of education programs, research, student affair and fostering of art and culture which are major parts of educational management. In addition, we have found the weakest points which sorely needs to be remedied, that is, research in both medical education and clinical settings and quality improvement of medical professors. The QA program helps MEC discover its strong and weak points that can be used in producing qualified medical doctors according to the objectives and assure the community of its determination in education improvement.

4O 16 Expertise and needs of medical educators - results of an international web survey

S Huwendiek*, P Denn, M Friedman Ben-David, B Tonshoff, R Harden, S Memmi and C Nikendeli (University Children’s Hospital Heidelberg, Department of General Pediatrics, Im Neuenheimer Feld 153, Heidelberg D-69120, GERMANY)

Background: There is an increasing interest in medical education. At the same time, little is known about the existing expertise and perceived needs of medical educators. This study was designed to explore these issues.

Summary of work: An international web-based survey was developed and used to explore several issues, including: (1) the existing level of educational expertise of medical educators; (2) the specific needs for further training and; (3) the main problems of being a medical educator. Responses were received from 806 of 2200 (36%) members of the AMEE mailing list.

Summary of results: Self-reported levels of expertise included [1=very low – 5=very high]: General principles of teaching [3.9], communication skills [3.8], stimulating students in self-directed learning [3.7]. Specific needs for further training were [% of participants]: Research methodology in medical education [63%]; computer-based training [46%]; course and curriculum evaluation [40%]. Perceived main problems were [% of participants]: Academic recognition [32%], funding [25%], teaching skills [23%], institutional support [19%], time [19%].

Conclusions: Teachers rate themselves high in basic education skills. Training in research methodology and computer-based training and improvement in academic recognition and funding were principal needs of a population of medical educators responding to the survey.

4O 17 Evaluation of the educational environment of postgraduate surgical teaching

J S Khan* (Royal Free Hospital, 95 Stamford Green Road, Epsom, Surrey KT18 7SR, UK)

In our new healthcare world of increased consultant responsibility, implementation of European Working Time Directive and Modernisation of Medical Careers, Medical Education is becoming a more community-oriented, student-centred, self-learning and self and peer-assessing process especially in the undergraduate years. Using the Postgraduate Hospital Educational Environment Measure scale for a teacher-centred old-fashioned postgraduate teaching approach and a student-centred, self-assessment, portfolio-based approach, we assessed the educational environment in a leading teaching hospital. A 100% response on the twenty postgraduate trainees tested before and after the change was achieved. There was no statistically significant difference in the overall score for the two teaching environments (P=0.8024, 95% CI = -5.549273 to 4.349273). The loss of on-call rooms and trainees’ mess statistically significantly deteriorated the social support subscale of the PHEEM scale (P<0.00001, 95% CI = 6.667652), to 13.03248) to counteract any statistically significant improvement in the teaching role perception subscale of the instrument.
4O 18 Evaluation of a modern medical student apprenticeship in paediatrics by the Dundee Ready Education Environment Measure (DREEM)  
S Dowson*, A Shehaddeh and V Diwakar (The Education Centre, Birmingham Children’s Hospital; Steeple Lane, Birmingham B4 6NH, UK)  
Background: Modern apprenticeship theories hold that expertise is learned through modelling in practice. A final year paediatric module based on formal timetabled bedside tutorials was modified by introducing a one week modern apprenticeship. Acute clinicians were trained to teach by involving students in a clinical firm without formal tutorials.  
Aim: To evaluate perceived change in educational environment.  
Summary of work: DREEM questionnaires were distributed to two cohorts of students, 35 completing a clinical tutorial based module, 24 a modern apprenticeship.  
Summary of results: Measures of skew and normality indicated use of the Mann-Whitney U test. Variances were equal. Perceptions of educational environment in students rating the total DREEM score were better in those taught by modern apprenticeship (Md=143.5) than by clinical tutorial (Md=140), U=308.5, p<0.04, r=0.22. Significant differences were seen in perceptions of course organisers, academic self perception, and atmosphere but not learning or social self perception. Effect size was small in the total score and all subscales, except in academic self perception, where effect size was moderate.  
Conclusions: Student perceptions of educational environment are significantly better in a modern apprenticeship in acute paediatrics than in a course based environment.  

4O 19 Postgraduate hospital trainees’ perception of the educational environment in Yokohama, Japan  
Takuya Adachi* and Sadayoshi Ohbu (University of Dundee, Centre for Medical Education, Tay Park House, 484 Perth Road, Dundee DD2 1LR, UK)  
Background: The traditional postgraduate training system in Japan has been criticized because most doctors were trained only in a single specialty of their choice and lacked generic clinical skills. Indeed it was also suggested that many graduates lacked basic clinical competences. A revised postgraduate training system was introduced nationwide in 2004 which emphasizes the doctor-patient relationship, problem solving and team working through multi-disciplinary rotation. A new training programme was designed and implemented on this model at Yokohama Municipal Citizen’s Hospital. The Postgraduate Hospital Educational Environment Measure (PHEEM) was developed in the UK and its validity and reliability have been demonstrated in several European administrations.  
Objective: To explore the validity and reliability of PHEEM to measure perceptions of educational environment in the new Japanese postgraduate training model at Yokohama.  
Summary of work: PHEEM was translated into Japanese and administered to 35 residents. 25 subjects responded, giving a response rate of 71%.  
Summary of results: The overall mean score for the 50 items was 127.5±20.9 (P=0.001, 95% CI = -12.43896 to -8.856104). There was no statistically significant difference in the role autonomy perception subscale (P=0.3663, 95% CI = -5.870437 to 2.270437). PHEEM is a useful instrument of measurement of educational environment especially if the three subscales are used separately. A more student-centred approach to postgraduate teaching is better.  

4O 20 DREEM identifies community health training uniqueness among local health services  
Joaquim Edison Vieira, Isabela Martins Benseriter, Paula Eduardo Mangean Elías and Milton de Aruda Martins* (University of São Paulo Medical School, Rua Ganges 168, Cotia – SP; CP 06717-725, BRAZIL)  
Background: The Brazilian health system accepts the strategy of Family Health Program with medical practice closer to communities. We investigated the impact of that Program on freshmen and with third year undergraduate students Summary of work: By means of questionnaires of self-evaluation and the DREEM distributed during discipline finals, eleven objectives proposed at the beginning of the academic year were self-evaluated with a scale of capacities.  
Summary of results: The objectives reached level 3 – “done the procedure with guidance of another person” for: Orienting to use Health Service, Visiting families to inform health, Identifying risk situations, Visiting families to promote health, Visiting families to offer support. Objectives: ‘Adult health appointment’ and ‘Group reunion with patients’ also were considered closer to level 3 for third year students. Health actions reach higher confidence among students while social/economic issues, such as ‘observing community way of life’ and ‘classifying life conditions’ do not. DREEM detected differences among places or health teams.  
Conclusion: Students may be unaware of the local population’s way of life, who are the great users of Health System. This lack of achievement may represent a discipline weakness and may be detected by DREEM results.  

4O 21 Measuring perceived educational climate of the new curriculum of the Catholic University of Chile: DREEM questionnaire  
A Riquelme*, M Oporto, J Oporto, J I Mendez, P Viviani, J Chianale, R Moreno and I Sanchez (Catholic University of Chile, c/o Flat 8, 2A Elm Street, Dundee DD2 2AY, UK)  
Background: During the last decade a major curriculum reform was carried out at our school of medicine. Academic performances improved consistently, with higher pass rates and grades. However, it is not known how the educational climate is perceived in the new model.  
Summary of work: The Dundee Ready Education Environment Measure (DREEM) was administered to 297 undergraduate students from years 3, 4 and 5. The response rate was 90.5%. The domain with the highest mean score was students’ academic self-perceptions: 22.3±4.1 / 32 (69.7%); the lowest mean score was for the students’ social self-perceptions: 15.9±4.0 / 28 (56.8%). The overall mean score for the 50 items was 127.5±20.9 (63.8%). There were no statistically significant gender differences. Internal consistency (Cronbach alpha coefficient) of the Spanish version of DREEM was 0.908.  
Conclusions: The educational climate was perceived predominantly positively but problems in students’ social self-perceptions were detected. Curriculum overload and deficiencies in student support could be the areas to enhance in the future. The modified Spanish version of DREEM questionnaire administered to Chilean undergraduate medical students has a high reliability. Take home message: The DREEM questionnaire is a useful tool to diagnose the perceived educational environment in a Chilean medical school and to prioritise future improvement.
Quality assurance for Iranian Schools of Nursing

M Pazargad* and M Zaghari (Shaheed Beheshti University of Medical Sciences, Chamran High Way, Tuman St, Evin, IRAN)

Background: Academic quality assurance has become a major concern for all schools of medicine and health sciences in Iran since 1996. This study is a creative model for regulation of nursing education. It is descriptive research that was conducted in order to propose a model for quality assurance in nursing education of Iran.

Aims: 1) Determining the performance indicators in the Nursing Faculty. 2) A model for quality assurance in the Nursing Faculty. 3) Determining the validity of the model.

Summary of work: In the first stage, the performance indicators were determined through a review of the literature and ideas of nursing educators, students and other stakeholders. The second stage involved designing a model by reviewing the literature considering the special situation of nursing education in Iran. In third stage the model was validated by Delphi technique and group discussion.

Conclusion: The findings show that some of the component performance indicators are more important than others, eg Instruction, Research, Instructional environment, Student Evaluation, Management Information System.

Take home message: The proposed model will be piloted in nursing schools in Iran leading to revision of the items.

Vocational guidance and educational success: six years’ experience of an e-learning network

P Falaschi*, L Brienzo, M L Morisani, M ReLucenti, E Guao and G Familiari (University of Rome ‘La Sapienza’, II Faculty of Medicine, Department of Experimental Medicine and Pathology, Via di Grottarossa, 1035, Rome 00189, ITALY)

Background: During the last decades wide differences in knowledge and programs have developed between Universities and high schools, thus leading to the discontinuity of the teaching process. In order to resolve this gap and to define the minimal knowledge required in the health and biomedical areas, a project of pre-University orientation has been activated throughout the University of Rome “La Sapienza” and 105 high schools of Rome.

Summary of work: A school network was created: resources, teachers and students become interconnected by an e-learning program (www.orientamentointere. it). Students performed three tests (diagnostic, first simulated test, second simulated test) and then a comparative analysis of the results was carried out. Self-evaluation and self-improvement techniques were used due to their importance from both psychological and self-esteem points of view.

Conclusions: An improvement of students’ admission into the University was observed (70% compared to ca. 31% admission for all applicants). These results support the efficacy of the course.

Take home messages: E-learning cooperation between Universities and high schools enhances basic science preparation of medicine applicants. Adequate vocational guidance may successfully affect the outcome of subsequent studies and represent an occasion to enrich teachers’ cultural background.

Academic differences between Austrian and German University applicants

Anna Kraft*, Johannes Schulze and Hans Georg Kraft (Medical University of Innsbruck, Institute for Medical Biology & Human Genetics, St. Jacobistraße 41, Innsbruck A-6020, AUSTRIA)

The European Court of Justice forced Austrian universities to change their application policies. Subsequently, Austrian medical universities faced numerous applications from German students who had not been accepted at German universities due to numerous clausus. In 2005/2006 the number of students at the Medical University of Innsbruck was limited to 550 students who were selected on a first-come-first-served basis. The aim of this study was to find out whether there were significant differences in the scientific educational level of students coming from different school systems/countries.
4P 4 Dentistry – from the motivation of selection as a subject to future professional expectation
D Dudea*, C Alb, C Ciuce and D Greta (University Iuliu Hatieganu, Mireșeului str. No. 3, ap. 7, Cluj-Napoca 3400, ROMANIA)

Aim: To assess a) dental students’ motivation regarding the criteria for selection of their profession and b) their goals for the future.

Summary of work: 305 students from the first and second year of the Dental School, University Iuliu Hatieganu Cluj-Napoca, answered an anonymous questionnaire.

Summary of results: “To help suffering people” and “financial reasons” were the most important reasons for the decision to become a dentist (50.49% and 50.82% respectively scored 1 and 2 on a scale from 1-5). Another important reason is “to have an interesting profession” (46.39% scored 1 and 2). The less important reasons were “a family tradition” and “the parents’ influence” (17.04% and 15.74% respectively scored these answers with 1 and 2). 69.08% are willing to open their own private practice, 7.57% inherit the parents’ office, 18.42% wish to follow postgraduate programmes, 4.93% wish to become faculty. 79.54% wish to work in a city and only 2.31% plan to work in the countryside. 18.15% wish to work outside the country.

Conclusion: Interest in scientific field, humanitarian, but also financial reasons motivate our students in their professional selection. Most of them plan to be involved in private dentistry.

4P 5 The students’ study background and their motives for studying medicine and dentistry
Eeva Pyörälä* (University of Helsinki, Research & Development Unit for Medical Education, PO Box 63, Haartmaninkatu 8, Helsinki 00014, FINLAND)

Aim: This study combines data on students’ motives for studying medicine and dentistry with their study-background data and examines whether their study-background influenced their study motives.

Summary of work: In Helsinki the students have to pass an entrance examination in order to study medicine or dentistry. In 2005 only 16% of the examinees were admitted. One third of them were fresh secondary school graduates. Half of those admitted had prior studies in other disciplines, mainly sciences or technology. The 1st term students were asked to describe their motives for studying medicine or dentistry.

Summary of results: The motives were divided into four categories: 1. practical, 2. vocational, 3. altruistic, and 4. scientific. The most common motives for studying medicine and dentistry were practical and altruistic. The students’ study-background did not clearly correlate with their study motives. They seemed to have used their prior studies in other disciplines as a stepping stone to enter the medical faculty, and their motives had remained unchanged.

Conclusion: The 1st year students had high and persistent motives for studying medicine and dentistry. These motives should be treated in their further studies.

4P 6 The differences between students in a graduate entry program and an undergraduate entry program: students’ perceptions
Min Liu, Yu-Sheng Huang and Keh-Min Liu* (Kaohsiung Medical University, Department of Anatomy, College of Medicine, No 100, Shih-Chuan 1st Road, San Min District, Kaohsiung 807, TAIWAN)

Aim: Kaohsiung Medical University runs a 5-year post-graduate entry and a 7-year undergraduate entry medical program simultaneously, thus it allowed us to study the differences between students in the two programs.

Summary of work: In 2005 all pre-clinical students were asked to complete an anonymous questionnaire that contained questions about motivations to study medicine, career choices, teaching methods preferred, and opinions about the difference between students in both programs.

Results: The response rate was 59.4%. The strongest motivators for post-graduate entrants were personal interest (71%), willingness to help people (43%), and satisfaction (27%). While personal interest (43%) was also an important reason for undergraduate entrants, 42% of them chose to study medicine for vocational reasons, and 36% followed parents’ advice. About 80% of the students in both programs wanted to practice in regional hospitals or medical centers, and the four most popular specialties were internal medicine, surgery, pediatrics and family medicine.

Conclusion: The post-graduate entry program offers graduates, who are more motivated, more mature, more self-directed and more committed to study medicine, an alternative path to enter the medical profession.

Support by Taiwan NSC 95-2516-S-037-001.

4P 7 Does the educational background and demographic profile of a student affect their performance on a graduate entry medical degree?
Jennifer Payne* and Peter McConville (St George’s University of London, Medical Education, The GEP Office, 1st Floor, Hunter Wing, Cranmer Terrace, London SW17 0RE, UK)

Aim: St George’s, University of London, has been running a Graduate Entry Programme (GEP) MBBS course for six years. The aim of the presentation is to demonstrate how the profiles of the students on the course correlate with their performance. It is intended that the outcomes of this study will foster a greater understanding of the educational journey taken by the GEP students dependent on their educational and demographic background.

Summary of work: Data have been collected for all the students who have graduated and who are currently studying on the GEP course since its implementation in 2000. The data have been entered into an SPSS database to create a comprehensive profile of the students’ academic and personal background. Variables include: highest level of educational achievement; degree subject and classification; GAMSAT and interview scores; and demographic information. These profiles will be analysed against the exam scores achieved by the students on the course to draw out a correlation between the students’ background and progression on the GEP course.

Summary of results: The findings will be presented at the conference.

4P 8 Validating your admission examination
Ellen Julian* (Association of American Medical Colleges (AAMC), 2450 N Street NW, Washington DC 20037, USA)

Using the recently published study of the predictive validity of the Medical College Admission Test (MCAT(r)), used for selection of medical students in North America, for structure, I will lead people through an analysis of the types of validity evidence they might use to evaluate the functioning of their admission examination. We will discuss concurrent, construct, content and predictive validity studies, how existing data may be used and the elements of successful longitudinal predictive validity research. Each attendee should leave with ideas for how to evaluate and document evidence for the validity of their admission examination.

4P 9 Evaluation of an on-line appointment system for F1 posts – European experience
Jonathan Howes*, Zarina Chughtai, David Wall and Robert Palmer (West Midlands Deanery, Birmingham Research Park, 97 Vincent Drive, Edgbaston, Birmingham B15 2SQ, UK)

Aim: To discuss the evaluation by candidates of the on-line Multi-Deanery Appointment Process (MDAP) used to allocate F1 posts within 8 UK Deaneries, and to
demonstrate greater appreciation by European than UK graduates.

Summary of work: 3,673 candidates applied for 3,323 posts, all completing an evaluation questionnaire before accessing results (100% return) and giving views on the system (1-6 scale) concerning: appropriate explanation, adequate access, use of personal statements, fairness, happiness with no interviews and use again next year; graduate status, age, gender and medical school were stated.

Summary of results: Mean scores ranged from 2.0 to 3.4. For all questions scores of European graduates, range 3.7-5.2, were higher than UK graduates. London graduates (for whom the system was new) scored lower than the rest of the UK (p<0.0001). Females scored higher than males and appreciation was higher for graduate-entry candidates and those of the higher age groups (p<0.001). Data were valid and reliable (Cronbach’s alpha 0.89).

Conclusion: The centralised scheme has successfully allocated candidates to posts of choice. The greater appreciation by some groups, particularly European graduates, could reflect greater familiarity with and acceptance for on-line systems.

4P 10 Junior doctor selection – lessons for future recruitment

Helen M Goodyear*, Andrea Alleyne and David Wall (West Midlands Deanery Paediatric SHO posts have been analysed into organisations with central recruitment.

Summary of work: This study looks at the shortlisting process, in particular the number of shortlisted candidates needed for reliability. A shortlisting day was held. Seven application forms, randomly selected, were marked by all 12 shortlisters. Shortlisters were then divided into 4 groups but worked independently. Groups were changed 4 times with different shortlisters in each group.

Summary of results: Reliability for the 12 markers was high (Cronbach’s alpha 0.991). Mean marks for the standardisation candidates ranged from 10.7 (“Hawk”) to 13.7 (“Dove”). In 2/11 pairs there was a statistically significant difference (p=0.03 and 0=0.004). There was no significant difference between markers in the 16 groups with all markers scoring a normal distribution. Inter-class correlation was 0.9 for 2 markers rising to 0.99 for 12 markers.

Conclusions/Take home messages: With a single entry point for specialty training it is vital that selection methods are robust. We recommend a shortlisting day with initial standard setting followed by groups of at least 3 markers for each candidate.

4P 11 Multi-station interviews – the candidates’ opinion

S Humphrey* and H Goodyear (19 Aubrey Road, Harborne, Birmingham B32 2BB, UK)

Aims: Assess trainees’ opinions of the change from traditional panel style to a newly developed multi-station interview.

Summary of work: A questionnaire was given to candidates, for the centrally recruited SHO rotations. It contained 8 questions scored on a Likert scale (1-6) and also asked demographic data. The data were analysed using the SPSS statistical package.

Summary of results: Reliability of the questionnaire was good with a Cronbach’s alpha of 0.876. 42% of candidates were female. 64% of candidates were aged 26-30 years. The majority (83%) had not been to this type of interview before. There was no statistical difference in how the candidates answered questions in relation to their gender, age or previous experience of multi-station interviews (p>0.05). The candidates were mostly overseas graduates (79%) who preferred the format (p = 0.01). Despite all candidates receiving written information about the format, 67% wanted more information beforehand. Candidates requiring more information gave lower scores to questions about fairness and helpfulness. All agreed it was well organised.

Conclusion: The majority thought that the process was fair, well organised and that the questions were easy to understand. Most preferred the multi-station style format. Follow up studies are needed to see if they become successful Paediatricians of the future.

4P 12 Why do so few men apply to study veterinary medicine?

Mirja Ruohoniemi (University of Helsinki, Faculty of Veterinary Medicine, PO Box 66, Helsinki 00104, FINLAND)

Aim: To study possible reasons why, for the last decade, approximately 90% of the applicants to the Faculty of Veterinary Medicine, Helsinki, have been female.

Summary of work: In 2002, applicants to the Faculty and final-year male students in three natural science oriented secondary schools were asked to rate their agreement with 12 statements. The applicants also described in their own words why so few men apply to study veterinary medicine. A total of 218 female and 20 male applicants and 46 male students responded to the questionnaire.

Summary of results: The applicants clearly valued the profession more than the students. Men were considered to be less interested than women in helping animals but to have a similar ability to empathize. The students thought that the curriculum was better suited to females. The veterinary profession was perceived as having lower status and a lower expected income than the medical profession. The faculty’s selection criteria were also criticised.

Conclusions: Information on veterinary studies and profession should be provided at an early stage of secondary education. Instead of focusing on helping sick animals, the plentiful employment available, the variety of work options and the important role of veterinarians should be highlighted.

4P 13 Meeting the need for more diversity in medicine: a first step

Sonya R Miller* (University of Michigan, Department of Physical Medicine and Rehabilitation, 325 E Eisenhower Parkway, Suite 200, Ann Arbor, Michigan 48108, USA)

Background: The United States is becoming more racially and ethnically diverse, but the percentage of under-represented minorities (URM) graduating from medical school is not keeping pace, contributing to the low numbers of URM medical school faculty. The University of Michigan Medical School’s Diversity and Career Development Office (DCD0) implemented a pilot program to increase the number of URM residents and to identify their tentative career choices.

Summary of work: An URM faculty member met with or sent a letter via e-mail to the majority of URM interviewing with a residency program. An introduction to the DCD0 and specific resources available to residents was provided.

Conclusions: The candidates appreciated learning about the DCD0, particularly the social and networking opportunities available, the number of URM trainees and faculty, opportunities to perform health disparities research and the demographics of the surrounding areas.

Take home message: It is vital that URM interviewees be aware of the breadth and depth of the resources and support available to nurture their personal and professional development. This is especially true for persons considering a career in academic medicine. Early, effective mentoring is essential for increasing the number of URM in all aspects of academic medicine.
Does equal education generate equal attitudes? Gender differences in medical students’ attitudes toward the ideal physician

Petro Verdant*, Anna Holts Harting and Toine Lagro-Janssen (Radboud University Nijmegen Medical Centre, Women’s Studies Medicine, Postbox 9701, Internal Postal Code 117, Nijmegen 6500 HB, NETHERLANDS)

Aim: Developing a patient-centred attitude is an important objective of Dutch medical education. Besides, gender differences in students’ patient-centred attitudes are reported. Our study aims to assess (1) gender and age differences in 1st and 6th year students, and (2) the influence of medical education on gender differences.

Summary of work: In 2004, attitudes of 1st and 6th year medical students of the Radboud University Nijmegen Medical Centre were measured with the Ideal Physician Scale. Scores between groups were compared with t-tests and univariate ANOVA tests.

Summary of results: Results show that although both male and female students’ attitudes have become more patient-centred as they pass through the curriculum, gender differences that existed in 1st-year students are still apparent in 6th-year students.

Conclusions/take home messages: Medical education does not differentially influence male and female students. Nevertheless, existing gender differences are reproduced and equal education does not lead to equal attitudes. Our results are based on cross-sectional data. Longitudinal research is required to identify how, and when, gender enters the process of professional development as well as the consequences for further professional development of male and female future doctors.

Cultural competence and medical pluralism: inquiries in the Yukon

Z J Playdon* (KSS Deanery, University of London, 7 Bermondsey Street, London SE1 2DD, UK)

Aim: To discuss the relationship of cultural competence to medical pluralism.

Background: In recent years, approaches to developing multi-culturalism have moved from the simplistic externalities of dress, diet and dance, into a set of complex understandings, often described as ‘cultural competence.’ This approach relates to other cultures holistically, and on their own terms, and encompasses religious and spiritual belief systems as well as traditional social organisation. An increasingly important aspect of cultural competence, therefore, is medical pluralism, that is, the acceptance of traditional healing methods as well as Western biomedical approaches.

Summary of work: This paper reports inquiries into medical pluralism in the Yukon Territory of northern Canada, whose government has made considerable efforts at reparation to the indigenous First Nations peoples. However, health and medical issues are proving more difficult than issues of land ownership, wildlife management, education and criminal justice. The paper focuses on the work of the First Nations Unit at Whitehorse Hospital, the regional capital of the Yukon, as an example of practice and problematic, while theoretically, it considers the recent upsurge of academic interest in shamanic healing, and its analogue in the ‘healing dream’ of the Aesclepiad.

Conclusions: Problems of reconciling cultural competence and medical pluralism.

Why do doctors choose a career in geriatric medicine?

Sally Briggs, Revie Atkins, Jeremy Playford and Oliver J Corrado* (Leeds General Infirmary, Medical Education Centre, Littlewood Hall, Leeds LS1 5EX, UK)

Geriatric Medicine originated in the UK when in 1931 Marjory Warren recognised the health of older people could be improved through comprehensive assessment and rehabilitation. The European Commission recognises Geriatric Medicine as a specialty; however there are great differences in services for older people and training in the member states of the European Union. We undertook a survey of consultants and trainees in Geriatric Medicine in the UK to determine when doctors made their choice of specialty and what factors influenced this decision. We believe this information may be helpful with recruitment to the specialty throughout Europe. We undertook a questionnaire survey of doctors in the British Geriatrics Society and received 1,036 (56.4%) responses. 4% decided on a career in Geriatric Medicine as a medical student, 3.8% of consultants and 8.6% of registrars decided as a pre-registration house officer, 39% of consultants and 7% of registrars decided as a middle grade in another specialty. The most common influencing factors were the clinical aspects of the specialty (39.1%) and being inspired by a senior figure (26.2%). Doctors tend to make a decision on Geriatric Medicine relatively late in their career and are greatly influenced by clinical aspects of the specialty and role models.

Career preferences in the new UK Foundation Programme: influencing factors

C Chiappa, J C Illing, M Welfare, S Corbett and N Thompson (Northumbria Healthcare NHS Trust, T106, Research and Development Education Centre, North Tyneside Hospital, Rake Lane, Tyne and Wear NE29 8NH, UK)

Aim: Northumbria Healthcare NHS Trust implemented The UK Foundation Programme (FP) for training of junior doctors. This programme aims to give graduates a broad based training to provide them with more knowledge about available career options. Here we will present a model incorporating factors that foundation doctors perceive to have influenced their career preferences.

Summary of work: This research takes a grounded theory approach (Glaser & Strauss, 1967) and has carried out 14 semi-structured interviews with Foundation doctors to explore factors influencing career preferences.

Summary of results: Initial findings suggest 4 groups of themes which influence career preferences: Experiential (e.g. experience, feedback, environment, service needs), Specialty Specific (e.g. patient contact, patient group, general/transferability, variety, and responsibility), Person Specific (e.g. challenge, excitement, type, confidence, aptitude, interest) and External (e.g. lifestyle, job market, career guidance). These themes are currently being incorporated into a model depicting factors that influence junior doctors’ career preferences, and how junior doctors form career preferences.

Conclusions/take home message: Identifying factors that influence foundation doctors in their career decisions and the processes involved in making career decisions can assist in facilitating more effective career management and may help to resolve recruitment problems in hard to recruit specialties.

Careers advice for the specialist registrar grade

Michele Gadsby*, Clare Kennedy and Helen M Goodyear (West Midlands Deanery, Birmingham Research Park, 97 Vincent Drive, Edgbaston, Birmingham B15 2SQ, UK)

Background: Competition Ratios (CRs), which show the number of applicants for each Specialist Registrar (junior doctor in higher specialist training) placement have been recorded for the last 8 years by the West Midlands Deanery, UK.

Summary of work: This study looks at trends in CRs for specialties and underlying factors which may affect the CRs.

Summary of results/Conclusions: Surgical specialties (CR for Trauma and Orthopaedics = 15.87 and Ophthalmology = 14) are the most competitive along with some of the larger medical specialties (CR for Diabetes and Endocrinology = 15, Gastroenterology = 17 and Cardiology = 13.2). Psychiatry (CR for Child & Adolescent
Psychiatry = 2.25 and Psychotherapy = 2.67) and smaller medical specialties eg Rehabilitation (CR = 3.25) and Genito-Urinary Medicine (CR = 2.17) are the least competitive. Competition ratios can be misleading with changes in recruitment practices having an impact on the competition ratio eg an increase in the number of training placements makes a specialty seem less competitive.

Take home messages: Careers advice given to junior doctors should include information on CRs and factors affecting a specialty's CR to ensure that junior doctors are able to make informed career choices.

**4P 19 Recruitment of doctors into medical education research**

I J Robbé*, R Kneebone and D Nestel (Cardiff University, Centre for Applied Public Health Medicine, School of Medicine, Temple of Peace & Health, Cathays Park, Cardiff CF10 3NW, UK)

Background: Challenges in carrying out medical education research projects are well-recognised - seeking funding, obtaining ethical committee approval, managing high time demands in qualitative methodologies, and identifying longer term outcomes.

**Summary of work:** We report on our analyses of these and additional challenges encountered in the recruitment of pre-registration house officers (PRHOs) from Wales to participate in a project from Imperial College, London assessing performances in multiple dimensions within the Foundation Programme (FP) curriculum.

**Summary of results:** Despite enthusiastic support from the postgraduate medical education dean and the national FP director, deanery managers and NHS hospital managers employing the PRHOs varied in their support. 126 PRHOs from 5 hospitals were invited to express an interest in participating. 8 PRHOs (6%) from 3 hospitals agreed to enrol and 6 attended the session (4%). They had qualified in the upper quintile for their final undergraduate examinations. Using Schön's reflective practice model and interviews, we identify that despite the use of change strategies (Kotter, Schlesinger; Rogers' diffusion of innovations), the recruitment processes had shortcomings. Ways to achieve higher participation rates are discussed.

Conclusions: (1) leaders, middle managers, PRHOs need separate targeting; (2) reliance on formal structures and processes is insufficient; (3) interpersonal networks facilitate recruitment.

**4Q Developing an interprofessional faculty to teach professional skills: Workshop for Directors of Postgraduate Medical Education (DPGME)**

Liz Spencer, Vinod Diwakar, Pam Shaw (National Association of Clinical Tutors, UK)

Background: At our AMEE workshop last year, “Supporting Trainers in Promoting Professionalism“, we examined aspects of professionalism in medicine and reviewed the evidence that professional standards have declined. The participants (from 13 countries) concluded that there was a need to discuss professionalism with medical students and trainees and that the faculty had an important role to play in this. This year’s workshop will examine what we mean by “faculty” and the role of other professionals, both clinicians and non-clinicians, in the delivery of this aspect of the curriculum. There is a growing acceptance in the UK and internationally of the potential benefits of inter-professional training for clinical practitioners at both the undergraduate and postgraduate level. While, in the UK at least, there have been significant advances in the introduction of this approach with medical undergraduates, the use of inter-professional learning within postgraduate curricula remains very limited. There is little clarity on which elements of the curriculum would benefit from the inter-professional approach and even less on which might be delivered to medical trainees in a uni-professional manner by an inter-professional faculty. There is increasing pressure both from educationalists and the department of health in the UK to increase the inter-professional component of postgraduate medical education with the aim of improving communication and team working. We shall offer a brief case study of local interprofessional faculty groups to support the foundation programme within the KSS Deanery.

**Objectives:** This workshop will consider the benefits & disadvantages of an interprofessional faculty, identify components of the postgraduate curricula that could be improved by interprofessional delivery and explore ways of engaging other professionals in postgraduate medical training.

**Proposed Structure:** Participants will have the opportunity to explore current arrangements and discuss in small groups the pros and cons of developing an interprofessional faculty and the political problems at a local level that might impair the development and functioning of such a faculty.

**Intended audience:** All those who are involved with, or responsible for, delivering a professional skills curricula to students or doctors in training.

**Outcomes:** Addressing aspects of professionalism throughout medical training will help retain the professionalism in medicine which enables doctors to receive respect and status from their patients and society.

**Reference:** Doctors in society: medical professionalism in a changing world

Dec 2005 http://www.rcplondon.ac.uk/pubs/brochures/pub_print_docinsoc.htm
**Workshop 4T**  
**Longitudinal Faculty Development: Beyond teaching**

Meenakshy Aiyer (University of Illinois College of Medicine at Peoria, Illinois, USA), Larry Gruppen (University of Michigan, Ann Arbor, Michigan, USA) and Gwen Lombard (University of Illinois College of Medicine at Peoria, Illinois, USA)

**Purpose and Rationale:** Faculty development programs are increasing in medical schools and academic centers and are accepted as an important resource for the enhancing the teaching skills of clinical-educators. In addition to teaching skills, faculty development programs also develop faculty skills in research, administration, leadership, medical informatics just to name a few. Even though faculty development is recognized as integral to fostering high quality patient care and education, resource, and personnel often interfere with effective implementation and assessment of the FDP. Aligning the goals and objectives with the mission of the institution and identifying innovative ways to implement the program might be beneficial.

**Goal:** To assist faculty in the creation of a longitudinal faculty development program that encompasses teaching, scholarship, and leadership based on their institution mission.

**Objectives:**
1. Identify the critical elements of a longitudinal faculty development program
2. Tailor a longitudinal faculty development program to fit the mission/vision and cultural of their organization or institution
3. Define the goals for a longitudinal faculty development program that meets the needs of their institution and faculty.

**Workshop format:** An interactive format will be used during the workshop. The workshop will begin with a brief review of the literature that identifies the current status of longitudinal faculty development programs. Case studies will be utilized to identify potential barriers, solutions and strategies for the implementation of a successful faculty development program. The experiences of two successful longitudinal faculty development programs will be presented. Educational principles behind elements of faculty development and evaluations will be highlighted throughout the workshop. At the end of the workshop, the participants will work in small groups to develop the
next steps to implement or refine faculty development at their parent institution. Bibliography will be provided.

Content: Introductions and welcome; Brief of overview of the literature of current status of longitudinal faculty development programs and the educational principles that guide faculty development; Working in two small groups, participants will analyze two case studies focusing on the barriers, potential strategies, and implementation steps. A worksheet will be used as a guide; Small groups will report on their case study analysis. Presenters will facilitate the discussion; Overview of two successful longitudinal programs including resources, curricular design, implementation, and evaluation/outcomes; Workshop participants will be assigned to small groups based on the level of faculty development activity at their institution. The small groups will use lessons from case studies and discussions to outline next steps to enhancing faculty development at their institution; Closure and Evaluation.

Intended audience: Faculty, educators and administrators

Level of workshop: Intermediate.
5.1 Migration of Doctors: impact on medical education and healthcare

James A Hallock, Educational Commission for Foreign Medical Graduates, Philadelphia, USA

Recently, with the recognized shortages of healthcare workers and physicians around the world, it is clear that physicians are migrating in a more significant fashion than in the past. This movement of physicians has raised many questions regarding the impact on the country of origin (sending country) as well as the recipient country (receiving country). Some of the reasons for physician movement will be presented together with the impact which the movement of physicians has on medical education and healthcare in both the sending and receiving country.

James A Hallock, MD is President and Chief Executive Officer of the Educational Commission for Foreign Medical Graduates (ECFMG®). Prior to joining ECFMG in 2001, Dr. Hallock served as the Dean of East Carolina University Brody School of Medicine since 1988 and as Vice Chancellor for Health Sciences since 1990. He is a Fellow of the Academy of Pediatrics and a member of the USMLE Composite Committee, the National Board of Medical Examiners and the Advisory Committee of the Institute for International Medical Education. Dr. Hallock also serves as Chair of the Board of Directors of the Foundation for Advancement of International Medical Education and Research (FAIMER®), which is a separate nonprofit foundation of the ECFMG.

5.2 Training tomorrow’s doctors

Vincenzo Costigliola, European Medical Association

Our joint objective is to prepare medical doctors of tomorrow who have to operate in a multi-ethnic and multi-cultural society, seeking for increasing wellbeing and where biotechnologies will play a more and more important role. On the one hand, medical practice will call for a solid technical preparation in order to benefit from all IT solutions available but on the other, ethical aspects and relationships have to be considered since they are and will remain one of the main foundations of medical practice. The management of available resources and the organisation of research, including inevitable political implications, are still competences to be acquired by the medical doctor. The challenge for medical schools is to train this new health care professional figure.

Vincenzo Costigliola, MD graduated in Medicine from Naples University in 1972, and with distinction in Anaesthesiology and Intensive Care from Pisa University in 1978. Since 1972 he has worked in Family Practice. He has been a Medical Advisor to NATO, and is President of the European Medical Association (EMA). He has extensive experience in the European health care field and has participated in many EU projects of DG 22 and DG 5. He has lectured widely and has presented at many national and international conferences.

5.3 Medical education and healthcare needs

Max Price (University of the Witwatersrand, Faculty of Health Sciences, 7 York Road, Parktown, 2193, South Africa)

There is great appeal amongst the medical profession for the idea that someone who is entitled to be called a medical doctor by virtue of their degree and training and formal registration with a professional body should have broadly the same skill set no matter which country or institution they come from. However, health needs in different countries and even within countries in different settings differ dramatically and it is the primary task of medical education to produce doctors that meet the needs of their local situation. This might lead to systems of medical education and curricula that vary substantially across the globe according not only to health needs but also to the kinds of health systems in place, the team of health workers available to complement the skills and functions of the medical doctor, and the resources, particularly technology resources available for providing health care. This tendency to more diverse outcomes in medical education than perhaps the profession aspires to, is in tension with the globalization trends which allow doctors to be highly mobile, which allow technologies to penetrate different settings far more rapidly, and therefore requiring doctors to be familiar with and sometimes able to use the knowledge and technologies that reflect best practice internationally. Furthermore, we train doctors for a career that will extend 40 years beyond their training and their basic medical education needs to provide them with the scientific foundations for adapting for future developments which are impossible to predict and are likely to reflect a convergence of global practice rather than further differentiation. This leads to a view that medical education should be less concerned with current parochial health needs and more concerned with global trends, common fundamental sciences and greater uniformity and standardization. Furthermore, within any one country, medical education produces graduates who will fill a variety of roles in that society, from physician scientists developing or testing new laboratory based technologies, to primary health care providers, to tertiary specialists and health policy analysts. How should a medical education system in a country which at least aims for internal inconsistency and standardization respond to the challenge of producing graduates who will fill these very different niches in the health system? This suggests a far more tenuous link between medical education and the immediate most pressing health needs of the society in which that institution is based. This paper takes a fresh look at the goals of medical education and raises questions about standardization, global standards, international recognition of doctors, and the most logical structure of medical education.

Since 1996, Professor Price has been Dean of the Faculty of Health Sciences at the University of the Witwatersrand. As dean, he has spearheaded the introduction of a new medical curriculum and the creation of the first University-owned private teaching hospital. He chaired the National Committee of Medical Deans for 4 years, and is appointed as the University principals’ representative on the Medical and Dental Professions Board since 2000. He is Chairperson of the Undergraduate Education & Training Committee of the Board which is responsible for accreditation of undergraduate medical degree programmes in South Africa. He has held membership and executive positions in various health activist organizations during the 1980s and 1990s, He has undertaken numerous consultancies in South Africa and abroad focusing on health financing policy.
6C 2 Developing and implementing an education assessment program: the approach in one Mexican medical school
Antonio Talayero*, Pilar Talayero and Julio César Gómez (Universidad Westhill, Domingo García Ramos 356, Col. Prados de la Montana, Santa Fe, Guanajuato 03160, MEXICO)
Summary of work: An educational assessment program was recently developed and implemented at the "On. Santiago Ramon y Cajal" School of Medicine at Westhill University in Mexico City. The objective of the program is to improve student educational outcomes. The educational assessment program has three major steps: (1) Laying the groundwork: Activities include establishing/communicating the reason for initiating the assessment plan; creating the assessment team and establishing leadership and oversight responsibilities; building “faculty ownership” of the plan; and determining the status of current assessment activities. (2) Implementing the program: Department faculty establish educational objectives based on institutional mission; determine and implement assessment procedures; and measure educational outcomes. (3) Using the results for improvement: Results of assessment procedures are used to improve educational outcomes. This presentation will discuss the challenges presented along each of the above steps. In addition, methods of encouraging “faculty ownership” of the program and ways to encourage students to take assessment instruments seriously will be discussed.

6C 3 Single medical school, multiple campuses: what are the consequences for the student ‘experience’ of paediatrics?
M H Wagstaff* and Jane Dacre (Gloucestershire Hospitals NHS Trust, Jane Store, The Green, Frampton on Severn, Gloucestershire GL2 7Dv, UK)
Aims and Methods: Medical Schools are changing and amalgamating, student numbers are increasing, and curriculums are changing in response to GMC recommendations. How are these changes affecting students? In our Medical School, students are taught paediatrics in groups at one of 3 campuses, and we hypothesised that this would lead to differences in exam results and clinical experience, and ultimately different levels of satisfaction in the groups. We aimed to test this hypothesis by comparing examination results, timetables, and student completed evaluation scores, and by holding focus group discussions.
Summary of results: Despite wide variations in timetabled fixed commitments, there were little differences in examination results or evaluation form responses from 296 students in the 3 groups. In the discussion groups, students shared many complaints such as the disjointed timetables and large number of cancelled tutorials. Overall students appeared happy with the teaching even though the quality and quantity varied enormously.
Conclusions: Despite marked variations in the way the 3 hospitals deliver the same curriculum, there appear no differences in exam results or satisfaction levels. This probably reflects how students all have different learning styles and so value the diversity in teaching delivery that exists across the 3 sites.

6C 4 Assessment is context-specific: comparing teaching performances of general internists and cardiologists
Thomas J Beckman*, David A Cook and Joyawant M Mandrekar (Mayo Clinic Division of General Internal Medicine, 200 First Street SW, Rochester Minnesota MN 55905, USA)
Aim: Previous research showed that teaching assessments of general internists reduced to interpersonal, cognitive
and efficiency domains. We sought to determine the factor stability of this three-dimensional model among cardiologists and compare domain-specific scores between general internists and cardiologists.

Summary of work: Two thousand internal medicine and cardiology hospital teaching assessments from January 2000 to March 2004 were analyzed using factor analysis. Reliability and mean item scores were compared between groups.

Summary of results: Interpersonal and cognitive domains among general internists collapsed into one domain among cardiologists, whereas the efficiency domain remained stable. Internal consistency of domains (Cronbach's alpha range 0.89 to 0.93) and inter-rater reliability of items (range 0.65 to 0.87) were good to excellent for both specialties. General internists scored significantly higher (p<0.05) than cardiologists on all but four items which most accurately assessed the cardiology teaching environment.

Conclusions: We observed factor instability in teaching assessment scores from the same instrument administered to general internists and cardiologists. This finding was attributed to salient differences between these specialties' educational environments, and highlights the importance of validating assessments for the specific specialties' educational environments, and highlights the importance of validating assessments for the specific contexts in which they are used. Future research should investigate reasons why domain-specific scores are unstable across educational settings.

6C 5 Structured Interactive Teaching Evaluation (SITE): an innovative method in evaluation
Gordana Pavlekovic,* and Zelimir Bradamante (University of Zagreb, School of Medicine, Salata 3b, Zagreb 10000, CROATIA)

Background: Starting from the fact that the evaluation of the teaching process is humane and not a mere administrative relationship with students and teachers as the partners, the original method of a structured interactive teaching evaluation (SITE) was developed at the Medical School, University of Zagreb. The SITE method has several characteristics: (a) the evaluation process does not comprise all students but only randomly selected ones in the number corresponding to the number of all teachers in a particular course, (b) participants in the evaluation process (selected students and teachers) are formally appointed by the Dean, (c) final interactive meeting through 'face-to-face' conversation is facilitated by a person from 'outside'.

Summary of work: A study on effectiveness and efficiency of the SITE method was done, comparing the results obtained by a traditional anonymous student questionnaire.

Summary of results: The SITE method produced better impact on preparedness and active participation of both students and teachers, and influenced their responsibility in the evaluation process. The structured conversation added awareness to the teaching process and coordination to the proposals how to reach quality assurance jointly as equal partners. The SITE method was also efficient in terms of workload, time and cost of application.

6D 2 A tutor programme for promotion of professional education of medical students
Anna-Lisa Kaivisto, Tytti Vuorinen and Pekka Kääpä* (University of Turku, Medical Education Research and Development Centre, Lemminkäisenkatu 1, Turku 20014, FINLAND)

Aims: To assess the 3-year experiences of tutoring of undergraduate medical students as a part of their professional education.

Summary of work: A tutoring programme of undergraduate students, introduced in 2003 at the Medical Faculty of Turku University, Finland, was reviewed using a questionnaire in 2004 and 2005. A personal tutor (senior faculty member) is named for each student at the beginning of their studies and the tutoring is continued throughout the preclinical and clinical studies. The tutors have a pastoral role in facilitating the students to learn, prepare their personal curriculum plans and identifying personal problems, and supporting the development of the professional identity of a medical doctor. A tutorial group consists of 8-10 students. Group meetings are held 1-2 times in a term and students receive also personal tuition once a year.

Summary of results: From the students, 37% in 2004, but already 62% in 2005 recognized their tutor as a supporter. All tutors at both time-points felt themselves as a personal supporter for the students and thought that they clearly benefited from the tutoring. Both the students and tutors appreciated discussions and reflections on aspects of professional identity of a medical doctor, like collegiality and confidentiality, in the tutorial group meetings.

Conclusions: The findings suggest that personal tutoring of medical students may facilitate self-directed learning and professional development.

6D 1 Mentoring: to attend or not to attend, that is the question
Patricia L Bellodi,* Cinthya A Taniguchi, Diana K Dias, Celso T Tutiya, Andre L Carvalho, Caio Lamanier, Daniel Martinez, Jonathan Y Maesaka, Rachel Chebabo and Milton A Martins* (University of Sao Paulo/ABEM, Medical School, Rua Dona Luiza Jukia, No 12 apto 62, Sao Paulo 04542-020, BRAZIL)

Background: Successful mentoring programs require adherence. The challenge is to identify key factors that attract or repel medical students to such programs.

Summary of work: Students' adherence was studied using a structured questionnaire.


Conclusions: Take home messages: Effective mentoring improves the quality of learning for both students and mentors. The exchange of experiences among students at different stages in their medical education mediated by a mentor promotes an amplified view of the course and profession. Absentee tutors, irregular meeting schedules, ineffective communication, low attendance and discussion of uninteresting issues contribute to low adherence.
6D 3 An innovative web-based student support service: a student-initiated peer support network

Aims: To introduce the origin, vision and work of our student-initiated peer support network and to share our experience with this innovative peer support network.

Summary of work: In light of the fact that psychological problems are more prevalent in medical students, a group of medical students who had completed a mental health first-aid course volunteered to form a student support network. Visions of the group were to provide medical students with self-help resources and mental health support. Services were provided via the following: (1) Set-up of a “One-stop web-based portal” with comprehensive mental health resources; (2) Provision of online discussion forum and personal email counselling; (3) Publication in class with slogans, post-up of posters and distribution of leaflets.

Summary of results: Studies in the literature support the idea of improving social support in alleviating student distress. Our webpage usage was high whereas usage of a student forum or counselling services were low, indicating a need for improvement in terms of acceptability and accessibility. Preliminary evaluation data will be shown during our presentation.

Conclusions: Our project has pioneered the concept of peer support in the prevention and intervention of student distress. Further evaluations are needed to assess its effectiveness.

6D 4 Impact of a course on studying strategies to overcome learning deficits in junior students
Laura Llull, Anna Ramos Mejia, Daniela Perez Chada, Cecilia Primogerio and Angel Centeno* (Universidad Austral-Medicina, School of Biomedical Sciences, Av. Juan D Peron 1500, B1625 AUH Derqui, Pilari, Buenos Aires, ARGENTINA)

Background: In a context where medical students start their university studies after high school, immersion in a new educational culture is often difficult, and adaptation often fails due to insufficient or inadequate studying strategies.

Recognizing this as a substantial problem, we offered a course on studying strategies to 45 students applying for admission to our medical school. This 12 hour course emphasized the practice of identifying and underlining relevant text, redaction and synthesizing skills, writing personal notes on a text, ability to pose questions, schematic design and conceptual mapping, while using medical related texts.

Aim: To measure the impact of teaching these strategies to junior medical students.

Summary of work: Using a pre-post experimental design we used a correction scale to measure these strategies in the areas previously defined, at the beginning and at the end of the course.

Summary of results: The median of the difference between pre and post scores increased in all areas. Underlining essential ideas, text comprehension, redaction and synthesis showed the biggest improvement, and schematic design and conceptual mapping were those less successful.

Conclusion: Teaching these strategies improved students’ use of them, mainly those related to understanding and synthesizing information. We still need to explore if this improvement will lead to better grades and adaptation to university life, and what the long-term effects of this course are.
access cavity evaluations, while only the SDT ($r=0.43$, $p=0.010$) correlated with the more complex task of access cavity preparation (MRT $r_s=0.20$, $p=0.232$). Correlations were not significant for the CSPDT vs. access cavity evaluations ($r=0.12$, $p=0.479$) or preparations ($r=0.22$, $p=0.189$).

Conclusion: These results support the need for highly specific measures in assessing visual-spatial ability and its relation to technical skills performance.

6E 3 Assessment of wound suturing on a skin model in undergraduate education

W A Flay*, N Mendoza, P Weber, M Lehner, I Marzi and H I Lauerer (Hospitals of the Johann Wolfgang Goethe-University, Department of Trauma, Hand & Reconstructive Surgery, Theodor Stern Kai 7, Frankfurt 60590, GERMANY)

Background: Surgical education is moving towards a more practical curriculum and objective assessments to rate surgical skills have been developed.

Aim: Development of an objective tool to measure undergraduate ability in performing a basic surgical procedure in a standardized setting.

Summary of work: Two assessment scales based on the “task-specific checklist” and “detailed global 5-point rating scale” for the Objective Structured Assessment of Technical Skill (OSATS) were developed. Complex items were deleted and items regarding declarative knowledge were grouped in a second checklist. To test our scales, undergraduates were asked to (1) select appropriate instruments (declarative knowledge) and (2) perform a suture of a standardized wound employing a 2-layer skin-pad (procedural knowledge). Four examiners rated the performance according to our new checklists.

Summary of results: 33 students completed the test with 10 items scored in the checklists. Mean interrater reliability across all examiners was high ($r = 0.72$). Correlation between the checklist scores and the self-assessments were medium ($r = 0.64; P < 0.01$).

Conclusions: The adapted checklists seem to represent reliable tools to examine a simulated wound suture for undergraduates. We feel confident to employ these checklists in the upcoming OSCE.

6E 4 Assessment of diagnostic hysteroscopy competency using video analysis

J F Bodle* and D M Binney (Leeds University, 197 Rustlings Road, Endcliffe Park, Sheffield S11 7AD, UK)

Background: Changes in Junior Doctor working patterns, reduced working hours and fewer training years, coupled with increasing patient expectations has resulted in less exposure of Junior Doctors to surgical procedures. New formalised methods of teaching and assessment of Junior Doctors are therefore required which in turn requires validated assessment tools. The RCOG is currently developing process assessment forms for individual surgical procedures, OSATS. However, their ability to assess more subtle components of surgical skills such as hand eye co-ordination and tissue handling skills in an objective way is limited. More experienced surgeons move instruments more efficiently than less experienced surgeons therefore an objective tool which can assess this has the potential to be used for the assessment of surgical competency.

Aim: To develop a surgical assessment tool for objective assessment of hand eye co-ordination during diagnostic hysteroscopy.

Summary of work: Diagnostic hysteroscopy procedures were videoed and then analysed for movement efficiency. Two video assessment scores were used: first, tracking the distance of the cervical ostium from the point of optimum position on the screen during passage of the cervical canal; second, the percentage of time during passage of the cervical canal when the cervical ostium was in view.

Correlation: Video analysis of several surgeons of differing experience was undertaken to establish correlation between assessment score and experience of the surgeon.

Summary of results: Results will be presented.

6E 5 The impact of practice schedules on the learning of a complex surgical skill

Ryan Brydges*, Heather Carnahan, David Backstein and Adam Dubrowski (University of Toronto, Department of Surgery, The Wilson Centre, 200 Elizabeth Street, Eaton South IE 583, Toronto, Ontario M5G 2C5, CANADA)

Background: Currently postgraduate technical surgical skills training is supplemented with early exposure to simulated environments, which demands the development of new theoretically guided curricula. We assessed the impact of practicing surgical tasks on bench models arranged in three ways: As the entire task, and as individual skills practiced separately in either a blocked or random order.

Summary of work: Junior residents practiced a simulated orthopaedic bone-plating task as a whole or in parts in either a random or blocked order. Learning was assessed with both computer and expert-based measures before, immediately after, and one week after practice, on a transfer to a human cadaver arm.

Conclusions: For expert-based measures all practice schedules led to similar improvements from pre- to post-test, with no further improvement on transfer. Final product evaluation, part of the expert-based measures, showed that trainees who practiced the task as a whole outperformed those who practiced the skills in random and blocked fashion on transfer. All groups were more economic in the post-test than in the pre-test, and performance was poorest on the transfer.

Take-home message: It is recommended that surgical tasks composed of several skills should be practiced as a whole. However, if part-practice is necessary these skills should be arranged in random order to optimize learning.
of knowledge/skills in teaching and learning items compared to items related to assessment. For all items, respondents indicated that they would require higher knowledge/skills, as compared to their present level, to function properly. The difference between desired level and current level is significant (p < 0.01) for all items.

Conclusion: Our study reemphasizes the need for sustained, vigorous and comprehensive faculty development activities.

6F 2 International medical school faculty development: the results of a needs assessment survey
Guo Yan, Emily Sippola, Dong Zhe, Wang Debing, Cheryl A Meyer and David T Stern* (University of Michigan, Division of General Medicine, 300 North Ingalls, Room 7E02, Ann Arbor MI 48109-0429, USA)

Background: China is undergoing rapid educational change generating a need for faculty development. However, little is known about these needs in China.

Summary of work: We developed and implemented a survey assessing needs for, interest in, and attitudes toward medical education and health policy topics at each of the 97 allopathic medical schools in mainland China, the one in Hong Kong, and the eight in Taiwan.

Summary of results: Two hundred fourteen out of 302 surveys were returned (71% response rate). The topics receiving the highest ratings for interest are in medical education and research. Respondents prefer short sessions (<3 weeks), and two short sessions are preferred to one longer session. The greatest barriers to participation are time away from work and tuition costs. Faculty do not consider time away from family to be a considerable barrier to such participation. Respondents considered possible future collaborations and international study to be the greatest benefits to participation in such programs. The overwhelming majority (92%) believe that international experiences are very or extremely important to medical educators’ career advancement.

Conclusions: Among leading medical educators in China, there is a strong interest in and need for faculty development programs addressing medical education-related topics.

6F 3 Reflection in teacher portfolios
S T Hubers* and P van Beukelen (University of Utrecht, Faculteit der Diergeneeskunde, Androclusgebouw, Yalelaan 1, Utrecht 3584 CL, NETHERLANDS)

Background: Teachers at the University of Utrecht are obligated to obtain a certificate in education. The portfolios of a group of 50 teachers, all completed between January 2000 and December 2005, were evaluated.

Summary of work: The number of reflective remarks was counted. All reflective remarks were divided into four stages of reflection (looking back, analyzing, thinking up alternatives and trying these alternatives out in practice), into three stages of teaching (preparation, teaching and assessment) and into the learning environments that were reflected upon (lectures, small work groups and practical work).

Conclusions: Few teachers complete the reflection cycle. Despite the decrease in the number of lectures over the past decade, reflection on lectures still makes up a big part of the total reflection. There is little reflection on assessment and most of the reflection is concerned with the actual teaching part of education: the direct contact with students.

Take home messages: The quality (and quantity) of teacher reflection can be improved by training teachers to reflect more systematically. In this way they are encouraged to pass all stages of the reflection process. Further research will be needed to see if new guidelines and/or instructions for teachers will improve the reflection in teacher portfolios over the next few years.

6F 4 Critical reading: an educational strategy to develop a position in education of Professors in medicine
Blanca Pérez Rodríguez (Universidad de Monterrey, San Pedro Garza, Nuevo León, MEXICO)

Summary of work: A course of Sociology in Education was carried out on professors of medicine with four different approaches. The goal was to evaluate the educational development of professors after an educational intervention. Group 1 (n=8) had discussion two hours a week on six different days; Group 2 (n=11) three hours, twice a week for five weeks; Group 3 (n=11) three hours a day for two weeks and Group 4 (n=12) three hours a day for two weeks. The duration of the course was 30 hours in the four groups. The educational strategy was focused on reading several theoretical education manuscripts and a reading guide with several items exploring the main idea of the author, the thesis developed, the strongest and weakest arguments, agreements and disagreements and the confused or evident issues of the text. We used a previously validated instrument of 84 items exploring the material conditions for teaching, the learning process itself, the role of the teacher and the students, the continuous education, the social role and the goals of evaluation. We considered the developing of a position in education when the index of indiscriminated agreement decreases (close to 0.50) and when the consequence increases (close to 1.0).

Summary of results: The four groups were measured before and after the sessions. All the groups, except for the Group 1, developed a position in education, according to the above index.

Conclusion: The outcome of a vanishing strategy is very poor in developing a position in education.

6F 5 The impacts of the Educational Development Centre, Faculty of Medicine, University of Khartoum on medical education in the Sudan and the region
Ahmed H Fahal* (University of Khartoum, Educational Development Centre, Faculty of Medicine, PO Box 102, Khartoum, SUDAN)

Background: The Educational Development Centre (EDC) was established at the Faculty of Medicine, University of Khartoum in 1980 in response to the growing demand in the Sudan and the region for qualified teachers. It offers effective teacher training programmes, consultation on curricula development, and innovative teaching and evaluation methods for the health professions.

Summary of work: The EDC during the period 2001-2006 has organized courses and other activities at regional and local levels including 70 training activities in Instruction Methods, Assessment and Evaluation, Educational Planning, Curriculum Planning, Research Methodology, E-Learning, Medical Informatics, Supervisory, Medial Ethics, Student support, Communication Skills, Counselling skills, Presentations skills, Scientific writing, Evidence Based medicine, Advanced trauma support, Advanced Cardiac Support. In collaboration with WHO, EMRO it has participated in regional academic and professional programmes and organized training courses in Yemen and Iran. In collaboration with WHO it has trained a significant core of university teachers and also medical and health staff to support the implementation of primary health care programmes with emphasis on Mother and Child Health Care and Family Planning. These target groups included nursing staff, health visitors, midwives and medical assistants. The EDC has produced medical and health learning material for education, training and health promotion, and developed a clinical skills laboratory and an Integrated Teaching Centre. The centre has created excellent links with other similar institutes locally regionally and internationally.

Conclusion: International collaboration in medical education is needed, especially in developing countries.
6G 1 Personality factors and medical students’ self-esteem and performance related to intimate examinations

K Hendricks*, F De Fray, B Y De Winter, D Avants, W Tjalma, G Peereer and JJ Wyndaele (University of Antwerp, Department of General Practice, Skills Lab, Campus Drie Eiken, Universiteitplein 1, Wilrijk 2610, BELGIUM)

Background: The new medical curriculum at the University of Antwerp implemented a project with simulated patients (Intimate Examination Associates, IEA) for fifth-year undergraduates (2002). Students learn uro-genital, rectal, gynecological and breast examination in healthy, trained volunteers. Earlier research (2005) assessed the IEA project with different measures. The conclusion was that learning intimate examinations with IEAs had a positive effect on the performance and the self-esteem of medical students.

Summary of work: The present study investigates: (1) correlations between personality factors (PF) and students’ self-esteem related to intimate examinations, (2) correlations between PF and performance of intimate examinations during their internship, and (3) the influence of IEA training.

Two groups were compared after their internship: former curriculum students (FC/IEA/-Internship+) and new curriculum students (NC/IEA/-Internship+). Instruments were: a self-esteem questionnaire concerning intimate examinations, a self-report questionnaire on gynecological and urological skills and performance during internships, and the NEO-PI-R, a personality inventory.

Summary of results: The results demonstrate that personality is related to both self-esteem and performance of intimate examinations. Gender of student by gender of patient effects are also examined in relation to students’ personality. Finally, differential relationships between personality and performance variables in the old and the new curriculum are also examined.

Conclusions: Personality is related to self-esteem and performance in intimate examinations. IEA training is certainly helpful to educate students.

Take home message: Personality assessment may be a useful tool in student guidance and training.

6G 2 Developing a successful mechanism to combine bench top pelvic examination models with simulated patients to enhance skills at performing gynaecological examinations

Jenny Higham*, Martin Lupton, Debra Nestel and Roger Kneebone (Imperial College, Academic O&G, St Mary’s Hospital, London W2 1NY, UK)

Aim: Performing a bimanual gynaecological examination, passing a speculum to visualise the cervix and doing a smear are key clinical skills. We describe a means of using single and multivariable analyses.

Summary of results: Despite the time lag and complexity of the skill’s task, the students performed very well. Remediation was not needed for the two stations and the average score for reproductive skills was also higher as compared to their own score in the second year.

Conclusions: Ideally clinical skills training should run in parallel with the associated system block, but our study showed that time lag was not a constraint to accomplish its objectives.

6G 3 Teaching of intimate examinations: the impact of student gender on learning experience

Andrea Akkad* and Sheila Bonas (University of Leicester, Obstetrics and Gynaecology, Robert Kilpatrick Building, Leicester Royal Infirmary, Leicester LE2 7LY, UK)

Aim: To examine the impact of students’ gender on their learning experience of intimate examinations in Gynaecology.

Summary of work: Questionnaires were distributed to medical students (in 152) following the Obstetrics and Gynaecology course at the University of Leicester Medical School. They were asked about their age and gender, and about the quality and quantity of their opportunities to perform supervised intimate examinations during the course. They were also asked to score how embarrassed, anxious, motivated and supported they felt. Differences in responses between males and females were examined using single and multivariable analyses.

Summary of results: 101 questionnaires were returned; 49 male and 52 female students responded. The mean age was 23.9 years (SD 3.9). There were no differences in the numbers of intimate examinations performed by male or female students, however male students had significantly more refusals than females (2.6 vs 1.0 patients, P=0.01) and had higher embarrassment scores (2.4 vs 1.7; P=0.005). Tutors were significantly more likely to introduce female students to patients (62% vs 38%; P=0.002) and obtain consent on their behalf (61% vs 39%; P=0.006).

Conclusion: Male students experience more embarrassment during intimate examinations in Gynaecology and patients are more likely to refuse to be examined. Covert gender discrimination by tutors may further disadvantage male students. Raising awareness among tutors may improve support for male students.

6G 4 Clinical skills lab in reproductive medicine for undergraduate students: time lag does not deter students’ performance

Tina Dewi Judistiana* and Sari Putra Dewi (Universitas Padjadjaran, Faculty of Medicine, Jalan Pasirkaliki 190, Bandung, INDONESIA)

Aim: The implementation of new curricula at the Faculty of Medicine Universitas Padjadjaran enables clinical skill training for undergraduate students to begin in the 2nd year. The reproductive system block lasts for 11 weeks. Inevitably, this time limit does not allow all basic clinical skills in reproductive health, as defined in the Indonesian Core Curricula in Medical Education, being taught during this period. Time lag is considered a constraint.

Summary of work: We prepared complex communication skill and clinical procedure for family planning to be conducted 2 years apart from the reproductive block. A session of counselling in family planning service and a session of IUD insertion and extraction were conducted in the endocrine system block. A self attendance practice was also provided.

Summary of results: Despite the time lag and complexity of the skill’s task, the students performed very well. Remediation was not needed for the two stations and the average score for reproductive skills was also higher as compared to their own score in the second year.

Conclusions: Ideally clinical skills training should run in parallel with the associated system block, but our study showed that time lag was not a constraint to accomplish its objectives.
6H 1  ‘20p and a stick of chewing gum’ - developing and piloting an e-portfolio for medicine in Scotland
Karen Beggs*, Heather Peacock*, Ian Cuthbert and Alex Haig (NHS Education for Scotland, Lister Postgraduate Institute, 11 Hill Square, Edinburgh EH9 9DR, UK)
Aim: To evaluate Scotland’s experience of developing and introducing an electronic portfolio in medicine to support junior doctor educational development and assessment.
Summary of work: The pilot evaluated the feasibility of using an enhanced electronic environment for junior doctors’ portfolios and to contribute to promoting lifelong learning, providing educational infrastructure, e-learning and improving patient care. Participants included 400 foundation doctors and 44 general practice vocational trainees across Scotland. Development started in late 2004 and increased the feeling of burden around supervision meetings (68%, 70%) but preferred to rely on help from clinical colleagues (76%, 69%).
Summary of results: New foundation assessment was undertaken online using an e-portfolio accessed by foundation doctors, educational supervisors and others, building up an assessment and reflective practice history in a dynamic environment. Results from on-line user surveys and qualitative information from focus groups will be presented. User feedback focussed on usability, feasibility and suggestions for further development.
Conclusions: e-portfolio has the potential to provide a consolidated bank of evidence that aids regulation, accountability and fitness to practice; encourages lifelong learning; promotes reflective practice and can accommodate assessment tools. Funding and support at all levels are integral to its success, and its dynamic nature can accommodate new and developing ideas and methods across professions.

6H 2  Early experience of learning portfolio use
Jan Illing*, Susan Hrisios, Bryan Burford and Tim van Zwanenberg (University of Newcastle, Postgraduate Institute for Medicine & Dentistry, 10-12 Framlington Place, Newcastle upon Tyne NE2 4AB, UK)
Aim: To gain views on the implementation of a learning portfolio developed in the Northern Deanery UK and piloted in advance of the introduction of the Foundation Programme in 2005.
Summary of work: A postal survey of trainee doctors and educational supervisors.
Summary of results: In 2004 35/59 (59%) of trainee doctors and 33/55 (60%) of educational supervisors returned questionnaires, in 2005 157/256 (56%) and 75/129 (58%) were returned respectively. In both surveys only 26% of trainees agreed that ‘the portfolio was a worth while investment of my time’ reporting lack of time to update it and concerns over excessive paper work (77%). Less than 30% agreed that the portfolio had helped them become a more self directed learner and only 32% agreed that it helped them focus more on training.
Conclusions: Portfolio is a useful learning tool. Students lack confidence in constructing portfolios and hate engaging in reflective practice. We aimed to evaluate the effectiveness of resident portfolios, by measuring their perception about their ability to construct a portfolio and its impact on their learning and training.

6H 3  ePortfolios in Graduate Medical Education (GME): A geriatrics fellowship experience
Jorge G. Ruiz*, Marcos Milanez, Michael Smith (University of Miami School of Medicine, 3070 SW 192nd Avenue, Miramar, Florida 33029, USA)
Aim: To describe an electronic portfolio to document geriatric fellows’ ACGME competencies.
Summary of work: Graduate medical education (GME) is the period of clinical education that follows graduation from medical school, and prepares physicians for the independent practice of medicine. The Accreditation Council for Graduate Medical Education (ACGME) is an organization responsible for accrediting GME programs. The ACGME is increasingly emphasizing educational outcomes in the accreditation process. The authors will discuss the experience of GME programs using ePortfolios for both formative and summative evaluation of geriatric fellows and the integration of ePortfolios as part of a learning management system. ePortfolios can be especially useful for evaluating and documenting mastery of educational outcomes such as practice-based improvement, use of scientific evidence in patient care, and professional behaviors that are difficult to evaluate using traditional instruments.
Summary of results: Quantitative data on usability-satisfaction and qualitative data from focus groups and interviews will be presented to describe the one-year experience with the use of the ePortfolio as a tool that is both powerful and reflective, for the assessment of program outcomes by administrators and faculty.
Conclusions: We will discuss the successful implementation of an ePortfolio as part of a geriatrics fellowship program.

6H 4  The perception of residents on the effectiveness of reflective portfolio on their training
Badriya Al-Hermi* and Hossam Hamdy (Salmaniya Medical Complex, Pediatric Department, PD Box 12, Manama, BAHRAIN)
Portfolio is a useful learning tool. Students lack confidence in constructing portfolios and hate engaging in reflective practice. We aimed to evaluate the effectiveness of resident portfolios, by measuring their perception about their ability to construct a portfolio and its impact on their learning and training.
Summary of work: The portfolio was introduced to pediatric and surgical residents for a six months period at Salmaniya Medical Complex in Bahrain. All (40 residents) were enrolled in the study. Pre-implementation and post-implementation data were collected. The response rate was 95% in the pre-implementation, and 92% in post implementation.
Summary of results: The results for pre- and post-implementation were: 44% vs 67% felt confident to construct their portfolio (p=0.371), 9% vs 26%, 0% vs. 15.5% and 3% vs. 18% (p <0.000) disagreed that portfolio is useful tool for continuous evaluation, is a good method for developing training experience, and portfolio will increase their critical thinking, respectively. The overall portfolio experience was very good (52%). The reasons for not implementing the portfolio by 30% were: time consuming (46%), work overload (36%) and they need more training on reflection.
Conclusions: For successful implementation of portfolio, training and continuous support is mandatory; its impact on postgraduate training needs further studies.
6I 2 Real or perceived barriers hindering the implementation of revalidation in the field of medicine

David E Blackmore* (The Medical Council of Canada, 100-2283 St Laurent Blvd, PO Box 8234 Stn T, Ottawa, Ontario K1G 3H7, CANADA)

Aim: “Revalidation” is often seen as a process whereupon a given profession’s members periodically provide evidence of practice competence on condition of remaining licensed. Revalidation, in the medical community, is advocated and “agreed-to-in-principle” by regulatory authorities (RA) worldwide, yet generally remains “to-be-implemented”. The challenge has been to implement a process that makes “sense” with appropriate ties to licensure without being cumbersome/obtrusive/invasive to physicians/patients. This presentation outlines various revalidation process challenges.

Summary of work: A number of revalidation programs from different countries were reviewed as part of a recent sabbatical project. Several factors imped ing revalidation were identified: e.g., mixed messages as to the purpose of revalidation; differing RA/professional advocacy groups’ interpretations of revalidation; differing stakeholders’ needs; deciding how to best relate revalidation to public safety; demonstrating that continuing medical education (CME) or continuing professional development (CPD) translates into better healthcare outcomes; how to best meet physicians’ formative needs and RAs’ summative needs; and administrating a revalidation process that applies to all practicing physicians regardless of individual scopes-of-practice. These and other variables will be discussed.

Take home message: Basic revalidation principles tied to licensure are generally seen as valid. However, certain challenges remain to be addressed if the process of revalidation is to be successful and meet the intended goal of quality patient care.

6I 3 External peer review (VISITATIE) of medical specialists: a new approach to evaluate professional performance in the Netherlands

M J M H Lambarts* (Academic Medical Center, University of Amsterdam, PO Box 22660, Amsterdam 1100DD, NETHERLANDS)

Aim: Approaches to assess and improve professional performance vary widely. In the Netherlands, medical specialists operate a system of external peer review (visitatie): hundreds of collegial specialty-specific site-visits are produced yearly. The aim is to improve the quality of patient care through (self-)evaluation, structured feedback and external assessment. The focus is on the hospital based specialist group; team responsibilities are stressed. The aim of this presentation is to present the recently renewed visitatie approach.

Summary of work: In a time span of 3 years, the joint specialty societies developed, field tested and evaluated a new visitatie model. The objective was to embrace modern concepts of professionalism, and develop assessment tools for peer evaluation of specialist group performance.

Summary of results: External assessment of specialist group performance focuses on four professional quality domains: evaluation of care, professional development, specialist group functioning and the patient perspective.

Assessment tools have been developed for each domain. Specialist groups are being rated on a 5-point quality improvement scale. The new approach is welcomed by the medical community. Visitatie is now mandatory for all medical specialists.

Conclusions: Professional development and external performance assessment can work well together. The group approach is essential for achieving improvement.
Assessment of competence and performance in an IMG Curriculum: the CAPP Model

Robert F Maudsley, D Bruce Holmes* and Cameron D Little (Dalhousie University, Faculty of Medicine, Learning Resource Centre, 5599 Fenwick Street, Lower Level, Halifax, Nova Scotia B3H 1R2, CANADA)

Aim: The Clinician Assessment for Practice Program (CAPP) for International Medical Graduates (IMGs) incorporates assessment as an integral part of its curriculum and has adapted the Cambridge Model for competence and performance assessment. Our model will be described.

Summary of work/Results: The CAPP assumes that competence is a prerequisite for performance and can be determined by thoughtful screening to identify candidates who will receive a license to practice and participate in a year-long mentorship program. This process is predicated upon preparing appropriate reports. The reports are sufficiently informative to provide feedback to: 1) a credentials committee determining licensure, 2) candidates about their performance and 3) curriculum designers to guide candidates’ learning. The CAPP reports integrate progress reports from a mentor, on-site practice visit at 6 months by a trained, experienced physician, a 360 review at 10 months and an overall review at 12 months by the regulatory authority using all the competence and performance measures.

Conclusions: The model adopted by the CAPP and a sample report will be described to illustrate how the CAPP can contribute to developing a competence-performance assessment method toolkit and the relationship between assessment and learning at work.

Reasons for referral to a personalized assessment and education program: A CPEP Report

Clydette de Groot, Gwyn Bailey*, Joel Dickerman and Elizabeth Korinek (Center for Personalized Education for Physicians, 1 Bis Rue de Buenos Aires, Paris 75007, FRANCE)

Aim: The practice of medicine is a complex interaction of knowledge, skills, and behaviors. Any breakdown of these elements may lead to a physician’s referral for assessment of his or her clinical competence by boards of medical examiners, hospitals or colleagues. Understanding why physicians are referred for assessment is useful for practice and medical education. The purpose of this study was to determine the reasons practicing physicians are referred for assessment of clinical competence.

Summary of work: Qualitative analysis of the reason for referral of a random sample of 100 physicians who had been referred to the Center for Personalized Education for Physicians (CPEP) program based in the U.S.

Summary of results: The sample of referrals represented 13 medical specialties from 23 states and was characteristic of both the CPEP and U.S. physician population. The principal reasons for referral were concerns about clinical competence, professional and interpersonal behavior, documentation, prescribing practices, licensure or licensure renewal, specific patient complaints, and personal illness or injury.

Conclusion: Specific reasons practicing physicians are referred for assessment helps identify when behaviors or patterns of medical practice may be problematic and has implications for educators that could enhance the delivery of medical care.

gender.

Teaching gender issues in the career as physician: experiences and challenges

Katarina Hamberg* and Roger Karlsson (Umeå University, Department of Public Health and Clinical Medicine, Umeå 901 85, SWEDEN)

Background: Gender issues are nowadays acknowledged as important in medical research, clinical practice, and physicians’ careers. This awareness calls for implementation of gender perspective into medical education. The Umeå University Medical School has decided that gender should be mainstreamed in the curriculum. We are teachers in ‘Professional development’, a course that focuses on communication skills, reflection on own behaviour and discussions about physicians’ working conditions and career. The objectives include reflections on gender.

Aim: Describing our experiences teaching about gender.
Does gender make a difference? Perspectives of female and male doctors in non-university peripheral hospitals concerning their teaching of students from a UK medical school

Diana Kelly*, Derek J Cooper and Gillian B Clack (Guy's, Kings and St Thomas' School of Medicine, Division of Medical Education, Sherman Education Centre, 4th Floor, Thomas Guy House, Guy's Hospital, London SE1 9RT, UK)

Background: Little research has been done into the views of medical teachers outside main university hospitals (Macdonald 2005) and general practice.

Aim: To describe the views of teachers in peripheral hospitals on their experience of teaching medical students highlighting, in particular, gender differences in response.

Summary of work: A questionnaire was circulated in 2005 to 979 teachers in sixteen UK District General Hospitals: (1) to gain insight into their experience of teaching and assessing final year undergraduate medical students; and (2) in the light of responses, to enhance the educational support provided for these teachers by the university medical school.

Summary of results: Replies were received from 644 teachers (66% response rate), of whom 191 were female and 453 were male. Gender differences were found in response to the extent of teachers’ involvement with the programme, areas of concerns as teachers and perceived training needs. These will be expanded upon in the presentation.

Conclusions: Gender differences have important implications for medical education in terms of staff and curriculum development in non-university hospitals.

Gender, medical training and careers: tipping the balance?

Maria Tsouroufi*, Heather Payne and Merryn Smith (Cardiff University, Cardiff Institute of Society, Health and Ethics, Cardiff School of Social Sciences, 53 Park Place, Cardiff CF10 3AT, UK)

Aim: To discuss and critique contemporary approaches to the position of women in medical institutions by drawing on theoretical work in gender, education and organisations.


Summary of results: Most articles focus on statistical information such as the under-representation of women in certain disciplines. There is limited work on the gendered nature of medical training and medical work.

The existing literature does not reflect recent sociological work, which looks at how social and cultural practices work in different contexts, so that ideas about women, medical labour and professionalism become truths.

Conclusions: There is a substantial gap in the medical discourse relating to gender, at a time when women make up an increasing proportion of the medical workforce.

There is a need for discourse around gender relations and equality in medicine, and for multi-disciplinary research (including social scientists and medical educationalists) and transformative pedagogy, to best determine the needs of women.

The effect of ethnicity and/or culture on the standardized patient encounters

Melih Elcin1, Erica Friedman2, Devra Cohen2 (1 Hacettepe University Faculty of Medicine, Ankara, TURKEY. 2 Mount Sinai School of Medicine, New York, USA)

The effect of ethnicity on Standardized Patient (SP) encounters is attracting an increasing debate in medical education, especially in high-stakes examinations.

However research exploring the perspectives of the standardized patients is still lacking. The aims of this study were to investigate the standardized patients’ satisfaction with the health care system and the effects of ethnicity and/or culture on their performances as players and evaluators.

In July 2005, a questionnaire was delivered to the players working as standardized patients at the Morchard Center, New York. 31 SPs took part in the study. 6 SPs experienced that ethnic differences negatively impacted on the SP-participant interaction, and 12 SPs experienced the impact of cultural differences. 2 of them experienced the feeling that they evaluated the participant considering his/her ethnicity. 12 of them experienced the feeling that the participant would have related better to them if their ethnicity was different.

4 of them experienced the feeling that their feedback would have been different to the participant if his/her ethnicity was different. The effect of culture, more than ethnicity, should not be ignored on SP encounters, and new activities should be added to SP training programs to minimize these effects.

Self-administered instruments to measure cultural competence of health professionals: a systematic review

A Gozu*, M C Beach, E G Price, T L Gary, K Robinson, A Palacio, C Smarth, M Lenkes, C Feuerstein, L B Bass, N R Prone and J A Gooper (Inches Hopkins University Bayview Medical Center, 4940 Eastern Avenue, 21218 Suit: 235, Maryland, Baltimore MD 21224, USA)

Aim: To provide comprehensive information on self-administered instruments used to measure cultural competency of health professionals.

Summary of work: We systematically reviewed English language articles published from 1980 through June 2005 that evaluated effectiveness of cultural competence curricula using a self-administered (either written exam or self-assessment) instrument. We abstracted information from articles about targeted providers, evaluation methods, and psychometric properties of each self-administered instrument. We searched the Internet and contacted authors to obtain original instruments, from which we assessed the items, response format and content.

Summary of results: Forty-five articles were included in our review, in which there were 45 unique instruments. Articles were targeted at physicians (n=15), nurses (n=22) and other health professionals (n=8). Instruments included self-assessments (n=32) and written exams (n=13). One-third (14/45) of the instruments demonstrated reliability, and only 15% (7/45) demonstrated validity. We obtained and reviewed 23/45 original instruments. The most common content areas were general concepts of culture and knowledge of particular cultural groups.

Conclusions: Most studies evaluating cultural competence training used self-administered instruments that have not been validated. Effects of cultural competence training could be interpreted more accurately if validated instruments were used.
Proposed structure: This is an interactive workshop with a short presentation, group work, and in-depth discussion. Handouts will be distributed.

Who should attend: Course directors/coordinators, curricular deans, and administrators with curricular responsibilities.

Outcomes/ take home messages: Participants will reflect on their own experiences and environments where curricular change has taken place. Issues related to organizational structure, politics, need for change, complexity of the innovation, human resources, and leadership will be discussed with recommendations for successful, enduring curricular change.

Level of workshop: Intermediate to advanced.

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**6N 1  Self-assessment of surgical skill learning with computer-based video training and the impact on self-directed training**

Nathan T Jovett, George Xeroulis, Helen MacRae, Vicki LeBlanc and Adam Dubrowski* (University of Toronto, Department of Surgery, The Wilson Centre, 200 Elizabeth Street, Eaton South IE 559, Toronto, Ontario M5G 2C4, CANADA)

**Background:** Computer-based training provides flexible opportunities for medical students to learn basic technical skills. However, because it depends on trainee self-assessment it may be ineffective in unstructured practice settings. This study examined whether medical students can assess proficiency and terminate their practice on a technical skill accurately.

**Summary of work:** Thirty medical students learned one-hand square knot skills in structured or unstructured practice sessions. All obtained initial instructions, and 3-minute practice block all trainees self-assessed their technical proficiency on a dichotomous scale (yes/no). The unstructured group ceased practice after reaching self-assessed proficiency, while the structured group performed an additional four, 3-minute practice blocks (50% of individual practice time). Trainees were assessed on a post- and retention-tests. Performance during practice and on all three tests was evaluated with computer- and expert-based measures.

**Conclusions:** Analyses revealed no differences between the two groups on any of the tests (p > .05). Additional practice following self-assessed proficiency did not improve performance for the structured group (p > .05).

**Take home message:** This implies that learning of technical skills for surgery using computer modules is effective, and thus it may be possible to implement this technology in Internet based learning.

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**6N 2  Students’ self-assessment after pragmatism of PBL in emergency medicine clerkship**

Wattap Iansawang*, Phongthep Phongthirawit, Jirayuth Jamma, Tomorn Thongnor, Thina Sirianghapunthana and Yongyos Jariya (Buddhachinaraj Hospital, School of Medicine, Medical Education Center, Naresuan University, 90 Srinasmaticipok Road, Muang, Pitsanulok 65000, THAILAND)

**Background:** PBL has been implemented in many medical schools around the world, and there have been several recommendations pertaining to student assessment in PBL. Self-assessment is one of the instruments used in PBL.

**Aim:** To study the assessment in PBL tutorials after the pragmatism of Emergency Medicine clerkship by students’ self-assessment.

**Summary of work:** 47 (6th years) medical students filled in a questionnaire after their emergency medicine clerkship and rated 10 parameters for their abilities in PBL tutorials. Evaluating self-assessment included their behaviour and perceptions on PBL tutorials using a Likert-type rating scale.

**Summary of results:** The analysis revealed that students rated themselves as having a higher average scale in all parameters including “overall rating” for their abilities in the PBL tutorial process. “Can participate actively” was the parameter that students rated the highest score. The scores for rating themselves were lower in “stimulated interest in learning and produced a positive group atmosphere”.

**Conclusions:** These results suggest the necessity of adopting different strategies for improvement in PBL tutorials and have direct implications for faculty development.

**Take home messages:** Self-assessment is one of the instruments used in PBL settings that can reflect and evaluate the progress of the students in PBL tutorials.

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**6N 3  Self and peer assessment of psychomotor skills in Thai medical students – a pilot study**

Arun-anon Lerkthachonsuk*, Sean McAleer, Pratak O-Prasertsawat and Boonmee Sathapatayavongs (Ramathibodi Hospital, Mahidol University, Department of Obstetrics & Gynaecology, Faculty of Medicine, Rama VI Road, Ratheiw, Bangkok 10400, THAILAND)

**Aim:** To develop self and peer assessment tools in psychomotor skills and evaluate their impact upon Thai medical students.

**Summary of work:** The self and peer assessment tools in gynaecological skills using video were created and applied. The self, peer and tutor assessment scores were correlated and also correlated with OSCE scores at the end of the course.

**Summary of results:** Eighteen fourth-year medical students participated in the study. Using checklists, the correlation coefficients (r) between peer and tutor, self and tutor and self and peer assessments, were 0.666, 0.608 and 0.581 respectively, all were statistically significant (p < 0.01). However, with global rating scales, only peer assessment had some correlations (r = 0.498, p < 0.01) with tutor. There was no correlation between self and tutor or self and peer global ratings. None of the
scores correlated with the OSCE scores but the mean OSCE scores were significantly higher than the scores of the other group (76.39% vs. 54.06%, p < 0.01). The students rated these sessions favourably.

Conclusions: Using checklists, self and peer assessments by Thai students were quite accurate. As self and peer assessments are the basis for life long learning, staff and students should be trained about the process.

6N 4 A comparison of self, peer and tutor assessment in a high stakes undergraduate examination
Simon Edgar (St John’s Hospital, Anaesthetic Department, Livingston EH54 6JP UK)
Any assessment method has wider effects than simple measurement; it can support the achievement of the planned learning outcomes or undermine them. It is evident that learning is improved by detailed, positive and timely feedback on student work. Self-assessment involves students taking responsibility for monitoring and making judgements about aspects of their own learning. It can be a way of assessing the product of learning but it is a learning process in itself, by encouraging skills of evaluation and critical judgement. Peer assessment of students by other students, both formative to provide feedback and summative grading has many potential benefits to learning for the assessor and the assessee. It gives a sense of ownership of the assessment process, improves motivation and encourages students to take responsibility for their own learning thereby developing them as autonomous learners. Self and peer assessment help students to evaluate their own and their peers’ achievements realistically and not rely solely on tutor evaluation. Can a summative peer assessment be relied upon to provide a grading in a high stakes exam situation and to what degree do peer, self and tutor assessment coincide? This work presents the analysis of data from a first year exam where the reliability and consensus of peer, self and tutor gradings are considered.

6N 5 The educational impact of SPRAT (Sheffield Peer Review Assessment Tool)
Julian Archer, Jayne Clarke* and Patsy Stark (Sheffield Children’s Hospital, 9 Hartcliffe Avenue, Penistone, Sheffield S36 8DZ, UK)
Aim: SPRAT (Archer and Davies, 2004; Archer, Norcini and Davies, 2005; Davies and Archer, 2005), a MSF tool, has yet to be evaluated for its educational impact and acceptability (Archer, Clarke and Stark, 2005), key components for effective performance assessment (Van der Veen, 1996). The aim of this study was to investigate the experiences of SPRAT by both trainer and trainee.
Summary of work: Methodological approaches were chosen to try to encapsulate SPRAT’s impact and acceptability. A questionnaire was developed examining the process, acceptability and potential effects. Semi structured interviews were undertaken to explore the themes identified. Quantitative data was collected as part of the questionnaire study. Qualitative data from both stages was content analysed. Local R&D approval was obtained.
Summary of results: 43 paediatric Senior House Officers (SHOs) and their 24 educational supervisors (ES) were sent questionnaires. 33 responded (94%). 3 doctors from each group were interviewed. 83% of SHOs and 88% of ES felt comfortable with the process. 29% of SHOs had changed their practice following feedback. SHOs raised concerns about selecting assessors and the assessment burden. ES identified feedback as a way of focussing discussions and setting educational objectives.
Conclusions/Take home messages: The SPRAT tool is acceptable to both assessors and assessors. The feedback is used in practice to focus discussion on areas for improvement and generate educational objectives. There is some evidence of behavioural change.

6N 6 NCAS: Results of first 50 assessment cases
Pauline McAvay, Denis O’Leary, Diane Berrow, Sukie Shinn (National Clinical Assessment Service (NCAS), National Patient Safety Agency, 4-8 Maple Street, London W1T 9HD, UK)
Background: The National Clinical Assessment Service (NCAS), a division of the National Patient Safety Agency (NPSA), was formed in 2001 as part of the Government’s programme of Supporting Doctors and Protecting Patients. Over 2,000 dental and clinical cases have now been referred for advice and support – 10% of which received formative workplace based assessments. This poster describes the process of the assessment and the findings from the first 50 cases.
Summary of work: Details of the principles that underpin the assessment will be presented. The assessment includes occupational health, psychology and clinical assessment elements. The clinical assessment component is undertaken at the practitioner’s workplace by one lay and two trained peer assessors.
Summary of results: The key findings are that clinical performance and behavioural problems were identified in over 80% and 94% of cases respectively. Health problems were identified in 28%. Organisational factors (workload, team function) were relevant in 88% of cases. It is of interest to note that the assessment identified concerns not raised at referral stage.
Conclusion: The results elucidate the multidimensional nature of performance concerns and the interplay of individual and organisational contributory factors. These findings support the need for a comprehensive assessment process.

6N 7 The assessment of practical skills using the OSATS (Objective Structured Assessment of Technical Skills), and multi-source feedback using the TO1 (Team Observation) Tools in obstetrics and gynaecology
Brenda Nathanson*, Sarah Kaufmann, Dina Bisson and Laurence Wood (Royal College of Obstetricians & Gynaecologists, Education Development Office, 27 Sussex Place, Regent’s Park, London NW1 4RG, UK)
Aim: With the reduction in junior doctors’ hours in the UK, and the move towards shift patterns of working, there is a need and urgency to develop robust assessment tools for both practical procedures and team working.
Summary of work: OSATS are designed to assess task specific procedures at different levels of training. Each step of a procedure is assessed as having been performed independently or with help. In contrast, the TO1 forms assess other important skills and attributes by team observations. This involves many different personnel within a team.
Summary of results/discussion: It is hoped that the carefully constructed assessment forms will prove to be a valid, reliable and deliverable method of assessing safety and competency of obstetric and gynaecological trainees, in both practical and team working skills. The two described, form part of a group of assessment tools being developed for the specialty.
Conclusions/Take home message: The introduction of the European Working Time Directive (EWTD) has limited the effectiveness of the apprenticeship model. We have described two specialty specific assessment tools to assist obstetricians and gynaecologists engage in the assessment process, in order to ensure a safe and competent workforce for the future.

6N 8 Piloting online peer appraisal for consultants in the NHS in Wales
Malcolm Lewis* and Katie Evans (Cardiff University, Wales Deanery, Wales College of Medicine, Heath Park, Cardiff CF14 4XN, UK)
Aim: To provide an overview of a peer based consultant appraisal pilot.
Background: Appraisal for hospital consultants in Wales is managed independently in each NHS trust. Many
consultant appraisal systems are based on line managed review of performance and job planning.

Summary of work: The pilot seeks to assess the feasibility, acceptability and potential benefits of introducing an online, peer-based developmental appraisal process for consultants. The model is based on the successful online GP appraisal process.

Summary of results: The pilot will run for 6 months from March 2006. More than 50 volunteers have already signed up to participate. A pre-pilot questionnaire will assess the perceptions of the volunteers and identify their objectives for the pilot. This will be evaluated at the end of the pilot.

Personal Development Plans (PDPs) produced as an output of the process will be evaluated and compared with previous PDPs to assess educational impact.

Conclusions: The pilot provides an opportunity to assess whether this model could contribute to consultant personal and professional development and, ultimately, patient care. If the model is proven to be successful, it has the potential to be rolled out for consultants across Wales.

6N 9  Planning and assessing a case and competency-based undergraduate medical health residency

R Mota-Lardosa, A Bessa-Peixoto, N Sousa,* P Pinto-Machado, A Freitas and M J Costa (Universidade do Minho, Escola de Ciências da Saúde, Campus de Gualtar, GTO, Braga 4710-057, PORTUGAL)

Aim: To describe the Residency of Mental Health of the University of Minho’s School of Health Sciences Degree in Medicine from the planning stage, to the two editions (98 students) of successful implementation.

Summary of work: The Residency comprised learning in clinical settings (clerkships) which were competency-based and in the School in case-based seminars (which were attended by the whole student cohort) in which the cognitive programme was addressed. In order to feel the pulse of the Residency, a routine 360º evaluation system was implemented. It contemplates learning assessment (through 5 parameters: written test, professionalism, competencies, clinical histories and written reports), tutor and services assessment and lecturers and seminars assessment (by the students). Last but not least, clinical tutors were asked to assess the student’s preparation, the impact of the residency on their practice and the relationship with their tutees.

Summary of results: Student final marks in both editions were similar and very satisfactory, as was the absence of failing students. Tutors’ commitment in this Residency were similar and very satisfactory, as was the absence of failing students. Tutors’ commitment in this Residency was implemented. It contemplates learning assessment (through 5 parameters: written test, professionalism, competencies, clinical histories and written reports), tutor and services assessment and lecturers and seminars assessment (by the students). Last but not least, clinical tutors were asked to assess the student’s preparation, the impact of the residency on their practice and the relationship with their tutees.

Conclusion: The Residency’s coordination has devised a strategy to deliver the contents and develop the skills and the professional behaviour implicit to a quality medical degree. The data provided detailed information for teaching/learning management, useful to introduce changes in the Residency’s second edition.

6N 10  Training the assessors: cascading assessment training to the workplace

R Ryland*, R Gillies, N Shaw, G Lamont, J Higgins, C Chantler, A Thomson and D Graham (Mersey Deanery/Edgehill, Regent’s Place, Brunswick Business Park, Summers Road, Liverpool L3 4BL, UK)

Background: The development of the Foundation Programme within Modernising Medical Careers (MMC) introduced a number of tools for trainee assessment.

The findings of a previous study (Ryland et al, 2006) reported the need for Educational Supervisors to be trained in the use of the assessment tools and the value of relevant feedback.

Summary of work: To address these findings a series of workshops on assessment were held. Over 300 Educational Supervisors from across the Deanery participated in the workshops. The issues discussed were entered onto a thematic framework and five key issues emerged: Time constraints, Scoring assessment, Competency levels, Assessment forms, Trainees failing to complete assessments or achieve competencies.

Summary of results: Participant evaluations after the workshops show that sessions offer a high level of education and training value leading to a greater understanding of the assessment needs. (94% rated sessions as excellent). A cascade process of workshop delivery is occurring within individual Trusts and specialties with facilitators from previous workshop attendees offering their newly developed expertise. A representative of the Mersey Deanery MMC Team attends each workshop to assure standards of delivery and knowledge.

Conclusion: The pilot provides an opportunity to assess whether this model could contribute to consultant personal and professional development and, ultimately, patient care. If the model is proven to be successful, it has the potential to be rolled out for consultants across Wales.

6N 11  Correlation between SCT scores and global ratings of residents

Benoit Carrière*, Robert Gagno, Bernard Charlin, Steven Downing and Georges Bordage (Université de Montréal, CHU Sainte-Justine, Département de Pédiatrie - Urgence, 3715 Côte Ste-Catherine, Montréal, Québec H3T 1C5, CANADA)

Aim: The purpose of this study is to construct a Script Concordance Test in the field of Pediatric Emergency Medicine (PEM) and correlate the scores obtained by residents with their global rating scales.

Summary of work: A prospective cohort study was designed with all residents that were part of a PEM rotation at Hôpital Sainte-Justine (Montreal, Canada). Assessments from global ratings were compiled and correlated with the SCT scores.

Summary of results: Forty-nine residents were recruited. The scores obtained on the SCT ranged from 41.7 to 87.4 (mean 69.9, s=11.5). The reliability of the SCT was 0.77. The reliability of the global rating scales was moderate. Significant moderate levels of correlation in the range of 0.30 to 0.35 were found between the SCT scores and the global ratings. SCT scores significantly increased with more experienced residents.

Conclusion: Different sources of validity evidence were gathered for the SCT. It is a valid tool and shows quite acceptable levels of reliability, while being easy and quick to complete. Its addition to the assessment of residents in the field of PEM could be of important value.

6N 12  Do we still need the competency evaluation of internship by paramedical personnel?

Nakhon Tipsunthonsak*, Wichian Thienviwanawatthana and Naddaya Makachen (Khan Kaen Regional Hospital, Srichan Road, Nai Muang, Muang, Khan Kaen 40000, THAILAND)

Background: Interns are required to work at the Provincial Hospital for one year to increase their clinical competencies after graduation. Assessment of competencies is observation and working evaluation by medical staff. This study proposed comparing the results of the evaluation between staff and the paramedical personnel who work closely with them.

Summary of work: The competencies of a one year cohort of thirty-eight interns were assessed by staff and paramedical personnel. The evaluation form was composed of 7 parts: knowledge, clinical skills, communication skills, working responsibility, relationship, enthusiasm for learning and working behavior. The evaluation scores from both observers were compared in each part by t-test.

Summary of results: There was no statistically significant difference in knowledge, communication skills, enthusiasm for learning and working behavior between the two observers. There was a statistically significant difference in clinical skills between the two observers. The students felt uncomfortable when they were being
observed by staff. The responsibility and relationship were different between the two observers. Staff were mainly concerned with those issues in daytime and in the same specific patterns of evaluation. The personnel mostly contacted them during the day and more evaluated them in a real situation. Conclusion: We do need evaluation from a multilevel perspective to ensure that the evaluation provides appropriate coverage and is done correctly.

6N 13 Using assessment to drive learning – link to F2 appointment
Robert Palmer*, Jonathan Howes, Roana Harris and Andrew Whitehouse (West Midlands Postgraduate Deanery, Birmingham Research Park, 97 Vincent Drive, Edgbaston, Birmingham B15 2SQ, UK)
Aim: To use the degree of engagement with assessments during F1 to determine a score used for allocation to F2 posts, based on the premise that motivation for engagement with assessments will drive education.

Summary of work: Scores for 449 F1 trainees were determined by examination of educational portfolios for their degree of involvement with appraisal, assessments, reflective diaries, meetings and audit, with extra points for outcome of 360 assessment and a personal statement. These criteria were driven by the national curriculum.

Summary of results: 99% gained an F2 post in the first round. The score range was 10-29 with mean 26. 13% had the maximum score of 29, 40% gained their 1st preference and 80% gained one of their first 5 preferences. 98% had completed 6 or more assessments in 6 months (CBD, DOPS and mini-CEX); 82% had had direct involvement in audit. 13% had a problem raised by 360 assessment. Appraisals every 2 months had occurred for 94% of F1 trainees.

Conclusion: Success at F2 appointment has been determined by engagement with assessment. It is proposed that this has been a strong self-motivating factor for improving and embracing education.

6N 14 Electronic MSF in UK Foundation programmes: ETAB in action
Andrew Whitehouse* and Phil Tuttle (West Midlands Deanery, Postgraduate Medical & Dental Education, Birmingham Research Park, 97 Vincent Drive, Edgbaston, Birmingham B15 2SQ, UK)
Aim: To establish the practicality of electronic MSF for Foundation trainees.

Summary of work: TAB (Team Assessment of Behaviour) is a validated, paper based MSF tool, accredited by the PMETB and specified in the UK National Foundation Programme curriculum. 10 returns are required for a valid assessment. We tested an electronic version of TAB (ETAB), hosted on the West Midlands Deanery website, in assessing F1 trainees at a UK DGH in November 2005. The programme allows assessors to complete the form on line. Trainees can check the number of returns, and trigger reminder emails for late responders. Educational supervisors can see the completed forms and the assessment summary, including comments made by the assessors. Appropriate confidentiality is provided for all parties. The F1s attended a brief training session on ETAB. They chose 10 assessors from their healthcare colleagues, and entered the assessors’ email addresses to the ETAB site. The assessors received an email with link to the relevant TAB form.

Summary of results: Of 12 trainees undertaking ETAB, 11 received more than 10 assessments within the 3 weeks allowed, and 1 received 9. Minor technical glitches have now been corrected.

Conclusion: ETAB is practical, and is available to Educational Programme managers.

6N 15 A reliable method for assessing resident physicians’ quality improvement proposals
James L Leenstra*, Thomas J Beckman, Darcy A Reed and Farman S McDonald (Mayo Clinic College of Medicine, 200 First Street SW, Rochester MN 55905, USA)
Aim: Residents must demonstrate competency in systems-based practice. We are unaware of instruments for assessing resident quality improvement proposals (QIPs). We determined the reliability of the Mayo Quality Improvement Proposal Assessment Tool (QUIPAT-7).

Summary of work: Seven experts used the two-dimensional QUIPAT-7 to rate 45 resident QIPs. Mean scores were determined. Internal consistency and inter-rater reliability were calculated using Cronbach alpha and intra-class correlations (ICC). Cronbach alpha > 0.60 and ICC > 0.40 were considered acceptable.

Summary of results: Mean item scores ranged from 1.9 to 3.4 on a 5-point scale. Internal consistency for each dimension and overall was as follows: background investigation and problem identification (alpha = 0.797); project development and evaluation (alpha = 0.731); overall (alpha = 0.870). Inter-rater reliability was excellent (ICC range 0.79 to 0.93).

Conclusions/take home messages: We report a reliable method for assessing resident QIPs that aided objective assessment at Mayo. Future research should include factor analytic studies to confirm the dimensionality of QUIPAT-7, assessments in other educational settings, and correlations between assessment scores and criteria for QIP success, such as resident scholarly productivity and improved patient outcomes.

6N 16 Implementation of formative assessment in emergency medicine courses for general practitioners
C A Pfister* and G Zen Ruffinen (Regional Hospital, Spital des Seebezirks, Abteilung für Anaesthesiologie, Murten 3280, SWITZERLAND)

Background: Assessments for medical doctors in further training are rarely used in Switzerland, most often summative for final exam to specialisation. A paradigm shift in assessment culture has emphasized the importance of formative assessment (Rushton, 2005).

The question was how an assessment of three hours can be organised to cover the blueprint of five competencies with a minimal number of assessment methods.

Summary of work: A four-day course in emergency medicine for GPs has been offered by the Swiss Society of Emergency and Rescue Medicine (SGNOR) since 2005. The decision was made by the SGNOR working group for the blueprint based on the work done for paramedics (Regener, 2005): Knowledge: Multiple Choice Questions (MCQ); Performance, Communication, Decision-making: modified (structured) case simulations (SIM); Decision-making, Self-reflection: case study (CS). The CS was a new instrument: Participants were asked to write up one of their cases before the course started and to reflect on this case in a written essay at the end. All assessments were graded using the ECTS scale (A-F).

Summary of results: Preliminary results show good overall acceptance of the assessment (8.1 ± 1.04 on a 10-point VAS).

Conclusion: With the combination of three methods, a comprehensive assessment of the most important competency in emergency medicine of GPs was implemented successfully in a four-day course.
OSCE and Clinical Assessment

60 1 Development of clinical skills in third year students
B Rosales*, J Trejo, K Mendoza, G Uribe and E Espinosa (Universidad Nacional Autonoma de Mexico, Oficinas No 13, Col Pinos de Coayacan Delgacion Coyocan, Mexico DF CP 04810, MEXICO)

Aim: Determine the level of development of clinical skills with OSCE in a sample of students.

Background/Rationale: The degree of clinical skills development of students who completed the third year of the Medical course is unknown, as the mark given by the professor is high and has an important subjective load.

Summary of work: A descriptive cross-sectional study was designed. 31 students were evaluated. The examination consisted of eighteen stations with a duration of 6 minutes: twelve with patients, three of management of problems, two of x-ray interpretation and one of laboratory studies.

Summary of results: The performance was low with an average of 48.76. We obtained a reliability of .74 with the Cronbach Alpha test. There was no correlation between score of the students in the practical examinations applied by the professor and OSCE.

Conclusions: A lack of development in the clinical skills in the students was observed, although they have completed a year and a half of clinical practice. The OSCE allows detection of the level of advancement and deficiencies in the development of clinical skills and is a method that must be generalized. The challenge is to improve the development of clinical skills with repeated experiences, reflective and supervised.

60 2 OSCE-like test (OLT) for residency admission: a two-year experience
Maria do Patrocinio Tenorio Nunes*, Iramar de Souza Santos, Cristina Helena Ferreira Fanesco-Guedes, Renata Gallotti and Iolanda Tiberio (University of Sao Paulo, Medical School, R Bergamota, 470, 418, Alto do Lapa, Sao Paulo 05468-000, BRAZIL)

Background: An OSCE-like test was adopted to improve the admission criteria, better evaluate the candidates’ skills, and specially because we believed that practical evaluation would significantly impact on medical education in Brazil.

Aim: Analyze the cognitive, skills (medical knowledge) and interpersonal capabilities (IC) performance of the candidates and correlate medical knowledge (MK) with IC.

Summary of work: From a total of 2,925 candidates applied to the examination, 625 were selected for the OLT phase. All scores were adjusted to a 0 to 1,000 points scale. Descriptive analysis and linear regression were performed. Data are presented as mean±SD.

Summary of results: We obtained a reliability of 0.60 with the Cronbach alpha test and a weighted mean of 59.1. There was no significant difference in the ANOVA applied by the professor and OSCE.

Conclusions: A lack of development in the clinical skills in the students was observed, although they have completed a year and a half of clinical practice. The OSCE allows detection of the level of advancement and deficiencies in the development of these, so that it justifies its application in the formative process of the students of medicine. The challenge is to assess all the students with the objective of accreditation.

60 3 Clinical competence during internship with the OSCE
J Trejo*, A Mesina, G Blee, J Garnica, D Estrada and J Cid (Universidad Nacional Autonoma de Mexico, Calzada de Guadalupe, 120 Mod. 23-601 Col, Ex-Hacienda de Coapa del Tlalpan, CP 14310, MEXICO)

Objective: To evaluate the clinical competence of students during Internship with the OSCE.

Background/rationale: There is no standardization in the clinical assessment of students in the six areas of undergraduate Internship, Surgery, Gynecology, Internal Medicine, Pediatrics, Emergencies and Family Medicine. We began to evaluate clinical practice with the OSCE to overcome these limitations.

Summary of work: We evaluated 144 students in three OSCEs at 8, 10 and 11 months of the Internship. Each exam consisted of 18 stations of six minutes. In eleven of these standardized patients participated, six of them were studies of laboratory and cabinet interpretations and one with a model.

Summary of results: We obtained a reliability of 0.60 with the Cronbach alpha test and a weighted mean of 59.1. There was no significant difference in the ANOVA applied to these exams.

Conclusions: The OSCE is a method to evaluate clinical competence, it is a better way to evaluate clinical skills and detect the level of advances and deficiencies in the development of these, so that it justifies its application in the formative process of the students of medicine. The challenge is to assess all the students with the objective of accreditation.

60 4 Formative assessment: does giving immediate feedback during formative OSCE support the learning process?
D Collier*, V Bond and P Owens (University of Liverpool, Clinical Skills Resource Centre, 2nd Floor, E Block, 70 Pembroke Place, Liverpool L69 3GE, UK)

Summary of work: “Formative assessment is an important educational activity: it gives learners feedback while they are still learning” (Hudson and Bristow, 2006). At Liverpool each student is offered the opportunity to attend a formative OSCE at the end of semester one. This gives the student practice in the examination environment. “Central to all definitions of formative assessment is the concept of feedback” (Hudson and Bristow, 2006). Previously the feedback consisted of percentages for each station following the publication of results. Specific immediate feedback time added to the end of each station allowed students to receive detailed feedback from examiners. Computer stations were designed to include a feedback screen displaying the students’ answers as well as the correct answers and the overall score. Following the change to the OSCE, questionnaires were given to all students and examiners to canvas their opinions.

Summary of results: A majority of students thought that immediate feedback would help learning. “I believe the feedback will make me remember the finer points that are often forgotten and positive feedback gave me encouragement.”

The examiners also were happy to give feedback using the guide provided.

“The feedback session was helpful”, “useful for practising giving constructive feedback.” “Feedback informs learners of their present state of learning, so they can plan action to close the gap between their present state of learning and their desired goals”.

Conclusions: According to Reiter et al (2004) the enhanced performance following feedback happens quickly and is durable, lasting at least several months. This study evaluates durability of enhanced performance by assessing summative results.

60 5 Including OSCEs in the educational process at the Tashkent Paediatric Medical Institute (TashPMI)
C E Guksch*, A V Alimov and G A Jusupalieva (Tashkent Pediatric Medical Institute, Test Center, 223. J. Abdikova St, Tashkent 700140, UZBEKISTAN)

Aim: To improve the quality of medical knowledge and skills, as well as increasing the retention rate of acquired knowledge, OSCEs were introduced at the end of certain
modules and especially into final year examinations.

Summary of work: Since 2002 the TashPMI started to use integrated end-of-year examinations for the 4th to 7th year medical students. For this purpose 300 Multiple Choice Questions were designed for a computer-based test as well as 300 tasks to examine clinical thinking and skills (OSCEs). Analyses of the examination results have been made. During the integrated examination (MCQs and OSCEs) both the quality of mastering the theoretical knowledge and practical skills by students in a particular academic year were noticeable as well as a more optimistic outlook and readiness to continue the medical course was observable.

Summary of results: This integrated examination is conceived as an interdisciplinary examination. This kind of delayed control creates a rather heavy psychological burden for the students, but we see this as a necessary form to monitor the theoretical and practical knowledge of medical students – i.e. to check the clinical competence of future doctors.

**60 6 A hybrid assessment of clinical and data interpretation skills**

John Patterson* (Barts and the London Queen Mary’s School of Medicine and Dentistry, Centre for Medical Education, Room 7.25, Institute for Health Sciences Education, Francis Bancroft Building, London E1 4NS, UK)

Our more vertically integrated curriculum introduced in 1999 required a novel assessment of clinical, communication and practical skills at completion of the first and second years of study. This station-based assessment typically comprises five simplified OSCE stations to assess basic clinical and communication skills, plus nine stations where extended matching questions assess visual recognition and data interpretation skills. Stimulus material includes histology, histopathology, radiographic images, human tissues, models, equipment and laboratory data. The assessment is practicable and of modest cost. Using two circuits each of 17 stations, 270 candidates can be processed in two days using only 20-22 ‘examiner days’.

The reliability (Cronbach’s alpha = 0.69-0.76) is acceptable given the mixture of modalities assessed. The factual content of the EMQ stations leads to an improvement of student performance of typically 3%-5% over the two days of the examination. This undesirable feature can be minimised by varying the EMQ questions slightly in different sessions and can be resolved by applying separate Hofstee standards for Days 1 and 2. The assessment has good validity, reflects integrated curriculum design and tests domains not easily covered in written papers. It also provides an opportunity for students to demonstrate their growing professional skills.

**60 7 Making a paediatric OSCE fair and reliable**

H M Bosse*, S Huwendiek, A Moeltner and S Skelin (University Children’s Hospital, Universitaetsklinik fuer Kinderund Jugendmedizin, INF 153, Heidelberg 69120, GERMANY)

Aim: We present experiences in improving a paediatric OSCE concerning statistical measures and acceptance at Heidelberg Medical School.

Summary of work and results: A paediatric OSCE has been established in Heidelberg since 2003. In 2005, clinicians, students and paediatric practitioners contributed to a new catalogue of learning goals for our paediatric clerkship. A blueprint for the new OSCE was formulated and 15 new OSCE stations were developed. In a first step reliability of these new OSCE stations was assessed. On the basis of these data, all stations were revised. In three consecutive OSCEs in May, June and July 2006 we will re-evaluate the stations of our paediatric OSCE regarding reliability, item difficulty and discriminatory power. Acceptability both by tutors and students will be assessed. Performance of students in the OSCE will be compared to rating by senior medical staff in a clinical examination performed in a group of students, and self-assessment of the students regarding their clinical skills.

Take home message: We are convinced that improving our paediatric OSCE concerning statistical measures and acceptance is possible and worth the investment. Data will be presented and experiences shared.

**60 8 Validation criteria for facilitating the use of virtual patients in OSCEs**

Olivier Courteille*, Sari Ponzer, Dag Stoeckld and Uno Fors (Karolinska Institutet, LIME, Berzeliusvagen 3, Stockholm 171 77, SWEDEN)

A comprehensive repository of video observational data and psychometric information was built from the results of a pilot study conducted during an OSCE exam in Stockholm with an interactive computer-based simulated patient.

Individual assistants, acting as both facilitator and raters, were supplied to the examinees. We investigated how the level of autonomy, management of time pressure, and external signs of trait anxiety and moods influenced the examinees’ ability to solve a clinical problem. We also studied the interactions examinees-assistants by means of meta-analysis of broad categories and computed specific behaviors like attitudes and expectations towards assistants. We observed that the interaction between examinees’ trait anxiety level and interpersonal and emotional communication, like expressed attitudes and expectations towards the assistant, had a significant impact on the outcome. Besides, depending on the level of facilitation provided, the examinee’s performance varied substantially.

The heterogeneity of the quality of given assistance yielded important insight about heuristics, in particular the degree of relevance as well as the balance of biomedical and psychosocial questions asked during history taking. These valuable findings could serve as guidelines for redefining and standardizing the role of assistants in the future of computer-based examinations and guarantee the validity of the rating system.

**60 9 Mock OSCEs: Mock clinical exams held in GP practices**

Lindsay O’Kelly (University of Oxford, Department of Primary Health Care, Institute of Health Sciences, Old Road, Headington, Oxford OX3 7LF, UK)

Background: Medical students at Oxford University take a summative final exam comprising a written paper and a clinical OSCE with showcase and data interpretation stations.

Summary of work: In 2004 responding to students’ requests for exam practice we ran 2 mock OSCEs (MOSCEs) in GP practices. Initial feedback was extremely positive therefore we extended the opportunity to all final year students, running MOSCEs in 7 practices for subsequent cohorts. Each MOSCE comprises a 2 hour mock exam with clinical stations replicating the conditions of the finals exam and an additional 5 minutes at each station for assessor feedback on performance. Clinical cases for the showcase stations were identified by GPs from their practice population. A wide selection of suitable cases were found in all practices. Informal feedback from students was overwhelmingly positive, reporting increased confidence and reduced anxiety. They valued the assessors’ feedback and opportunity to observe and practice with peers under exam conditions.

Training for assessors was through written guidance and a workshop.

Conclusions: Students are eager to practice for their clinical examinations. It is possible to replicate the examination scenario in a general practice setting, advantages being that patients are local, suitable premises are available and staff can be recruited to assist. Assessors need training and feedback skills.

Take home messages: Students value exam practice. We have found the General Practice setting well suited to running mock clinical exams.
60 10 LOCAS – a new objective clinical exam for undergraduate medical students
P W Dimmock*, K Bodger, S Fowller, R Hewittrill and D C M Taylor
(University of Liverpool, School of Medical Education, Cedar House, 2nd
Floor, Liverpool L69 3BX, UK)

Background: The objective assessment of medical students’ clinical skills is an area of continuing debate. The ‘long case’, as traditionally undertaken, is no longer seen as a reliable test, but more as a historical rite of passage. Increasingly reliable, reproducible exams, such as those encountered in the simulated environment of the clinical skills laboratory have gained favour. The latter, although highly structured, reproducible and reliable, can lack the face validity of exams involving real patients. The Liverpool Objective Clinical Assessment System (LOCAS), involves real patients with an array of clinical conditions in a clinical setting.

Summary of work: This study describes the LOCAS exam in detail, feedback from examiners and students undertaking the exam and an analysis of the exam’s reliability and generalisability. Comparisons are made between performance in LOCAS versus clinical and communication skills OSCE with simulated patients.

Conclusions: LOCAS is a reliable (Cronbach’s alpha = 0.67) and generalizable (GC = 0.54) exam with high face validity. It examines unique parameters in the clinical skill set of medical students and is a useful complement to OSCEs.

Extended multi-station exams involving real patients are both logistically possible and necessary parts of clinical skill examinations for medical students.

60 11 OSCE in midwifery – what can we learn from it?
Keren Levitin*, Hanna Ziedenberg, Nili Gonik and Iris Raz (Ben Gurion University, Recanati School of Community Health Professions, Faculty of Health Sciences, POB 653, Beer Sheva 84105, ISRAEL)

All midwives in Israel are CNM (Certified Nurse Midwives) which means 4 years of university for your BN, one year of practical experience as a nurse and another year for a midwifery course. It will take you 6 years to fulfill your dream. During the course we do our best to teach them everything, but how can we be sure we prepare our students for real life? How can we know that when they have an emergency, they will be able to function instead of panic? 600 hours in the delivery room helps, but what about preparing them for extreme situations? How often does a student during her course face Prolapose of cord or Shoulder dystocia? The licensing exams can check knowledge and decision making but not manual procedures or decision making in stressful situations. The OSCE (Objective Structured Clinical Examination) enables us to check these skills in a controlled environment and allow the students to encounter extreme situations within the safety of the lab. In this presentation we will take you on a tour through the process of preparing students to be Certified Nurse Midwives, the OSCE, the licensing exam and compare the various results.

60 12 Comparative study of the teachers and OSCE scores
H Pineda*, J Peña, A Mezina, A Trejo, H Mejia and G Blee (UNAM, Avellano #11, Colonia Santa Maria La Ribera, Delegacion Cuauhtemoc CP 06400, MEXICO)

Aim: To compare scores between clinical practice with the results obtained with OSCE.

Background: There is much subjectivity between teachers in evaluations of clinical practice. They gave high scores. In 2005, an instrument was developed which evaluates various aspects of clinical practice, which has demonstrated to be very objective.

Summary of work: The design of the study was descriptive, cross-sectional. It included 244 students and we used the OSCE. The time of each station was of 6 minutes with standardized patients. In each one of the stations we used a checklist related to the clinical medical history. 117 teachers participate in this study.

Summary of results: The average given by the teachers was 93.0 compared with 78.4 for the OSCE; this difference was significant. In six of the ten stations the reliability with the Cronbach Alpha test was good. The average scores obtained with the OSCE ranged from 69.9 to 93.6. The evaluation in clinical practice ranged from 83.6 to 99.1.

Conclusions: We observed that OSCE is a more reliable instrument of evaluation and also removes the subjectivity of the teacher; it reflects reality more than the grade given by teachers in clinical practice.

60 13 Assessment of suturing performance using checklists: high correlation between surgeons and trained first year students
N Menzhega*, W A Flaig, R Weber, M Lehner, I Marzi and H Laurer (University of Johann-Wolfgang-Goethe Frankfurt, Am Dorfgarten 48, 60435 Frankfurt am Main, GERMANY)

Background: Surgical education for undergraduates will be tested employing an OSCE. The examination of 400 medical students per year in Frankfurt generates a high demand of trained examiners. Our study aimed to clarify if “non professional”-examiners (trained students) could replace “professional”- examiners (surgeons) in scoring a simple surgical task.

Summary of work: We designed a work station consisting of a 2-layer pad to examine the performance of students suturing a simulated skin lesion. Two final year students and two certified surgeons examined the students, rating them according to an evaluation checklist. This procedure was repeated with a second set of four examiners.

Summary of results: 33 students were enrolled in the test. Comparisons revealed a high correlation between the ratings of non professional examiners and surgeons in both series (r=0.92; p<0.01) and (r=0.76; p<0.01), respectively.

Conclusions: Our results demonstrate that performance of undergraduates in suturing a simulated skin lesion can be scored by non professional examiners. Therefore, employing trained students presents a logical alternative for this OSCE station.

60 14 Are patients useful in evaluating medical students?
Anja Maria Braend*, Sarah Frandsen Gran* and Morten Lindbaek (University of Oslo, Sognsveien 102, Oslo N-0857, NORWAY)

Background: Many medical students do not get satisfactory feedback during their general practice preceptorship. We wanted to explore whether an evaluation questionnaire answered by patients could be a useful tool for students and tutors.

Summary of work: Fifth year medical students attending general practice preceptorship participated. Patients examined by students completed a simple questionnaire after the consultation. Both tutors and students considered the benefits of this evaluation form. Student focus groups were interviewed before and after the preceptorship period, discussing the use of patient questionnaires.

Summary of results: 648 patients scored eight questions with mean values from 4.4 to 5.0 (scale 1-5, top score 5). In the 63 consultations assessed also by the observing tutors and the students themselves, the tutors were less satisfied than the patients on the subject of the physical examination and more satisfied regarding the students’ use of complicated language. The students’ self-assessment was lower in seven out of eight issues.

Conclusions: Take home messages: The students’ consultations received a very high score from both patients and tutors, while the students scored their own achievements lower. Additionally, patient questionnaires might initiate more independent consultations and contribute to better feedback from the preceptors.
60 15 Using standards of psychiatric clinical nursing practice for assessing clinical competence
Fatemeh Eskandari* and Mehdi Safari (Tabriz University of Medical Sciences, Faculty of Nursing and Midwifery, South Shariati Street, Tabriz, IRAN)

Background: Nursing has a hundred years of history in management and care of patients with mental disorders. The goal is measurable and positive outcomes. Standards of care are quantitative instruments for assessing and monitoring of clinical competence. Seclusion/restraint is an important aspect of care in the psychiatric ward. The American Psychiatric Nursing Institute states that it is essential to use nursing care standards in order to maintain appropriate standards of care for clients, workers and facilities. This descriptive study was conducted to determine clinical competence of psychiatric nurses about seclusion/restraint in Tabriz Razi hospital.

Summary of work: All nurses (40) from a teaching hospital were selected. The instrument was observational checklist.

Summary of results: Only 13% of nurses had learned about seclusion/restraint. Relating to seclusion 10% had good practice. Before and during intervention, patient assessment was not used. Only 6.5% of nurses carried out continuing observation of the patient by opening the door.

Conclusions: Nurses’ clinical competence impacts on quality of nursing care. Professional nurses are asking for effectiveness of nursing care, and they want to improve their clinical competence. Using standards of care is important both in assessing and also teaching clinical skills.

60 16 Assessment of medical students’ clinical skills in Shiraz Medical School
Mohsen Moghaddam* and Mitra Amini (Boxing and Printing Amini, Niasr Street, PO Box 71458-46549, Shiraz, IRAN)

Background: This study was designed to evaluate common practical skills of medical interns in Shiraz Medical School. The ability to carry out practical skills is an important target for medical education and these skills are necessary for diagnosis and also treatment of diseases.

Summary of work: In this study 60 medical interns were selected and data were collected by questionnaire relating to twenty five clinical skills in their educational curriculum.

Summary of results: The results showed that medical students’ abilities in practical skills are far from optimal. 78% of students believed that they did not have the necessary abilities in practical skills. Most of them have not been trained by competent staff. 82% of students evaluated the educational quality relating to these procedures as unfavourable and a high percentage of them believed that they need to learn the skills again.

Conclusions: This study showed that practical skills education has been ignored and therefore we must educate our students about these clinical skills. We can use clinical skill labs and workshops for this purpose.

60 17 Validity and reliability of OSCE in evaluation of clinical skills of 4th year nursing students of Shiraz Faculty of Nursing and Midwifery
Marzieh Moattari*, Zargar Shad, Mousavi Nassab Masoud and Zare Aghar (Shiraz University of Medical Sciences, Faculty of Nursing & Midwifery, Nemazee Square, PO Box 71345-1359, Shiraz 71936-13119, IRAN)

Introduction: This research is conducted to assess the validity and reliability of OSCE executed on 4th year nursing students.

Summary of work: in this descriptive correlation study, 10 top basic skills were selected. 37 volunteers participated in the exam. Each student passed through 10 different stations. They were observed and evaluated by 2 examiners at each station. Criterion referenced validity was measured by calculation of the correlation between the OSCE scores and grade point average of their clinical and theoretical nursing courses respectively. Construct validity was evaluated by the internal consistency of each station in relation to the total score of OSCE. Between examiners reliability was measured by computing the correlation of scores reported by two observers at each station. Split half reliability was calculated to measure the reliability of odds and even stations.

Summary of results: Correlation between the students’ OSCE scores and their grade point average of clinical and theoretical nursing courses were (r=.376, p=.031) and (r=0.523, p=0.005) respectively. The highest construct validity was (0.744). The range of reliability coefficient concerning the two examiners was 0.579 to 0.946. Split half reliability was found to be significant (0.605).

Conclusion: in conclusion, using the OSCE as a valid and reliable test is highly recommended to be included in the nursing evaluation program.

Take home message: despite the difficulties in planning of OSCE, it is a feasible, valid and reliable method of assessment.
6P 2 Using writing to drive learning in medical school: opportunities and challenges
Ruth Greenberg (University of Louisville, School of Medicine, Medical Dean’s Office, 323 East Chestnut Street, 3rd Floor, Abell Administration Center, Louisville KY 40292, USA)

Aim: This presentation will 1) provide a theoretical framework for using writing to teach medical students; 2) illustrate how writing is used to drive learning; 3) suggest strategies for dealing with the challenges faculty face when using writing to drive learning.

Summary of work and results: The confluence of adult learning theory, rhetorical theory, and curriculum reform efforts has created interest in using writing experiences to teach and evaluate medical student attitudes and behaviors related to professionalism, humanism, and ethics. Medical students, like other adult learners, are stimulated by experiences that involve writing because they are meaningful and interactive. Rhetoricians apply social constructionist theory to writing and learning. The narrative medicine movement uses literature to teach students the “art of medicine.” However, medical educators are now asking students to write about other kinds of “texts;” their patients and themselves, for example, using reflective writing, patient “stories,” and personal narratives.

Take home messages: 1) Medical educators are increasingly being asked to develop innovative approaches to teaching and assessing student mastery of learning objectives related to areas such as professionalism, humanism, and ethics; 2) Writing assignments provide medical students with opportunities to learn and to demonstrate their mastery of knowledge, skills, and attitudes.

6P 3 Using action mazes in medical education: A pilot study
C McQueen* and R Waller (Mid Yorkshire NHS Trust, Flat 3, 23 Stainbeck Lane, Chapel Allerton, Leeds LS7 30R, UK)

Aims: Problem based learning is seen as a key strategy in teaching the clinical management of complex problems. Distance and online learning are increasingly features of many UK medical courses. The difficulty has been in combining the two, as problem based learning is often small-group based and tutor intensive. Can ‘Action Mazes’ provide a solution?

Design: Demonstration and Pilot Study.

Summary of work: 106 4th year medical students studying an integrated module in psychiatry, public health and primary care. Interventions: Two action mazes, teaching the management of depression in primary and secondary care. Outcome measures: Student feedback prior to and during clinical placements.

Summary of results: The mazes provided an accessible, interactive, engaging and flexible learning tool that medical students enjoyed using and felt it enhanced their learning.

Conclusions: Action Mazes have a theoretical underpinning supporting their use in teaching complex decision making skills. They are acceptable to medical students, and online delivery provides a safe and standardised environment. It is not known if Action Mazes enhance student learning using objective measures.

6P 4 A comparison of teaching methods: interactive lecture versus game playing
V Walker, G Selby* and V Diwakar (Sandwell Hospital, Lyndon, West Bromwich, Birmingham B71 4HJ, UK)

Aim: comparison of a lecture and game based on charades.

Summary of work: final year students at University of Birmingham, undertaking their paediatric module were randomly allocated to be taught child development by lecture or a game. Interventions were the same duration, content and delivered by the same tutor. After the session students completed a questionnaire. Six weeks later, scores from the OSCE child development station were compared.

Summary of results: tests of normality and homogeneity indicated a normal distribution. Interactive lecture: N=48; Mean score (%) quiz = 43.6(17-70); Mean score (max 30) OSCE = 20.5(14-27); Game: N=52; Mean score (%) quiz = 37.15(11-63); Mean score (max 30) OSCE = 19.5(14-25); Quiz: P<0.01; r=0.23

OSCE: P=0.42; r=0.17; Gender and subsequent training (local or teaching hospital) did not affect performance.

Conclusions: Interactive lecturing produced a small but significant effect on immediate knowledge retention but no difference in end of module performance. Performance at the end of the course may have been affected by clinical teaching between the intervention and OSCE. Overall, the game was as effective as the lecture in introducing the developmental assessment of children.

6P 5 Integrative cases as active learning strategies in undergraduate medical education
Kalyani Premkumar*, Geng Malin, Marcel O’Eain and Susan Hemmings (College of Medicine University of Saskatchewan, Room B103 Health Sciences Building, 107 Wiggins Road, Saskatoon, SK S7N 5E5, CANADA)

Cases as a teaching strategy foster active learning and allow students to learn in context; be self-directed; and critically reflective. Increased retention and transfer of new information, increased motivation, and improved interpersonal skills are other benefits seen. In our institution, students are introduced to paper clinical cases from the very first year. Each case relates to topics currently addressed in courses and is given a week prior to their small group session. Students prepare by reviewing topics listed and other related topics. During the session, the students work in small groups and, using each other and other resources, answer questions given that day. Discussions are predominantly student controlled. Each group has one facilitator who ensures that the focus is on relevant issues. Following the discussion, students are assessed using individually written answers to one of the questions addressed during the session.

Feedback regarding this format for cases has been obtained using a variety of methods: feedback forms after every case, online surveys administered in the middle and end of term, focus groups and through casual conversations. The success of the case-based active learning sessions is evidenced by the positive feedback from students and facilitators.

6P 6 Using MICROPOLIS to learn microscopy and other knowledge, skills and attitudes
Maryse Fiche*, Fred Bosman and Raphael Bonyin (University of Lausanne, Institute Universitaire de Pathologie, Bugnon 25, Lausanne CH-1001, SWITZERLAND)

Aim: Our aim is to present MICROPOLIS, a recently created facility for microscopy learning. Our emphasis will be on how the technologic environment of MICROPOLIS serves as a basis for a profound change in our educational strategy towards valuing inquiry, small group work, peer collaboration, and student autonomy.

Summary of work: MICROPOLIS is a classroom which includes 20 tables, equipped each with a computer and a double-headed microscope. It is used for 19 Pathology lab sessions for undergraduate medical students. We designed the sessions with an explicit goal of acquisition, in addition to traditional content of a general Pathology course, of some transversal skills and attitudes including: group working skills, autonomous work, computer and textbook literacy.

Summary of results: Since MICROPOLIS was used, we observed a dramatic increase in Pathology labs attendance and success in task completion for most students. Survey
of attending students indicated they most appreciated group work, gross and microscopic specimen observation, computer facilities, and instructors’ support. Results for textbook literacy remained suboptimal.

Conclusion: Renewing our equipment for microscopy study allowed us to impulse a significant change in educational strategies. Reaching objectives beyond microscopic content knowledge however requires a careful design of teaching sessions to value group working and students’ autonomy.

6P 7 To make use of academic motivation as a trigger for active learning
Rumyana Davidova*, Nane Nartseva and Stilyanka Yochkova (Medical University of Pleven, Department of Anatomy, 1 Kl Ohridsky str., Pleven 5880, BULGARIA)

Background: The preclinical part of medical education is very important for training good doctors. The common positive willingness is an indicator of teaching quality and is a radical predictor of academic results. How can we make use of academic motivation to get students accustomed to active learning?

Aim: Determine the level of academic motivation of first year students to help them in active learning and so improve their training.

Summary of work: (1) 117 first year students enquired; (2) the questionnaire included 11 statements, 7 of which were relevant to high academic motivation and 4 to low; (3) 1 more statement, ‘treated learning anatomy’, was added; (4) scale for responses was valued from 0 to 3; (5) four types of motivation determined: lack of motivation, low, moderate and high motivation; (6) results were statistically processed.

Summary of results: Lack of academic motivation detected in 1.7% of students; low motivation detected in 20.5%; moderate motivation in 41.9% and high motivation in 35.9%.

Conclusions/take home messages: Relatively high motivation encouraged us to include clinical aspects in two anatomy courses (microscopic anatomy and dissections) to trigger active learning. Situations and academic staff consider this non-traditional way of learning successful.

6P 8 The effectiveness of a new teaching method in life science education: active learning with interactive education
Akiko Hirase-Kumagai*, Sachie Oda-Tamai and Fumihide Isohashi (St Marianna University, School of Medicine, 2-16-1, Sugao, Miyamae-ku, Kawasaki, Kanagawa, JAPAN)

With innovation of the ‘Courses of Study’ in high school, the number of medical students who have not studied biology has increased rapidly and has created problems for medical education. Therefore, we started a course entitled “Science for a Healthy Life” for medical school freshmen. In traditional lectures, students often lose interest and start talking among themselves. For these reasons, we introduced new interactive education techniques into lectures for “Science for a Healthy Life”. Most students were interested in the visual aids and the techniques into lectures for “Science for a Healthy Life”.

Conclusions: SDW promotes the development of creative abilities of future specialists, therefore justifying this educational process. Used expediency in higher medical education it develops individual clinical thinking, practical skills and skills of medical activity.

6P 9 Different learning contexts do not influence cognitive levels of medical students
Isabel Neto* and Ana Gouveia (Faculdade de Ciencias da Saude, Gabinete de Educacao Medica, Rua Marquês d’Avila e Bolama, Covilhã 6200-001, PORTUGAL)

Aim: The aim of this work is to show that in the Medical Degree (MD) of the Faculty of Health Sciences (FHS), with an objectives based curriculum, students’ cognitive level doesn’t depend on different learning contexts.

Summary of work: In the MD of the FHS the pedagogical activities are organized in tutorials with small groups of students in basics and in clinical rotations. These different groups of students had different tutors (in basics) and were in different hospitals and health centres with different tutors (in clinical rotations). We analysed the cognitive level using the marks obtained in knowledge assessment for the same content. These were compared by group of students using representative blocks of content for basic years and using every block of clinical. Summary of results: All results for 1st, 2nd and 3rd years (basics) and 4th year (clinical) indicate that there is no statistical difference between the mean marks of different groups of students (with 95% confidence level).

Conclusion: We conclude that although the learning contexts are different, they don’t determine students’ cognitive level. In spite of this independence, we believe that students’ cognitive level depends on the learning objectives which have to be clearly defined at the beginning of the learning process.

6P 10 Methodical basis of organizing self-dependence work of students at the Tashkent Pediatric Medical Institute
Murod Jafarov (Tashkent Pediatric Medical Institute, 223, Street Abdiouova, Tashkent 700140, UZBEKISTAN)

Background: Developing self-dependence is an important quality in students, including competent organization, planning, stimulation and control of self-directed work.

Summary of work: The weekly hours of students was officially increased from 36 to 56 hours, by including 18 hours of self-dependence work of the students (SDW) in the curriculum of medical institutions. To organize SDW methodical materials were developed in all disciplines. The basic kinds of SDW introduced are self-preparation, study-research work (SRW), research work (RW), and independent work.

Conclusions: SDW promotes the development of creative abilities of future specialists, therefore justifying this educational process. Used expediency in higher medical education it develops individual clinical thinking, practical skills and skills of medical activity.

6P 11 Strategies to improve students’ integration in a different learning methodology
A Gouveia*, E Cavaco, L Grandão, C Santos, S Sousa, I Neto and J M Pereira de Almeida (University of Beira Interior, Faculty of Health Sciences, Rua Marquês d’Avila e Bolama, Covilhã 6200-001, PORTUGAL)

The Medical Degree of the Faculty of Health Sciences (FHS) has a very distinct Learning Methodology (objectives based, tutorials with small groups and student-centred learning) when compared with traditional pre-graduate learning. To overcome possible difficulties, we propose some activities in order to integrate students in the very beginning of the 1st semester. In this integration period activities are planned with three distinct objectives. Firstly, for contextualizing our reality, we introduce students to learning methodologies. We present our Curriculum Objectives and Structure and our Learning Methodology. In order to get used to it, students experience this methodology in a simulated activity. Secondly, we stimulated students to meditate about being a medical doctor. Finally, we show them the facilities of FHS and the physical environment around them. We provide a book which compiles all important information about the MD, the methodology and the
6P 12 Development of self-confidence in and skills of discussion among graduate students of women's health program
Kasara Sriprichayakan, Kanika Kantaruksa* and Sukanya Parisuanyakul (Chiangmai University, Faculty of Nursing, Chiang Mai 50200, THAILAND)
Discussion of the roles of participants and leaders is an essential strategy for graduate students and leaders of the nursing profession. This action research aimed to enhance self-confidence in and skills of discussion among 7 first-year graduate students of the women's health program. Research processes included 1) planning 2) implementing 3) observing the results and 4) reflection. Main activities included 1) discussions to gain more understanding about the problems, causes, and potential solutions, 2) special lectures to improve knowledge of discussion, 3) self-assessment from video-recording during the class participation, and 4) development of an individual plan for self-development. After the individual plans were implemented, the outcomes were evaluated by the students and instructors, and analyzed using Wilcoxon Signed Ranks Test. The results indicated that the average scores statistically increased in all 4 aspects: self-confidence in discussion participation, skills of discussion participation, self-confidence in discussion leading, and skills of discussion leading. It is recommended that the activities in this study should be implemented among graduate students.

6P 13 Interactive model of integrated teaching managed by original set of didactic technologies
E Kukurova*, E Kralova, L Bergendi, P Trauber and M Bernadic (Comenius University, Institute of Medical Physics and Biophysics, Faculty of Medicine, Sasinkova 2, Bratislava 81372, SLOVAKIA)
A grant for the development of a didactic model was obtained. The model allows use of the interactive inputs for general or specialised teaching applications. The model is created by a set of algorithms allowing model creation, e.g. diagnostic, regeneration, therapeutic procedures using biophysical and biochemical supporting methods from the context of professional teaching point of view. The model can be applied in different teaching subjects of the curriculum in medical or non-medical study programmes and satisfies the requirements of strategic documents of the European Union for recognition of professional qualifications.

6P 14 A good oral presentation: students’ point of view
Lida Fatthizadeh, Ruhbeh Ghorbani*, Shapoor Maddah, Saeed Hajiaighajan, Masoumeh Saberian and Rajah Yahiya (Semnan University of Medical Sciences, Educational Development Center (EDC), Bassij Blvd, Semnan, IRAN)
Background: Effective oral communication is an important but often overlooked and under-practiced skill in scientific and academic endeavours. Whilst oral presentation in a classroom should not be considered as the main framework of teaching, especially in the clinical and practical setting, if this is conducted correctly it is an effective tool.

Summary of work: This was a descriptive-cross sectional study. The population studied was 269 final year university students (15 undergraduate, graduate and PhD courses) in Semnan University of Medical sciences. To obtain data we used census and the number of samples obtained was 189 (70.26%). The collection method was questionnaires in two parts: one with demographic and the other with questions related to survey. Using SPSS software and a squaring method, data were analyzed.

Summary of results: Most students (73.9%) expressed that their teachers during oral presentation should cite precise and appropriate examples and while emphasizing key points (73.4%) should have new information in that subject (68.8%). Face to face contact with students (59.6%) and a loud voice that can be easily understood (69.4%), opportunity to get notes (67.2%), letting them express their ideas and knowledge (66.7%), using educational aids (54.7%) and giving a summary at the end (67.2%), presenting appropriate source of information (54.1%), and answering students' questions (68.8%) were the other requirements.

Conclusion: We recommend more effort be made to organize educational courses for teachers and for training more lecturers and teaching assistants in teaching skills.

6P 15 Assessing the effectiveness of lecture presentation on achieving the educational objectives of mental health course in nursing students
Shahrazad Yektatash and Majid Dehghani (Jahrom University of Medical Sciences, Motahary Street, Fars, Jahrom 74148, IRAN)
Background: Lecture presentation is one of the most prevalent educational methods in the world which can be more attractive with using simple techniques such as film demonstration.

Summary of work: In this experimental study 29 nursing students were assessed. Two methods were compared: lecture presentation with film demonstration and without film. A questionnaire was designed and completed by students after finishing the course.

Summary of results: In education of thought disorders by lecture presentation alone: prevalence educational methods in the world which can be more attractive with using simple techniques such as film demonstration.
Summary of work: This descriptive cross sectional study in AJUMS in 2005 used an attitude test questionnaire. The opinions of all Medical Lab students (N=64) passing the fieldwork training course were collected and analyzed by SPSS and T-Test; one way ANOVA was used.

Summary of results: Students evaluated planning of the fieldwork training program as 'moderate' and indicated a relative satisfaction from professional skills achieved during the training course (mean = 2.02 from 3). The highest mean score in developed capabilities in various sections was attributed to Serology, Bacteriology, and the lowest to Mycology and Biochemistry with numerical value of 2.45, 2.49 and 1.52, 1.85, respectively. The study showed no significant correlation between mean score of male and female students, opinions about fieldwork training.

Conclusions: This study indicated that the quality of fieldwork training is at a moderately desirable level and it is suggested that a review in planning and more participation in Lab sections could be effective in promoting quality improvement of training.

Workshop 6R Using the Multiple Mini-Interview to select applicants to medical school

Kevin W Eva (McMaster University, Canada) and Jean-François Lemay (University of Calgary, Canada)

Background: While applicants to health professional schools can often be differentiated reliably on the basis of cognitive ability, accurately selecting candidates on the basis of personal qualities has proven much more challenging. Several research studies conducted over the past five years have demonstrated that an OSCE-style Multiple Mini-Interview (MMI) process can fulfill the selection goals of reliability (i.e., reproducibly differentiating between applicants), validity (i.e., accurately predicting medical school performance), feasibility and acceptability. Recent implementation of the MMI at the University of Calgary (and other institutions) provides evidence that an MMI-based admissions system can be designed to meet the unique values of particular training programs. The system developed at McMaster University involves institution-specific identification of the relative importance of personal qualities using a paired comparison analysis followed by the development, implementation, and validation of stations directed at those values.

Objectives/intended outcomes: (1) Obtain updated knowledge regarding research conducted on the MMI; (2) Attain familiarity with paired comparison methodology to determine the values held dear at your institution and construct an appropriate MMI blueprint to guide station writing and use; (3) Practice writing MMI stations in small groups; (4) Conduct a shortened version of the MMI on fellow workshop attendees.

Format and content: Oral presentation on the history of admissions protocols (including a brief review of psychometric principles); 24 participants will break up into pairs to discuss the values at their institution and engage in a station writing exercise; Participants will engage in a mock-MMI, using the stations they developed to examine one another; Oral presentation of the research conducted on the MMI to date; Open discussion.

Intended audience: Health Professional School Admissions Committee Members.

Level of workshop: Beginner

Workshop 6Q How can medical students learn to teach?

Michael Ross (University of Edinburgh, UK), Suzanne Prenek (Vrije Universiteit Medisch Centrum, Netherlands), Marijke de Graaf (Vrije Universiteit Medisch Centrum) Jenny Brydens (University of Edinburgh) Kar Teoh (University of Edinburgh) and Terese Stenfors-Hayes (Karolinska Institutet, Stockholm, Sweden)

Background: The student of today is the teacher of tomorrow. Most expert authorities agree that doctors should be able to teach others – whether patients, colleagues or students. Medical schools in many countries have started to include outcomes related to teaching in their revised curricula. There is very little in the literature however about how doctors in training can learn to teach, and where in the undergraduate curriculum such learning might be incorporated. In this workshop we will explore first-hand some of the ways in which medical students can and are learning about teaching, are gaining experience in teaching, and are developing the values and attitudes of a competent teacher. Many of the examples which the facilitators will introduce relate to Peer Assisted Learning (PAL) in which medical students tutor or teach their peers.

Workshop content and structure: Participant educators will be invited to share their experiences in learning to teach at the University of Edinburgh and the programme at the University of Edinburgh and the ‘education week’ at VUMC University and student participants will also be invited to contribute with their experiences. Participants will then be divided into small facilitated discussion groups to share ideas they have about students learning to teach, and address questions such as: What training, opportunities and experiences do medical students need to develop as teachers? What are medical students already learning about teaching? How could we assess the teaching abilities of medical students? The seminar will conclude following reports from each of the small groups on their discussions. We will draft a summary of workshop findings and conclusions and circulate this to participants shortly after the conference.

Intended outcomes: Participants will have explored some of the issues around medical students learning to teach. Participants will have had an opportunity to share experiences of students and doctors learning to teach. Participants will be encouraged to consider how some of these issues could be addressed in their own curricula.

Intended audience: All those who are, or would like to be, involved in helping medical (or allied health professional) students learn to teach, and students.

Level of workshop: All levels.
**Workshop 6S Learners in distress**

**Lotte Dyrbye, Matthew Thomas and Charles Rohren (Mayo Clinic, Rochester, Minnesota, USA)**

**Background:** There is a high prevalence of personal and professional distress among medical students and residents within the U.S. and abroad. The well-being of our learners impacts their academic performance, competency, professionalism, and health.

**Content:** It is critical for undergraduate and graduate medical educators to understand the prevalence and causes of personal and professional distress among learners, potential adverse personal and professional consequences, and institutional factors that can positively and negatively influence learner’s health. In this workshop, we will summarize the manifestations, prevalence, causes and consequences of learner distress, the tools and means for measuring distress, how educators can address this problem, and areas where additional research is needed.

**Objectives/intended outcomes:** After completing this workshop, participants will be able to:

1. discuss the literature on medical student and resident well-being;
2. summarize consequences of personal and professional distress among learners;
3. describe existing validated tools for assessing personal and professional distress;
4. give examples of how to maintain and promote well-being; and,
5. develop educational strategies to recognize and minimize distress

**Format:** Introduction; Case trigger; Literature review; Break-out – Educational strategies to recognize distress; How to maintain well-being; Break-out – Develop a take-home plan to prevent distress and maintain well-being of learners; Wrap-up and conclusions; Evaluation.

**Intended audience:** Educators of medical students and residents

**Level of workshop:** Beginner and intermediate.

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**Workshop 6T Incorporating mind-body medicine skills into the medical curriculum**

**Aviad Haramati and Michael D. Lumpkin (Georgetown University School of Medicine, Washington, DC, USA)**

**Background:** As the public’s use of complementary and alternative medical (CAM) therapies has increased, and as research into the safety and efficacy of these modalities has intensified, medical schools are faced with the challenge of determining how best to integrate this information into the curriculum. Some institutions have determined that CAM-relevant material can help achieve a number of desired educational objectives. At Georgetown University School of Medicine, we have developed an 11 week experiential and didactic module that introduces medical students to a variety of mind body techniques (e.g., mindfulness meditation, autogenics and biofeedback, guided imageries, movement, and writing exercises) with the goal of fostering student self-awareness, self care and improved stress management skills. The course integrates basic science with experiential learning and each group of 10 students is facilitated by two trained faculty members from across the medical center (educators, researchers and clinicians). Outcomes include increased student empathy and mindfulness, as well as a reduction in students' perceived stress in medical school. In addition to involving over one-third of the student population, the program has recently expanded to include specific offerings for faculty and staff.

**Objectives:** (1) To describe the trends in CAM education, student and faculty wellness, and professionalism in driving the development of Mind-Body Medicine programs in medical schools; (2) To discuss various approaches to teaching Mind-Body Medicine, including a detailed description of the 11 week course at Georgetown University School of Medicine, and appropriate outcome measures and assessment; (3) To participate in an "experiential learning" exercise used to teach a Mind-Body Medicine.

**Format and Content:** This workshop will be a combination of short (10-15 minute) didactic presentations, extended group discussion, and a 20 minute experiential learning exercise.

**Intended audience:** Individuals with responsibility for integrating CAM into the curriculum or faculty members with an interest in faculty development, student wellness and professionalism.

**Outcomes/take home message:** Experiential learning modules in mind-body medicine can be used effectively to foster student self-awareness, self-care, improve listening skills and empathy of students, and also advance educational goals in basic science, wellness and professionalism.
7B 1 What makes a good presentation?
Reg Dennis* and David Matheson (University of Nottingham, The Medical School, The Medical Education Unit, Nottingham NG7 2UH, UK)

Summary of work: An observational study was conducted to evaluate the effect of using such a system in a group of 83 undergraduate veterinary students. An ARS was used for three case discussion sessions within a clinical pharmacology course. At the end of the semester, students completed an anonymous survey and participated in focus group interviews designed to measure levels of motivation and satisfaction. Level of interaction was assessed by independent observers present during the sessions. Results were compared to a group of 77 students for whom the same three case-discussion sessions had been given without the ARS the previous year.

Conclusions: The ARS clearly improved learner and teacher motivation as well as interaction during case-discussions and proved to be an effective tool to promote active learning in large groups.

7B 2 Effect of using an audience response system on motivation and interaction during case-discussions in a large group of undergraduate veterinary clinical pharmacology students in Canada
Michele Doucet*, Denis Harvey, André Yris and André Laflamme (Université de Montréal, Faculté de Médecine Vétérinaire, CP 5000, Saint-Hyacinthe, Québec J2S 7C6, CANADA)

Summary of results: Since 2005 a total of 390 students participated in twelve seminars with nine different movies. Nearly all students voted for maintenance of the seminar and would recommend it to classmates. Students valued in particular: (1) combination of movie and seminar; (2) perception of psychiatric disorder; (3) possibility to empathize with patient’s experience; (4) organization of the seminar. Students felt they had reached most learning objectives. They were most critical about having understood treatment concepts. Evaluation results revealed different suitability of the movies for the seminar.

Conclusions: The combination of movie, psychiatric nosology and dialogue with patients was highly appreciated by students as an approach to psychiatric disorders.
The impact of an interactive game on students’ performance of procedural skills

Ina Treadwell (University of Pretoria, Skills Laboratory, Faculty of Health Sciences, PO Box 667, Pretoria 0001, SOUTH AFRICA)

Background: The high failure rate in the Generic Procedural Skills (GPS 280) OSCEs for second year medical students has been a matter of concern over the past years. To create a supportive learning environment students should be made aware what is it they don’t know. For this purpose a mini-game, the “I SPY SHOW”, was developed in which (1) images and video clips display errors/omissions pertaining to skills to be mastered in GPS 280. Students, competing in groups, identify the mistakes and get rewards and immediate illustrated feedback; (2) a student representing a group is required to perform a skill.

Aim: To determine the impact of a game on learning.

Summary of work: An experimental group played the game prior to the OSCE in 2006. An independent groups t-test was done to compare the mean OSCE scores of the experimental and control groups. A questionnaire was used to determine the students’ perceptions on their learning.

Summary of results: The experimental group performed significantly better and gave high ratings to the fun and learning aspects of the game.

Take home message: The positive impact of a mini-game on learning more than offsets the relatively small input required for its development.

Can involvement in research create educational opportunities for students?

M R Ritchie*, L J MacKinnon, V Wong, S E E Gates and T J Gibbs
(University of St Andrews, Bute Medical School, St Andrews, Fife KY16 9TS, UK)

Background: The education of medical students involves the learning of a variety of disciplines including applied sciences, clinical and communication skills and medical ethics. The art of medical education is in their integration, usually achieved during clinical exposure, and often in the more senior years. To create a supportive learning environment students should be made aware what is it they don’t know. For this purpose a mini-game, the “I SPY SHOW”, was developed in which (1) images and video clips display errors/omissions pertaining to skills to be mastered in GPS 280. Students, competing in groups, identify the mistakes and get rewards and immediate illustrated feedback; (2) a student representing a group is required to perform a skill.

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Take home message: The positive impact of a mini-game on learning more than offsets the relatively small input required for its development.

Evaluation of a new approach to the use of a purpose-designed Integrated Teaching Area

Shihab Khogali*, John McEwen, Nicholas Part, Margery Davis and Martin Pippard (University of Dundee, Division of Medical Education, Curriculum Office, Level 7, Ninewells Hospital & Medical School, Dundee DD1 9SY, UK)

Aim: A revised outcome-based undergraduate medical curriculum is being implemented by Dundee Medical School. The curriculum has three phases. Phase 1 (one semester of 12 weeks) introduces curriculum outcomes and basic principles underpinning medical practice. Phase 2 (5 semesters) provides integrated, system-based learning of normal and abnormal structure, function and behaviour. Phase 3 (years 4 & 5) students study approximately 100 Core Clinical Problems (CCPs - cases around which the curriculum is structured).

We present an evaluation of the combination of small group learning and sessions in a purpose-designed Integrated Teaching Area (ITA) (Khogali et al. 2004).

Summary of work: A problem-oriented programme was run in conjunction with the didactic teaching of semester 1. Three exemplar CCPs were used (unconscious patient, chest pain, fever), together with supportive ITA material (solicited from the wider faculty). The programme highlighted the relationship between basic principles/curriculum outcomes and the exemplar CCPs.

Summary of results: The programme received positive feedback. Student’ variables (e.g. age) affected responses.

Conclusions/Take home message: This early integrated approach was particularly valued by graduate (older) students. It was also appreciated by the younger school leavers.

PACT: a multidisciplinary distance learning programme for intensive care training

C R M G Fluit*, K Brown and D Phelan (UMC St Radboud, Institute for Education & Teaching, 3000GW, Postbus 9101, Nijmegen 6500 HB, NETHERLANDS)

Aim: To improve and harmonise the quality of intensive care medicine (ICM), the European Society of Intensive Care Medicine (ESICM) is producing a distance learning programme: Patient-Centred Acute Care Training (PACT). How is PACT regarded by trainees and clinical teachers? How is/can it be used in training of intensivists?

Summary of work: PACT covers the intensive care curriculum and is modular in design (electronic and paper). When completed (2007) it will contain up to 45 modules of which c. 35 will be published by 2006. Each module contains a clinical scenario and a series of tasks containing the theory. Tasks are based on real life in the ICU and reflect daily work.

Summary of results: Feedback from users has been very positive. PACT modules are also used for training programmes and simulation workshops. Through developing PACT, consensus about basic knowledge is established. Modules are written on a voluntary basis by authors, expert in a particular field. Authors were coached by an editor and an educationalist – the authoring process took longer than anticipated.

Take home message: PACT is an efficient and effective way of learning in ICM. The flexible format allows users and teachers to utilise PACT in a variety of ways. Coaching authors to write in a different way is important but time-consuming. The electronic format can be easily updated.
**7C 2** Veterinary public health and elearning: a survey in Italy

B Alessandrini*, L Valeri and L Candeloro (Istituto Zooprofilattico Sperimentale dell'Abruzzo e del Molise Campo Boario, Teramo 64100, ITALY)

Background: In Italy, the request of advanced training in veterinary public health is increasing and traditional training models are inadequate to satisfy the expressed needs. Istituto Zooprofilattico Sperimentale dell'Abruzzo e del Molise (IZS&M), centre of advanced training in veterinary public health, is changing its offer, moving from traditional models to the new solutions offered by eLearning. Training performed through the new information and communication technologies, in fact, is a great challenge not only because it implies the use of advanced technologies, but most of all because it requires the development of new teaching strategies, better suiting the beneficiaries of the learning solutions.

Summary of work: In order to better face these new opportunities and to apply them properly to the reference market, IZS&M carried out a survey to analyse the training request in veterinary matters and potential participants to eLearning initiatives. This investigation was finalised to understand eLearning knowledge of veterinarians usually participating in training courses, their familiarity with information technologies, and their interests in terms of learning contents.

The survey outcomes will be used to define strategies and guidelines to carry out national educational plans based on the effective possibilities of the involved subjects, in terms of access to technologies and professional interests consistent with the national learning goals.

**7C 3** e-Learning adoption in medical faculties in Italy: are we ready?

F Romanelli*, S Lucarini, F Casserti, M L Sacchetti, H Snegurova, G Flati, F Di Maio and A Lenzi (University ‘La Sapienza’ of Rome, Dip Fisiopatologia Medica, Vle del Policlinico 155, Roma 00161, ITALY)

Summary of work: The Authors framed in a “e-Learning readiness” model the results of a recent national survey, coordinated by Lenzi, among Italian medical Faculties about the use of e-Learning solutions, enriched by the analysis of preliminary data from an ongoing national project on e-learning in medical schools, funded by the Ministry of Education, University and Research.

The considered model (Borotis, S. Proceedings of World Conference on E-Learning in Corporate, Government, Healthcare, and Higher Education 2004 p.1622) proposes seven components to evaluate the level of e-Learning readiness of an organization: business, technology, content, training process, culture, human resources, finance. The situation is positive in the technological and cultural domains, since the last CENSIS (Centre for Social Studies and Policies) 2005 national report pointed out an increasing trend in home personal computers and Internet diffusion, especially among students. These data were confirmed by the findings from the national project, with a 70% of Internet accessibility and a high level of Information and Communication Technology literacy. Moreover, students declared a positive attitude toward e-learning adoption. Critical issues are related to the availability of online learning material and to the difficulties of managing the change of instructional model.

Acknowledgement: This study was supported by MIUR PRIN 2004067293_002 grant.

**7C 4** How to successfully integrate a curriculum-wide elearning program on a basic science

E A Dubois* and K L Franson (Leiden University Medical Centre (LUMC), Onderwijscentrum divisie 2, CS-Q, PO Box 9600, Leiden 2300 RC, NETHERLANDS)

Aim: Determine essential factors for successful integration of an e-learning program on pharmacology throughout a medical school curriculum.

Summary of work: The program was developed in 2001 to teach students pharmacological mechanisms in the context of (patho)physiology. Today about 80% of the students uses the program as a self-study tool throughout the curriculum and achieves better grades by using it. With 5-years’ experience throughout the medical curriculum, we can define key factors for successful integration.

Summary of results: During development, the initial hesitation by teachers and students was replaced by widespread use and contributions to the program.

The following key factors were identified as important: (1) Establish the need for integrating the new learning strategy; (2) Be compatible with your curriculum (flexibility); (3) Create a link between your content and other medical disciplines; (4) Integrate the program with other educational strategies; (5) Create content with people from different disciplines; (6) Collaborate closely with course professors/teachers; (7) Develop and follow an integration plan; (8) Present teaching materials consistently across the curriculum; (9) Continuously assess and improve.

Take home messages: Successful integration of an e-learning program is defined by student use, assessment of the content, achieving learning outcomes and demonstration of benefit to student learning.

**7C 5** An interactive internet-based package for undergraduate ophthalmological content

Peter Åsman (Lund University, Faculty of Medicine, Department of Clinical Sciences in Malmö, Ophthalmology, Malmö University Hospital, Malmö S-205 02, SWEDEN)

Aim: To present the utilization of a highly interactive, internet-based, package for ophthalmological content.

Summary of work: The clinical ophthalmology rotation in Malmö is a 6 weeks on-campus period integrated with ENT. Weekly interactive internet-based theory parts include, (1) a PBL scenario (pathophysiology and basic sciences), (2) a series of case presentations (management principles), (3) learning objects for self-study, (4) lecture presentations, and (5) a self test. Also included is a module for final assessment using MCQ/EMQ. All modules are written in-house using Macromedia Flash. Interactivity includes e.g. real time patient simulations of pupil reactions, vision testing, visual symptoms, and anatomical aspects of disease. Modules are available for each student and teacher at any time and are easily accessed from the medical faculty homepage.

Summary of results: Since the introduction in 1998 modules have continuously been added/modified. Course evaluations strongly support the continued use and development of these resources. Logging of students’ on-line activities has been possible since November 2005. The module as well as student activity will be presented.

Conclusions: The development of this interactive internet-based learning package has completely replaced traditional written handouts.
Students 4: The factors affecting career choice of doctors

Factors that influence subspecialty choices of internal medicine residents in Canada

Leona Horn*, Katrina Zamelos, Kevin Thorpe and Sharon Strau (University of Toronto, 32 Alexis Blvd, Toronto, Ontario M3H 2P4, CANADA)

Aim: To address the concern about physician imbalances in internal medicine subspecialties in Canada, we need to examine the factors that motivate residents when making career decisions.

Summary of work: Third year Canadian internal medicine residents completed a web-based survey consisting of 24 demographic and 50 non-demographic items. Residents choosing procedure-based specialties (cardiology, respirology, gastroenterology and critical care), cognitive-based specialties (hematology, infectious diseases, nephrology and oncology) and cognitive-based specialties with declining applicants (geriatrics, GIM, endocrinology and rheumatology) were compared using multivariable regression analyses.

Summary of results: 78% of procedure-based and 39% of non-procedure-based specialties are occupied by men. Residents make their final decision during residency training. They choose careers that are consistent with their personality, and that will offer intellectual stimulation and diversity in clinical spectrum. The reputation of the specialty, anticipated salary and lifestyle also appear to be important factors to certain groups.

Conclusions: This study suggests that internal medicine trainees are increasingly choosing procedure-based specialties while non-procedure-based specialties, and especially general internal medicine, are losing appeal. Further research should focus on confirming these findings and exploring ways of ensuring resident interest across all the domains of Internal Medicine.

Doctors assess the influence of medical school on their career choice

Simon Watmough*, Ida Ryland and David Taylor (University of Liverpool, School of Medical Education, 2nd Floor, Cedar House, Ashton Street, Liverpool L69 3GE, UK)

Background: In 1996 Liverpool University reformed its traditional medical curriculum and introduced an integrated PBL curriculum. Previous work has focused on comparing the competencies of PRHOs from both curricula. This project has been extended to look at the influence of curriculum reform on career choice of graduates.

Summary of work: This study population consists of the final two cohorts of the traditional curriculum. Questionnaires were distributed at 5-6 years post graduation requesting the most important influences on career choice.

Summary of results: Overall most graduates felt their career choice was mostly dictated by their postgraduate experience. General Practitioners were more likely to have changed their career choice since graduation, with surgeons less likely to have done so. The influence of individual teachers at medical school had little effect. However the experience of mainstream specialties within medicine and surgery were more influential at medical school rather than the smaller specialties. Graduates changed their initial planned career plan for a number of reasons including financial inducements, new clinical experiences, stress, family issues and career progression. It is planned to repeat this process with the first two cohorts of the PBL curriculum following the same time frame to ascertain if there are differences between traditional and PBL graduates.

Generalism and primary care career choices: undergraduate medical training curriculum and its influences

Leslie Nickle*, Jay Rosenfield, Anita Rachlis, Martin Schreiber, Kymm Feldman and Jennifer McCabe (Sunnybrook Health Sciences Centre, 2075 Bayview Avenue, Room E322, Toronto, Ontario M4N 3M5, CANADA)

Aim: To gain an increased understanding of key influencing factors on medical student career choices and to examine the curriculum components contributing to these choices and to target the trend toward declining interest in generalist and primary care specialties.

Background: The generalist physician, providing comprehensive patient care, is declining in all areas of medicine throughout North America. National and provincial governments have recognized the need to determine and educate the appropriate number and mix of physicians to provide a sustainable health care system for the future.

Summary of work: A qualitative study was conducted at University of Toronto, involving focus groups with medical students, and post-graduate residents, faculty and community physicians in Family Medicine, Internal Medicine, Surgery and Paediatrics. Key contributing factors influencing career choices of medical students and the role of undergraduate curriculum were explored.

Summary of results: Role modelling and exposure are key influencing factors in career choice. Positive teachers are influential, and negativity towards generalists continues to impact students and the learning environment.

Conclusions/Take home messages: Curriculum modification, including increased exposure to generalism, positive generalist role models and decreased negativity towards generalist career options, may help to increase interest in generalist careers among medical students.
the variables that differentiate students who enter primary care vs. non-primary care specialties. Participants were 175 third-year medical students who had taken a clinical skills assessment exam in 2003 and 2004 and who subsequently entered a residency in a primary care or non-primary care specialty.

Summary of results: 100 students entered primary care specialties and 75 students entered non-primary care specialties. Results of a multivariate analysis of variance showed that no significant differences existed between the students who entered primary care and non-primary care specialties with regard to clinical skills performance.

Conclusions: Therefore, we concluded that clinical skills performance does not appear to be related to the type of specialty students enter. Further studies of this nature should be conducted to better understand the relation between clinical skills performance and specialty choice.

7E 3 Assessment 3: Some important issues

7E 1 Response to a security breach of confidential, high-stakes examination content: Medical Council of Canada’s approach and lessons learned

W Dale Dauphinee* and Robert S Lee (Medical Council of Canada, 100-2283 St Laurent Boulevard, Ottawa, Ontario K1G 5A2, CANADA)

Aim: The goal of this presentation is to highlight the threats that lead to a breach of confidential high-stakes examination content and the MCC’s response strategies to deal with the incident. The lessons learned through the experience will be shared.

Background and Summary of work: In 2004, the Medical Council of Canada (MCC) experienced a breach of secure examination content from its multiple choice question bank. This urgent situation immediately impacted the MCC examinations, candidates and other stakeholders. Management and operational teams worked concurrently to ensure the integrity of the examination was maintained and that all candidates and stake-holders were notified of the issues. Management pursued an investigation into the breach, implemented remedies, and used independent auditors throughout.

Summary of results: The examination was modified and integrity retained. Through public communications were completed to inform candidates and stakeholders of the events and implications. The investigation was successfully completed and matters taken to the courts where MCC succeeded and sentencing included significant fines and jail time.

Conclusions: The MCC experienced a significant incident which resulted in many necessary response strategies to be developed and deployed. Several lessons were learned from that experience and those strategies and lessons will be discussed.

7E 2 On the use of a weighted-fit-mean-statistic to detect the unauthorized use of examination material

Timothy J Wood*, Robert S Lee, André-Philippe Boulais and Thomas O Maguire (Medical Council of Canada, 100-2283 St Laurent Boulevard, Ottawa, Ontario K1G 5E5, CANADA)

Aim: In May 2005, the Medical Council of Canada (MCC) conducted an analysis of previously unused questions on the MCC Qualifying Examination Part I (MCCQEI) and MCC Evaluating Examination (MCCEE). The goal of this analysis was to compare examinee performance on previously used items on their performance on previously unused items to determine if examinees may have had access to unauthorized copies of examination material. The purpose of this presentation is to discuss the procedure, the outcome and lessons learned.

Summary of work: For the MCCQEI, examinee scores on 52 previously unused items were compared to examinee scores on 144 previously used items. For the MCCEE, scores on 36 previously unused items were compared to scores from 249 previously used items. A weighted-fit-mean statistic was applied to make the comparison and to identify any outliers.

Summary of results: For the MCCQEI, two examinees were identified as having outliers (z>4.65). For the MCCEE, a total of nine examinees were identified as outliers (z>4.00).

Conclusion: Although the fit statistic was able to flag examinees, there were some concerns that this information alone was not adequate to base a judgment. These concerns and how the MCC resolved them will be discussed.

7E 3 Could we do something about cheating in tests?

Pedro Herskovic* and Eduardo Casoi (University of Chile Medical School, Escuela de Medicina, Clasificador No 7, Correo 7, Santiago 8389100, CHILE)

Background: Some medical students cheat in tests. Students who do not cheat complain. In 2005 we presented results of a statistical surveillance tool to detect probable cheating during multiple choice tests. Between 24.8% and 46.7% of students were considered probable cases. We attempted to deter cheating in tests by using the same tool in 2005. Students were told about the tool in use and seats were assigned to take the tests.

Summary of work: A statistical method developed by modifying one described by Ercole 2002, was used in four tests that were part of the assessment of a course in 2005. A “Weighed Similitude Score” (WSS) was obtained. A blueprint of where students sat was available. Pairs of students who obtained a WSS 2.5 standard deviations above average were considered as possible cases of cheating and their sitting places were analyzed. The adjacent pairs with high WSS were considered as probable cases of cheating.

Summary of results: Between 5% and 33% of students were considered probable cases, which is less than in 2004. Some students complained of the excessive surveillance.

Conclusions: Probable cheating diminished modestly. More must be done to prevent it.

7E 4 Evaluation, grading and use of a common evaluation framework by internal medicine clerkship directors: results of a national survey

Paul A Hammet*, Klaus K Papp, Alex J Mechaber and Steven J Durning (Uniformed Services University of Health Sciences, USUHS - EDR, 4519 Harling Land, Bethesda MD 20814, USA)

Aim: To describe evaluation methods, including the RIME framework (Reporter-Interpreter-Manager/Educator), used by internal medicine clerkship directors.

Summary of work: The Clerkship Directors in Internal Medicine surveyed its 109 US and Canadian institutional members about evaluation methods, use of RIME, and grade assignment.
Exploring impact of faculty development on clinical teaching: a descriptive study of a large-scale program

M Chamberland*, A Bouget, S Bourque, R Boulé, D Clavet and R Hivon (University of Sherbrooke, Faculty of Medicine, 3001-12e avenue nord, Sherbrooke, Quebec J1H 5H4, CANADA)

Background: Based on our School’s experience and a literature review, an innovative program of three successive workshops (Chamberland et al, 2004) was implemented and attended by 234 clinical teachers over 4 years.

Summary of work: Using problem-based methodology (Robinson 1998) and a collaborative approach (Desgagné et al, 2001), this study explores the program’s impact on clinical teaching. Quantitative and qualitative data from clinical teachers who attended the workshops (N=234) were collected with questionnaires immediately after and six month later.

Summary of results: Data analysis shows increased awareness and use by clinical teachers of explicit role modelling and supervision as teaching strategies for clinical reasoning as well as communication skills, ethics and professionalism. These primary results were corroborated by three clinical teachers focus groups (random sample, n=14). The Clinical Teaching Effectiveness Instrument (Copeland et al, 2000) was also used to look at the students’ perspective. The latter indicates that students are now satisfied with most aspects of their clinical training (545 measures from 186 students for 6 rotations).

Conclusions: Our findings show the program’s relevance and its influence on clinical teaching. Despite challenges and complexities, of clinical settings for teaching, faculty development is a promising approach. Continuing programs, exploring new strategies and formats and future research are necessary in this area.
7F 2 Postgraduate master of medical education (MME) Degree: the implementation of an innovative cross-institutional curriculum in Germany

J. Juenger*, M. Fischer*, R. Duelli, R. Putz and F. Resch (University of Heidelberg, Department of Internal Medicine, Im Neuenheimer Feld 410, Heidelberg 69120, GERMANY)

Aim: The implementation of a national two-year postgraduate course for a master of medical education degree in Germany (60 ECTS-points). Major goals of the course are (1) the professionalizing of medical education, (2) the qualification of disseminators at the medical faculties (Teach the teacher), (3) the promotion of educational research, and (4) the improvement of a national network in medical education.

Summary of work: The curriculum was developed under the patronage of the German Association of 37 Medical Faculties. A steering group identified eight qualified faculties to implement the German MME course. It consists of eight modules at those faculties with face to face teaching, preparatory duties, a local education project and a master thesis (educational research). An insight into the local teaching situation is granted at each host institution. The degree is granted from the University of Heidelberg in conjunction with seven partner faculties.

Summary of results: The first course had 25 participants from 19 different faculties. Implementation, cross-institutional structure, goals of the curriculum and evaluation results are presented. The data showed a high level of acceptance and motivation both on students’ and teachers’ side. Networking of faculties, students and teachers was identified as one major benefit.

7F 3 The Staffordshire Evaluation of Teaching Styles (SETs)

David Wall*, Kay Mohanna and Ruth Chambers (Staffsshire University and West Midlands Deanery, 150 Lichfield Road, Four Oaks, Sutton Coldfield B74 2TF, UK)

Aim: Can people’s teaching styles be measured? There is much work and several questionnaires in the medical education literature on how to measure learning styles, but little about teaching styles.

Summary of work: We surveyed the medical education literature to provide key themes regarding various teaching styles. We constructed a 96 item questionnaire of key statements about teaching styles, using a 1-5 Likert scale format. 80 individuals from a variety of backgrounds within medical and dental education answered this questionnaire. The results were analysed using SPSS, using reliability analysis and principal component factor analysis.

Summary of results: Reliability was good with an overall Cronbach’s alpha of 0.901. Principal component factor analysis using varimax rotation showed six factors, clearly identifiable with different teaching styles. These six styles were then described using free text descriptors from the key items loaded most strongly onto each of the six factors.

Conclusions: We will present the rationale for this 24 item questionnaire, developed from this research, its value as a reflective tool for teachers, and an instructional method for novice teachers exploring issues of flexibility in teaching. This evaluation tool is being piloted at the present time, with further statistical testing and interviews of participating medical educators.

7F 4 Learning clinical teaching: what influences transfer from course to practice?

Lia Fluit and Sanneke Bolhuis* (University Medical Centre Nijmegen, UMCG – OWO, PO Box 9101 (224), 6500 HB NETHERLANDS)

Aim: Transfer of learning to practice is generally difficult. This may also be true for transfer from our course in clinical teaching, despite its practical orientation and participants’ enthusiasm. We present results of our study on: what influences the application of teaching skills in clinical practice?

Summary of work: At the end of the course participants formulate their intentions with respect to clinical teaching. After 6-12 months we sent a questionnaire, asking what intentions they realised, and what stimulated or inhibited to do so. Analysis was done on the data (n=100 from 13 specialties).

Summary of results: After the course clinical supervisors spend more time on observation and feedback. One’s own commitment, support of colleagues and student motivation are frequently mentioned as stimulating factors. Lack of support of the team, time pressure and inexperience with clinical teaching are frequently mentioned as obstructive factors. We found transfer factors on the team, individual, student and organisational level.

Take home message: Practical training of clinical teachers can lead to changes in clinical teaching. To promote transfer factors at different levels need attention. Knowledge of factors which promote or inhibit transfer is necessary for additional measures to make training courses most effective.

7F 5 Supporting the peer-observation process for clinical teachers

Andrew Sackville*, Cathy Sherratt and Linda Rush (Edge Hill University College, St Helens Road, Ormskirk L39 1LP, UK)

This presentation discusses the use of peer observation of teaching within a postgraduate course for clinical teachers in the health professions. It outlines the reasons for including peer observation of teaching within a twelve-month, part-time, supported online programme that focuses on teaching in clinical practice.

It highlights the development of a multi-media learning resource that both models and supports the process of peer observation. A series of video-clips filmed specially shows members of the course team modelling peer-observation and the feedback process. The video-clips are packaged along with associated documentation, and presented to the students as a simulation exercise, to be undertaken as part of the learning process, and prior to attempting peer observation themselves. After acknowledging the technical and cost-implications of developing a CD-ROM, the presentation turns to the evaluation of the resource by both students and tutors. Future plans for both developing similar resources for other parts of the postgraduate course, and for extending the use of this package to the broader area of staff and faculty development will be outlined.

The presentation concludes by stressing the value of both the multi-media resource and the process of peer observation.
Short Communications

7G 1 Extrinsic and intrinsic rewards for clinical teaching
Antoinette S Peters*, Kathleen N Schmidt and Harvey P Katz (Harvard Medical School, Department of Ambulatory Care & Prevention, Centre for Teaching and Learning, 133 Brookline Avenue, Boston MA 02215, USA)

Aim: To evaluate payment for teaching when pressures for clinical productivity impinge on teaching commitment.

Summary of work: To enhance retention of preceptors, we increased stipends from $600 to $900 to $2500. We pay some preceptors directly and other preceptors’ departments. Using extant records and survey responses, we evaluated the effectiveness of payment on retention and attitudes toward extrinsic and intrinsic rewards for teaching. We analyzed changes in retention rates over 10 years. Preceptors rank ordered 6 intrinsic and extrinsic rewards as (a) sources of satisfaction and (b) factors important in deciding to continue teaching. We compared responses by method of compensation.

Summary of results: Retention rates increased with each rise in stipend (mean rate for years with a stipend of $600 = 68.9%; $900 = 70.9%; $2500 = 74.3%). Preceptors ranked “having a good student” first both as a source of satisfaction and as a necessary condition for continuing to teach; they ranked “receiving the stipend” third as a source of satisfaction but second as a necessary condition for teaching. Preceptors who receive the stipend directly were more likely than others to rank it as a condition for continued teaching.

Conclusion: Extrinsic reward – payment – is a secondary but important condition for teaching.

7G 2 Clinical academies: a new way of organising clinical education
David B Mumford* (University of Bristol, Centre for Medical Education, 41 St Michael’s Hill, Bristol BS2 8DZ, UK)

Aim: To outline the new ‘Clinical Academy’ model for the delivery of clinical education at Bristol and its evaluation over the first two years.

Summary of work: Bristol Medical School has developed and implemented a new concept in UK medical education: the ‘Clinical Academy’. This represents an innovative partnership between the University and the National Health Service (NHS) in which the leadership, teaching and pastoral aspects of clinical education are shared among seven clinical academies, comprising our traditional teaching bases in the city of Bristol together with 5 new centres in the surrounding counties. A major feature of the clinical academy system is the increased length of time medical students spend away from Bristol, usually half of each academic year. Students develop their clinical competence as apprentice members of a local healthcare community.

Summary of results: Student feedback from the new out-of-Bristol academies is generally more positive than from placements in Bristol. Assessment performance shows no difference.

Conclusions: The Clinical Academies are intended to preserve a ‘human scale’ of educational environment at a time of increased student numbers, where students are welcomed and known as individuals by their clinical teachers. Our experience may provide a useful model for other medical schools to consider.

7G 3 A new paradigm for medical education infrastructure
A Lambros, K P Ober and J W Strandhoy* (Wake Forest University School of Medicine, Department of Physiology & Pharmacology, Medical Center Blvd, Winston-Salem NC 27157-1083, USA)

Background: Medical education faces a multitude of challenges including the lack of support for teaching efforts in academic medical centers due to increasing pressures to generate revenue through clinical streams and the research enterprise. As innovative and interactive curricula become more mainstream and replace the emphasis on lectures and memorization, the demand for faculty time to support medical education increases. Most medical school faculty enjoy teaching and express a passion for it and great satisfaction in it. However, their frustration is growing with the “squeeze” on institutional support for teaching efforts and lack of reward or recognition for these efforts and commitments.

A number of schools have now established teaching academies or similar organizational units to recognize teaching excellence, support the advancement of teaching skills, and to support educational research.

Summary of work: Wake Forest University School of Medicine has established a Core Teaching Faculty for not only those reasons but also to prepare the next generation of medical educators, design a new infrastructure for the analysis and delivery of the curriculum, and to create a financial support model for teaching that is exclusive to this institution. We will describe the initiation, implementation, and infrastructure of this unique model.

7G 4 Three steps to success

Summary of work: Fundamental management techniques were applied to a previously stalled educational project to ensure its delivery within a set time frame. A hospital induction process is part of the generic training standards that the GMC and PMETB set for specialist, foundation and educational training programmes. The traditional induction process in the form of presentations by senior staff, was time-consuming, costly and generated poor feedback. Previous attempts to change induction had failed for various reasons. However, this project delivered a new, innovative, interactive electronic induction process within a short time. It utilised a basic business equation, namely: Success = Motivation x Ability x Opportunity. Motivation came from leadership, vision and good follower-ship. The ability came from the inherent skills of the team and application of effective project management principles and techniques. The opportunity was obtained by securing funding at the outset to utilise a dedicated project manager. Projects in the NHS develop in a complex environment and often involve professionals who are time constrained, have differing agendas, commitments and experience of facilitating change.

Take home messages: Attending to each of the factors in the aforementioned equation and utilising generic business principles and techniques can maximise the chances of delivering an educational project on time.
7G 5 Implementation of a PBL curriculum in a German Medical School: a retrospective qualitative evaluation of the processes of organizational change
D Koenecke*, O Kuhnigk and M Bullinger (University Medical Center Hamburg-Eppendorf, MIttelstudiengang Medizin, Gebäude W 29, Martinistr 52, Hamburg 20246, GERMANY)

Background: Curricular change processes in Universities challenge the faculty as a whole and can be viewed from an organizational development perspective. Such processes however have rarely been studied. The aim of the presentation is to provide an insight into difficulties and benefits in curricular change from the perspective of the persons involved, using as an example the structural implementation of a PBL reform project at Hamburg University Medical School.

Summary of work: A curriculum based on PBL was implemented from 2001 to 2006 parallel to the traditional curriculum. Stakeholders and relevant persons involved in the reform project were identified and participated in a semi-structured interview (n=23). The analysis of the interviews was carried out with a qualitative content analysis based on ‘grounded theory’.

Summary of results: In the beginning of the reform project many obstacles occurred, e.g. a high drop-out rate and little acceptance of PBL project by faculty. Retrospectively, importantly aspects during and while the implementation were derived which can be generalized for other medical faculties. Also, the necessity of monitoring change processes became obvious.

Conclusion: Attention to tasks and key factors on an organisational level when changing medical curricula is important. Changes in medical education require institutional power and shared values.

7G 6 Why teachers always complain about curriculum change: a comparative study on multidisciplinary curriculum reform
R E Stalmeijer*, W H Gijselaers, H A P Wolthagen, S Harendza and A J J A Schepers (Maastricht University, Faculty of Medicine, Department of Educational Research and Development, Universiteitsingel 60, Maastricht 6299 ER, NETHERLANDS)

Background: Why is it that curriculum reform processes always seem to end up in mess? Although the need seems obvious and the idea is logical, every day curriculum practice has taught us that talking about reform is one thing, developing successful implementation strategies is quite another. Studies performed to identify success factors for change assume that the effects of factors like strong leadership and commitment of stakeholders are independent of the roles teachers play in an organization.

Summary of work: The present study follows the idea that change is a dynamic process, requiring different tools at different moments when implementing complex curriculum changes. A comparative study was conducted with two large, European medical schools that implemented multidisciplinary education. Teacher teams were asked how they perceived the facilitation of the change process as provided by the organization so far. A questionnaire was developed in which facilitation factors were defined as leadership, communication, faculty development, evaluation, time, and money.

Summary of results: Results show that perceptions and needs of individual teams differed and that approaches to implementation varied. Especially the amounts and kinds of leadership and communication were put to use differently at both locations. Implications for the facilitation of future organizational and curricular change will be provided.

Short Communications

7H Portfolios 2: Portfolios in undergraduate medical education

7H 1 Why and when do portfolios (not) work in medical education?
E W Driessen*, D Bodewes, J van Turtwijk and C P M van der Vleuten (Maastricht University, Faculty of Medicine, Department of Educational Development and Research, PO Box 616, Maastricht 6200 MD, NETHERLANDS)

Background: Portfolios are widely used in medical education as tools for authentic assessment, to stimulate reflection, and/or to monitor and support professional development. The structure and content of portfolios that are used differ considerably. Because of these differences in purpose, structure and content, it is difficult to interpret the often contradicting research findings reported in literature.

Summary of work: All empirical studies investigating the use of portfolio in five leading international journals on medical education were reviewed with the aim to answer the question “Why and when is working with portfolios successful in medical education?”

Conclusions: Portfolios seem to work best when people learn in authentic settings. How the portfolio is used for coaching purposes and the quality of the coaching is of major importance for the successful use of this instrument. The design of the assessment procedure is important as well.

Take home message: Portfolios have unique possibilities as instruments for authentic assessment, to stimulate reflection, and/or to monitor and support professional development. However they do not work in every educational configuration and conditions need to be fulfilled.

7H 2 Portfolio-based program for assessing professional competence
Elaine Dannefer* and Lindsey Henson (Cleveland Clinic Lerner College of Medicine, The Cleveland Clinic/NA24, 9500 Euclid Avenue, Cleveland, Ohio 44195, USA)

Background: An assessment program for a new competency-based curriculum was developed using portfolios for both formative and summative purposes to integrate multiple assessments of a broad range of authentic experiences. In a curriculum designed to foster self-directed learning and achievement of competencies, the program presents professional competence as the integration of multiple skills through the facilitation and assessment of reflective practice.

Summary of work: All assessments in the program are formative, collected and managed in an ePortfolio which provides students and their advisor means of continuous monitoring of performance. Students periodically prepare Formative Portfolios designed to systematically develop their reflective practice skills by requiring reflective essays, learning plans, and student-selected evidence. Students also use their formative assessments to construct yearly Summary Portfolios reviewed by a separate faculty promotions committee. In this assessment program, evidence consists of narrative feedback based on observations of authentic tasks, reviews of written assignments, and student-generated products from their learning activities. Fundamental issues in implementation of this program include quality (validity), sampling (reliability), fairness, and feasibility.

Conclusion: A comprehensive portfolio assessment system facilitates the ability to assess professional competence in a way that promotes integration of skills needed for the complex practice of medicine.
The portfolio as a learning tool: evolution in the experiences of clerks

Ann Deketelaere* and Nathalie Draine (Catholic University of Leuven, Diest Onderwijs-Geneeskunde, Campus Gasthuisberg, Onderwijs en Navorsing 2, Herestraat 49 - bus 400, Leuven B-3000, BELGIUM)

Background: In 2004-2005 the Faculty of Medicine implemented during clerkship a learning portfolio with four functions: documenting, structuring, reflecting and communicating about clinical learning experiences.

Research questions: Do the clerks use the portfolio as we intended? Is there an evolution during the year?

Summary of work: At three moments (start, halfway and after clerkship) all clerks received (N= 186, response rate: 84%) a questionnaire about their experiences with the portfolio. They also gave their opinion on 8 statements, which represented the 4 functions. Additionally an interview was held with 12 clerks, also at three moments.

Conclusions: Although clerks perceived the portfolio at the start rather positively, halfway their perception became more negative. This remains the same after the clerkship year. Clerks especially appreciated the portfolio for structuring and documenting their learning experiences. Clerks evaluated the portfolio negatively not because of the administrative burden, but because of their preference to assist in consultations and their perception of the portfolio as academic (scholastic).

Take home messages: At the beginning of clerkship, clerks appreciate the portfolio as a structuring learning-tool in the chaotic clinical learning-environment. But once they feel comfortable, the portfolio forces them back in their academic student role.

Evaluation of the use of a group portfolio in community work in the second year of medicine during 2004 and 2005, Universidad de Valparaiso, Chile

Peter McColl*, Pamela Eguiguren, Ernestina Espana, Silvia Ulloa, Katherine Cuevas and Jorge Gregoire (Universidad de Valparaiso Chile, Pedro Montt 217, Recreo, Viña del Mar, CHILE)

Aim: Compare evaluation of the use of group portfolio (GP) in two cohorts of medical students (2004-2005), after the introduction of changes, according to the results obtained in 2004.

Summary of work: Ten groups of 6 students carried out community work during one academic year using group portfolio in 2004 and 2005. At the end, an anonymous questionnaire with questions with open and closed answers using Likert Scale (1-5 points) was applied.

Summary of results: Closed answers (4-5 points): years 2004-2005. Portfolio: as a study tool 50%-59.6%; contributed to my significant learning 55.2%-54.9%; as a tool for evaluation of my learning 50.0%-68.4%; contributes to reflection on academic work 57.0%-64.9%; contributes to team work 69.0%-70.2%; use again next year 56.9% - 61.4%. GP allowed them to review their experience and make decisions. The perception that teachers value more quantity than quality decreased.

Conclusions/take home messages: Changes introduced were positive. It is necessary to improve the impact of GP as a significant, meaningful learning tool. For 2006, indicators of individual evaluation will be defined. Co-evaluation will be incorporated to discriminate group evaluation.

Assessment of interdisciplinary training: are we hitting the goal?

Debra A Newell*, Caroline W S Jansen, Robert J Bulk and Robert E Beach (University of Florida, PO Box 142154, Gainesville, FL 32614-2154, USA)

Aim: To process the description and results of data assessing medical and allied health student perception of interdisciplinary training within a first year course.

Summary of work: Medical, occupational and physical therapy student teams (274 students) conducted a community-based family home visit as part of a for-credit course. The overall goal of the visit was to foster interdisciplinary teamwork. At the conclusion of the program, faculty developed eight (8) focus group questions to assess the degree to which “interdisciplinary” (versus multi-disciplinary/transdisciplinary) practice and interaction occurred, and to address the specific research questions. A subgroup of 23/274 randomly selected students in the program participated in the study. One faculty facilitator and two observers conducted the focus groups. Two faculty independently coded and categorized the content of the tapes. Responses were assessed for correspondence and results reported.

Summary of results: Based on provided definitions, students perceived a multidisciplinary interaction during home visits intended to promote interdisciplinary learning. All groups reported substantial benefit from the home visit experience.

Conclusion: Placing disciplines together may not result in interdisciplinary task performance as desired. Future interdisciplinary practice would benefit from clearer interactive role definition at the onset.

Developing individualized interprofessional learning activities in the primary care setting

Melissa Owens*, David Pearson, Liz Allen and Jacqui Hutchison (Bradford City Teaching PCT, c/o University of Bradford, School of Health Care, Unity Building, 25 Trinity Road, Bradford BD8 0BB, UK)

Aim: This presentation will describe an attempt to enhance interprofessional working practices, through interprofessional learning, in the primary care setting.

Summary of work: Working with six general practices in West Yorkshire, England, this project aimed to enhance interprofessional working by developing individualized activities to meet each practice’s specific, interprofessional learning needs. The project had three phases: (1) identify a base-line level of interprofessional learning within each practice; (2) build on current practices by implementing individualized interprofessional learning activities and (3) evaluate the outcome. Twenty six focus group interviews were undertaken and analyzed within phase one. Phase two will be completed in July 2006. Results to date will be presented.

Summary of results: A difference in levels of interprofessional learning activity was identified across the practices. Those with higher levels of activity were most receptive to developing individualized interprofessional learning activities. Evidence also showed a relationship between levels of interprofessional learning and interprofessional working practices.

Conclusions/Take home messages: There continues to be differences in levels of interprofessional learning activity across GP practices. Individualized interprofessional learning activities can respond to general practice needs. There is a correlation between levels of interprofessional learning activity and interprofessional working practices.
713 Multi-professional education as a way of developing the research capacity of practising health professionals

Rosalind Bull (University of Tasmania, University Department of Rural Health, Locked Bag 1372, Launceston, Tasmania 7250, AUSTRALIA)

Aim: to demonstrate the use of a multi-professional research higher degree (RHD) program in developing the research capacity of practising health professionals.

Summary of work: The University Department of Rural Health at the University of Tasmania, Australia, has developed a multi-professional rural-focused RHD program which attracts students from professions including medicine, nursing, pharmacy, social work, psychology, physiotherapy and the ambulance service. The program is designed to provide research training while encouraging health professionals to remain in the workforce. The program is currently offered at three levels – PhD, Masters by research and Masters preliminary. Multi-professional education and collaboration underpin the program's activities (including supervision). The student support program (workshops, seminars and retreats) caters for each level of student while encouraging exchange and learning between professions.

Summary of results: A recent evaluation of the program demonstrated a high degree of satisfaction amongst the students who reported that interacting with other professions has increased their understanding of each others' work, generated new ways of viewing their study areas and has strengthened their ability to critique their own and other's research. The majority of students enrolled in the program remain in practice during their studies.

Take home message: Multi-professional education strengthens RHD training in currently practicing health professionals.

714 Analysing scientific papers from different perspectives – collaboration between new groups of undergraduate students

Annelie Brauner and Ewa Ehrenborg (Karolinska Institute, Atherosclerosis Research Unit, King Gustaf V Research Institute, Karolinska University Hospital, SE-171 76 Stockholm, SWEDEN)

Aim: To promote the scientific awareness among undergraduate students through interprofessional collaboration.

Background: An important issue in academic undergraduate education is to give the students a solid platform of how to read, question and evaluate scientific papers. Educational programs emphasise this topic differently. Students within experimental oriented programs such as biomedical students have more experience, while students in patient oriented programs i.e. medical students have less time for such studies. Thus, it is important to offer inter-disciplinary assignments in molecular medicine already at the undergraduate level.

Summary of work: Both medical and biomedical students were given the same scientific papers to read but they were told to analyse them from different perspectives depending on their competence. The medical students were told to emphasise on the clinical aspects, while the biomedical students were given the same scientific papers to read but they were given the same patient samples but with the possibility to use all modern diagnostic tools for species identification. With matched urine samples in order to perform rapid identification suitable for general practitioners. The biomedical students, on the other hand, were given the same patient samples but with the possibility to use all modern diagnostic tools for species identification. The aim was to solve the given task and to discuss the correctness and relevance of the obtained results based on the scientific papers. This aim was reached, as evaluated by interprofessional discussions, interviews and questionnaires.

Summary of results: Both student groups felt that it was rewarding and stimulating to analyse scientific articles together since they have different competence. Medical students appreciated the greater experience in scrutinizing scientific papers, especially the methodology section. They also enjoyed getting an extra dimension in the field of molecular medicine. The biomedical students on the other hand enjoyed being able to show their knowledge and felt that it was beneficial to explain what their area of competence was.

715 The creation of an organisation which integrates medical and non-medical education and provides inter-professional learning and teaching

Derek Gallen* and Glynis Buckle (Leicestershire, Northamptonshire & Rutland Healthcare Workforce Deanery, Lakeside House, 4 Smith Way, Grove Park, Leicester LE19 1SS, UK)

Background: The positive impact of an inter-professional approach to healthcare delivery is well documented. However in order to maximise that impact we believe it is essential for healthcare workers from different disciplines to have the opportunity to learn together as well as work together. By integrating a postgraduate deanery, responsible for medical education, with a healthcare workforce confederation responsible for other healthcare education, we are developing an organisation which has inter-disciplinary teaching and learning as the root of its culture.

Summary of work: Our strategic framework used the following workstreams to highlight areas of activity within the organisation: workforce development, education and commissioning, clinical performance support, research and development, marketing and information. This enabled us to focus on our function as a deanery which facilitated education across the workforce and to explore similarities and differences between training programmes. This in turn allows us to maximise the use of our resources and identify areas where we can promote appropriate inter-professional teaching and learning.

Conclusion: Effective inter-professional working starts with effective inter-professional learning and teaching. Creating and developing a Healthcare Workforce Deanery (HWD) which breaks down traditional barriers within its own organisation facilitates the commissioning and delivery of inter-professional education.

716 Technical Medicine – a new discipline in medical sciences

P Vooijs, H Miedema*, R Burie and M Aitink (Institute of Technical Medicine, University of Twente, Noordhorst 103, PO Box 217, 7500AE Enschede, NETHERLANDS)

The impact of technology on present day Diagnosis and Treatment in Medicine is continuously increasing. The medical curriculum does not train doctors to deal with sophisticated instrumentation or technology, whereas engineers and clinical physicists usually lack the in depth medical knowledge to understand the true problems doctors have in using and understanding technology. The Technical University of Twente in 2003 started a unique 6 year Bachelor and Master program in Technical Medicine to educate a new professional specialized in the integration of engineering and medical sciences. Master tracks are Robotics and Imaging, Medical Signaling and Tissue Reconstruction. Students are thoroughly trained in instrumental diagnostic and therapeutic - minimally invasive - interventions. The Institute of Technical Medicine encompasses a well equipped skills training center and is developing a virtual reality based human simulation model. During their master program students will participate in technical medical interventions in patients during 2 year clinical rotations in departments with a high level technical profile. Graduated Technical Physicians will actively participate in patient interventions as members of a medical professional team in Top-Reference and Academic Hospitals. Each year 100 students are entering the program. The master program Technical Medicine has been fully accredited in the Netherlands.
Workshop 7J

Pulling together as a teaching team: Strategies to improve teaching in your department

William P Metheny (Brown Medical School, Department of Obstetrics and Gynecology, Women and Infants Hospital, Providence RI 02905, USA)

Background: Teaching is often taken for granted as an expectation for medical faculty, and this assumption pervades the entire teaching process from hiring, training, documenting, rewarding, and identifying with a teaching team. In order for a department to provide quality teaching all these elements must be carefully nurtured, monitored, supported, and made transparent for those who want to be good teachers. Quality teachers deserve an elite status and should identify themselves as a team of scholars.

Workshop content and structure: This workshop reviews each of these teaching elements to help participants recognize the infrastructure needed for a department to attract, train, nurture, reward, and elevate the status of quality teachers. It will review the need to establish a common teaching mission statement, teaching training, teaching performance criteria, regular and counselled written and verbal performance appraisals, agreed upon realistic individual teaching goals, retreats to energize the teachers as a team, a teaching reward system that recognizes those who meet the standards and a unique recognition for the teaching elite. Participants will have an opportunity to discuss their experiences in each of these areas as addressed.

Intended outcomes: Participants will be expected to be able to describe each of the necessary ingredients to make a successful teaching team. Participants will develop a personal plan for implementation of these strategies at their institutions. Some participants will share their plans with the group.

Level of workshop: Beginner/intermediate.

Posters 7N

Student related issues

7N 1 The student in difficulty

Lindsey Wilkie* and Deborah Collier (University of Liverpool, Clinical Skills and Resource Centre, 2nd Floor, E Block, 70 Pembroke Place, Liverpool L69 3GE, UK)

Background: Students' problems may manifest themselves in a variety of ways. One of the indicators of student ability to cope with the pressures of an academic course is the degree to which they engage with learning activities. Riggs and Bianco (1994) “suggest the value of monitoring attendance and identifying students at risk for poor performance.” “Studies on a wide range of student groups have suggested that regular attendance and academic performance are correlated” (Gatherer and Manning, 1998). “Highly self-disciplined adolescents outperformed their more impulsive peers on every academic performance” (Duckworth and Seligman, 2005).

Summary of work: A record of timekeeping and attendance was kept for all 1st year undergraduate medical students attending a compulsory weekly Clinical Skills session. The records were then compared with exam performance, both formative and summative.

Summary of results: The results indicate that those whose timekeeping/attendance persistently gave cause for concern were among those whose performance was well below average. 56% of the students who failed the formative assessment had attendance/timekeeping difficulties.

Conclusions: Problems attributing to non attendance may only come to light when their attendance is discussed. Identification of those at risk by monitoring attendance and punctuality may allow relevant support services to be offered at an earlier stage. “Learner absenteeism may contribute to low achievement. However, absenteeism may be symptomatic of low achievers. A support group family, peers, faculty and psychologists could help” (Dhaliwal, 2003).

7N 2 Learning to be a doctor: the transition from preclinical to clinical learning

Rain Lamdin* (University of Auckland, Department of General Practice and Primary Health Care, School of Population Health, Tamaki Campus, Private Bag 92019, Auckland, NEW ZEALAND)

The aim of this presentation is to highlight the importance of medical students’ transition into the clinical environment. Becoming a doctor is more than the acquisition and application of medical or clinical skills and the passing of exams; it is the socialisation of the medical student into the medical profession. The transition into the clinical environment has been shown to be stressful and important for medical students, regardless of the curriculum structure. This paper explores student experience of the transition into the clinical environment in a relatively traditional curriculum of preclinical followed by clinically-oriented education. This is done through interviews with twenty students in their final preclinical year and again in their first clinical year. The themes that will be discussed include: (1) The motivation derived from early clinical experience; (2) Learning from patients in the clinical environment; (3) Tensions between “doing” and “being”; (4) The ambiguous student role in the clinical environment. I suggest that the experiences of these students from this curriculum are important for considering and supporting students’ shift in to the clinical environment across different curricula and health professional groups.

7N 3 The effects of exposure to cadaveric material on the systolic blood pressure and pulse rates of first year medical students

S D C Knights, P M White, D Patten and S Nunn* (University of Dundee, Anatomy and Forensic Anthropology, School of Life Sciences, Dow Street, Dundee DD1 5EH, UK)

Aim: to study the effects of cadaveric exposure on systolic blood pressure (SBP) and pulse rates in first year medical students.

Summary of work: 89 University of Durham students were recruited; 54 females, 35 males. Details of the study were disclosed to participants in advance and informed consent obtained. A talk describing the forthcoming experience was presented. Following this, students entered the dissection room (DR) and were exposed to cadavers. The SBP and pulse rate (PR) of each student was measured pre- and post-initial exposure to the DR and cadaveric material. The SBP and PR measurements pre- and post-exposure to the DR/cadavers were analysed using a paired t-test.

Summary of results: Significant differences were observed between pre- and post-exposure (at the 95% confidence interval) in SBP (p = 0.0348) but not in PR, (p = 0.5778).

Conclusions: First exposure to cadavers is reported to be a stressful experience. Using SBP as a measurable
Comparison of psychological well-being between medical students from two different educational systems
Cheng-Fang Yan*, In-Ting Huang, Chung-Sheng Lai and Keh-Min Liu (Kaohsiung Medical University, Department of Psychiatry, College of Medicine, 100 Tzou 1st Road, Kaohsiung 807, TAIWAN)

Background: Kaohsiung Medical University (KMU) is the only school that has both a five-year post-baccalaureate and a seven-year program for training medical students in Taiwan. Since 2005, KMU has established an educational reformation for medical students, which was characterized by integrating basic and clinical courses and emphasizing problem-based learning. This study aimed to compare the psychological well-being between medical students from the two programs who were experiencing curricular innovations.

Summary of work: A total of 56 grade 1 students of the post-baccalaureate program and 140 grade 3 students of the seven-year program in their first semester of educational reformation were recruited. The Zung’s Anxiety and Depression Scale was used to examine the participants’ psychological well-being.

Summary of results: Although experiencing the educational reformation at the same time, the medical students of the seven-year program were more anxious (t = 4.523, p < 0.001) and depressed (t = 6.274, p < 0.001) than those of the post-baccalaureate program.

Conclusion: The results of this study indicated that medical students of the seven-year program had poorer psychological well-being than those of the post-baccalaureate program. The possible explanation for this discrepancy will be further discussed.

Preparation for clinical studies: factors associated with perceived preparedness of preclinical medical students
A Zahlout*, Z Luzacangi and J Perez-Gonzalez (Universidad Central de Venezuela, Escuela de Medicina “Luis Razetti”, Facultad de Medicina, Centro de Investigacion y Desarrollo de la Educacion Medica, Caracas, Apartado de Correos No 93350, El Hatillo 1081A, VENEZUELA)

Initiation of clinical studies causes anxiety in many medical students, and this has been associated with preparedness for clinical attachments. To assess this, we studied all (A = 175) second year students from our Medical School, just before entering their first clinical course. 109 (62.29%) were female (F), and 66 (37.71%) were male (M). Mean age was 20.02 ± 2.34 yr; (19.92 ± 2.14 for F and 20.20 ± 2.64 for M). Perceived preparedness was assessed by a 13-item questionnaire with a maximal score of 91 and a Cronbach alpha of 0.63. Results were expressed as the mean total score (MTS) and mean scores per item (MS), and also as % of maximal scores in each case. Principal Component factor analysis extracted four components from the correlational matrix, with 7, 3, 2 and 1 items. These were identified as related to self-confidence, fears, attitude and identity, respectively. MTSs were 58.12 ± 10.55 for A, 60.03 ± 9.90 for M and 56.96 ± 10.80 for F (p=0.062, NS). Five items had significantly different MS in females and males, and they were all associated with the self confidence component. Perception of one’s capabilities seems to be important in preparedness for clinical attachments.

Medical students’ attitude to medical education
Fawad Kaiser (Shifa College of Medicine, Shifa International Hospital, Pitaua Bukhari Road, H-8/4, Islamabad, PAKISTAN)

In the light of recent concerns about declining attitude and lack of motivation within medical students of Shifa College of Medicine, a study was conducted to explore medical students’ attitude and beliefs about medical education. A questionnaire was distributed to all medical students in year 1-5 of Shifa College of Medicine. The questionnaires were coded and analyzed using SPSS: (1) Response rate and profile of respondents were examined using descriptive statistics; (2) The subjects’ responses to the statements were analyzed in terms of percentage of respondents who totally disagree, disagree, somewhat agree, agree and totally agree with each item; (3) Factor analysis was undertaken in order to collapse the individual belief statements into five educational belief orientations relating to “active” (e.g. optional courses), “reform” (e.g. decreasing factual load), “group” (e.g. small group teaching), “psycho social” (e.g. extra curricular activities) and “scientific” (e.g. new technologies). The majority of medical students were in agreement with most though not all. Results show that it is important to recognize that students’ beliefs about education do change over time and any canvassing should involve students throughout the different years of training.

The effect of deceleration of course work on the academic performance of nontraditional students in a Caribbean Medical School
Hiroko Yoshida* and James D Regan (AUC School of Medicine, 1 University Drive, Curaçao, St Maartan, NETHERLANDS ANTILLES)

The students in the American University of the Caribbean School of Medicine are characteristically different from the US medical students. Because of their lower average MCAT scores and undergraduate GPAs than those of the US medical students, they are considered at risk for passing USMLE Steps I and II. While some students must extend their stay at our medical school because they have failed one or two courses, other students adopt a decelerated curriculum at matriculation. We deployed two cohorts of students (total n = 285, entering students September 2002 to September 2003) who completed the basic science program within normal 5 trimesters (20 months) or extended 6 trimesters (24 months). The Pearson correlations between dependent variables, such

Medical student influence at the Faculty of Health Sciences, Linköping, Sweden
Lars Andersson*, Ann-Sofi Björkman and Torbjörn Ledin (Linköping University, Department of ENT, Faculty of Health Sciences, c/o Ledin, Linköping SE 581 83, SWEDEN)

The Faculty of Health Sciences in Linköping has student representation at all levels of committees, including the Faculty Board. In the medical school, the students choose their representatives in an open meeting of the student association MF (The Medical Association) once yearly. The students thus elected work very closely with the different standing committees and the programme director. This cooperation is considered very rewarding for all parties involved. The student representatives work in a fully voluntary way and receive no compensation in their studies or financially. Student representation is present in the Advisory Board (LUR), the Programme Task Force Group (LAU), the Studies Welfare Group, the Course Manager Group, the Curriculum Group and the seven different Thematic Groups, the Thematic Groups being responsible for the teaching of the different subjects. Most groups meet 2-3 times per semester, except for the Curriculum and Thematic groups who meet more frequently, 1-2 times per month. Student representatives are full members of their groups, not merely observers, thus being able to exercise actual student influence. The poster will present the programme structure and examples of some issues where the students have played significant roles in the programme development.
as undergraduate GPAs, MCAT scores and AUC GPAs at graduation from basic science program, and USMLE Step 1 scores were calculated using SPSS software. Although there were weak correlations between Step 1 and MCAT scores and undergraduate GPAs, we found a strong correlation between AUC GPAs and USMLE Step 1 (r = 0.6) in both cohorts. Once the students successfully completed our basic science program, regardless of failing any courses within 5 or extended 6 trimesters, the majority accomplished USMLE Step 1 successfully.

7N 9 Learning styles, personality and association with evaluation methodology

Manuela Bitran C, Denise Juárga P* and Beltran MenA (Pontificia Universidad Católica de Chile, Escuela de Medicina, Centro Educación Medica, Alameda No 240, 2 Piso Interior, Edificio Pregado Medicine, Piso 6, CHILE)

Background: The results presented here form part of a longitudinal study started in 2000, aimed at determining the relationship between the academic performance of medical students and their learning styles and personality features.

Aims: To determine if the evaluation methodology is an important variable in the relationship between academic performance and the learning styles and personality of the students.

Summary of work: The participants were 269 students of 3 consecutive entering cohorts (2000, n=89; 2001, n=91 and 2002, n=89). The learning styles were evaluated with the Kolb’s Learning Styles Inventory (LSI) and the personality (psychological preferences and cognitive styles) with the Myers Briggs Type Inventory (MBTI). The academic performance was evaluated through the grades obtained in the different types of evaluation used in a Semiology course (3rd year) and in a course of Integrated Clinics (4th year). These evaluations comprised multiple choice tests (MCT), objective structured clinical evaluation (OSCE) and a global appreciation made by the tutor (GA).

Summary of results: Whereas the results of students differed according to the type of evaluation used, the performance of the different types of learners (according to Kolb’s classification) did not vary in any of the evaluation methods studied. On the other hand, in the 2001 cohort, some significant differences were found between students of different personality features when evaluated with MCT. These findings, however, were not consistently observed in the other 2 cohorts of students.

Conclusions: The evaluation methodology does not seem to be a determining variable in the relationship between the academic performance of students in Semiology and Integrated Clinics, and their learning styles and personality features. It is interesting to note that the OSCE, a form of evaluation widely used nowadays, does not favour a particular type of learner.

7N 10 Development of a senior students’ self-assessment skills through teaching in introduction to the clinical examination course (ICE)

D M Torre*, D Bragg, J. L Sebastian, D Simpson and M D Elnicki (Medical College of Wisconsin, 9200 West Wisconsin Avenue, Froedtert East Building, Suite E4162, Milwaukee WI 53226, USA)

Aim: Senior medical students’ (M4) self-assessment skills in an important competency to practice and master. The objective was to develop and implement, a teaching exercise aimed at assessing the degree to which M4 accurately self-assess their own teaching skills.

Summary of work: Twenty-six M4s served as student teachers in a four-day OSCE exam during an ICE course for M2 students. M4s observed and evaluated 380 M2s performing a physical examination of 3 systems. M2s completed a 12-item form (5-point Likert-scales 5=excellent, 1=poor) evaluating the M4s’ teaching effectiveness. Using a parallel form, M4s self-assessed their own teaching effectiveness immediately after each session. Teacher self-ratings (M4) and student ratings (M2) scores were compared using repeated measures ANOVA.

Summary of results: 406 evaluations were collected. Overall self-assessment teaching scores of M4s were significantly lower than M2s’ evaluation scores of their performance as teachers (p < .001). M4s rated themselves lower in specific teaching skills such as: being a clear and organized teacher, skills’ demonstration, providing constructive feedback and overall teaching effectiveness (p < .001). M2s rated the M4s performance as teachers very highly (overall mean 4.8 (0.4)).

Conclusions: Fourth-year medical students underestimate their competence as teachers. Medical schools should provide M4s with more opportunities to practice and enhance their teaching and self-assessment skills in preparation for residency.

7N 11 Educational progress of daily and evening students in medical records

A Arabzadeh* (Jundishapour Medical University, Information Sciences Group - Paramedicine College, Ahwaz, IRAN)

Summary of work: Comparing the educational progress of different student groups is of considerable importance in the educational program. We looked at different groups of learners with the same teaching program and the same educational syllabus in medical records.

Summary of results: Significant difference was found between the educational progress of single parent students and other students. No significant difference was shown between the educational progress of day and evening students (in Iran, students may choose day or evening courses). In terms of anxiety levels, in the middle of the term anxiety was increased in the evening students. Nursing students registered on evening courses, despite having longer working hours and more stress, gained higher scores. Day and evening students have the same syllabus and tutors but have to pay fees, whilst day students are funded by the government.

7N 12 Coping skills in nursing students

S Najafi *, M Momennasab and A Farhadi (Lorestan University of Medical Sciences, Research Management Office, End of Razi Street, Khoramabad 6814989468, IRAN)

Aim: Nursing students experience several stressors during their years of education. Stress can lead to some complications such as depression, low self-esteem and burnout. Coping skills are necessary for effective adaptation. The aim of this study was to determine coping skills in nursing students in Khorramabad Nursing and Midwifery School.

Summary of work: In this descriptive study 130 nursing students participated. The coping skills inventory (CSI), a 45-item questionnaire with seven sub-scores, was administered.

Summary of results: The mean coping score was 57.75. The majority (62.8%) of the students had a medium score. The mean score of junior students was lower than seniors. There was a significant relationship between the years of education and reaction to stress, ability to assess the situation, self-reliance, resourcefulness, adaptability and flexibility, proactive attitude and ability to relax. The mean score was higher in male and married students. From the viewpoint of students, family problems and job dissatisfaction were among major stressors.

Conclusion: Short term workshops are recommended for improving coping strategies in nursing students.
7N 13 Why do male students, choose nursing and in which specialty areas do they prefer to work?
Mehraza Tamaddon Far and Sedigheh Assemi* (Iran University of Medical Sciences, College of Nursing and Midwifery, Rashid Hosami, St Valoax Ave, Tehran 19395, IRAN)

Aim: To make suggestions to nursing authorities for flexibility in designing the curriculum.

Summary of work: Undoubtedly, prosperity and/or the way to continue changes in educational programs is mainly based on step by step evaluation of the curriculum. Considering that after the Islamic revolution more male students entered nursing, the researchers decided to conduct a cross-sectional descriptive study, in which through questionnaires they determined male students’ reasons for choosing nursing and also to ask their field preference if they remained in nursing. From 210 students in 3 colleges of Tehran, 163 participated in our research.

Summary of results: Findings showed that the most important reason was university entrance exam acceptance with the mean score of 2.55. The score of personal interest and the interest to help others were 6.14 and 5.65, located 10th and 9th places respectively in the list of preferences. In addition, 38% said that they will not work as nurses after graduation whilst of the remainder, 62% preferred critical units as their work places.

Conclusion: Overall, researchers highly recommended an interview after the main entrance exam and also asked the authorities to design a curriculum in which male students are guided to obtain more experience in critical units.

7N 14 Quality of life of medical students
Ali Emadzadeh*, Nahid Ahmadian Yazdi and Mehr Yavari (Mashhad University of Medical Sciences, Educational Development Center (EDC), Central Building, Daneshgah Street, Mashhad, IRAN)

Aim: As students’ quality of life may have an effect on quality and quantity of learning activities directly and indirectly, the aim of this study was assessment of the quality of life in medical basic sciences students and its relation with their gender and semester.

Summary of work: 88 students (50 females and 38 males) in semester 5 of basic sciences at Mashhad University of medical sciences were selected randomly. The WHOQOL-BREF questionnaire of World Health Organization was used for gathering data about their quality of life.

Summary of results: 61.4% of students were satisfied with their quality of life and 73.9% of them were satisfied with their health. The mean of student satisfaction (out of a possible 5) was 3.13 in physical dimension (SD=0.57), 2.26 in Psychological dimension (SD=0.69), 2.37 in social dimension (SD=0.7) and 2.29 in environment dimension (SD=0.57). This study showed significant difference between girls and boys in social dimension (p=0.003). Based on the semester, significant difference was seen in all dimensions with the exception of social dimension (p=0.00).

Conclusion: Planning for students’ quality of life improvement and education in this field will lead to development of students’ professional function and learning activities.

7N 15 Learning style of pharmacy students in Mashhad University of Medical Sciences, Iran
Massoud Hosseini*, Hadi Koushiar and Maryam Hosseini (Mashhad University of Medical Sciences, Education Development Center (EDC), Daneshgah Street, Mashhad, IRAN)

Aim: To identify learning styles of pharmacy students in Mashhad University of Medical Sciences (based on Kolb theory).

Summary of work: A questionnaire (including Kolb Learning Style Inventory) was used to gather the data. Students were grouped by academic year and the questionnaire distributed among the selected sample.

Summary of results: Most of the students had assimilating or converging styles and few had diverging and accommodating styles. Other findings are presented in the original article.

Conclusion: Although the common strength of divergers and assimilators is abstract conceptualization ability that empowers them to perform better in information and science careers such as pharmacy, other learners need to gain different learning opportunities to achieve best performance and teachers had to help them by designing flexible teaching methods.

7N 16 Quality of life in medical students: evaluation using focal groups
Patricia Tempeski-Fiedler*, Patricia L Bellodi, Bruno Perotta, Cynthia Taniguchi and Milton A Martins (Universidade de Sao Paulo, Curitiba-Parana, BRAZIL)

Background: Quality of life is a complex concept and it is dependent on self-perception.

Work done: Our purpose was to study how medical students evaluate their own quality of life. We used the strategy of focal groups, with medical students in different medical schools. An interview was done, with questions related to their concept of quality of life and evaluated. The main factors that decreased their quality of life - a big amount of information to study, insufficient time and with teachers with good teaching skills. Quality of life was strongly related to personal satisfaction due to medical activities. More integration between theory and practical activities, programs of psychological support and health promotion and more contact with patients are good strategies to improve their quality of life. There were no differences in the opinions of medical students from public and private schools and among different regions of Brazil. Conclusions: Medical course determines important changes in life style of the students that may have a substantial impact in their quality of life.
Clinical hypnosis: what do medical students think (and want)?

António Pais-de-Lacerda*, Paulo Seca and Mário Simões (Hospital de Santa Maria, Rua Prof Carlos Teneia, No1-5, Lisboa 1600-608, PORTUGAL)

Aims: Hypnosis is a psychophysiological altered state of consciousness characterised by increased suggestibility, with many applications in medicine. Our aim was to explore medical students’ beliefs on hypnosis and its medical use, trying simultaneously to investigate their feelings about the usefulness of an optional course on clinical hypnosis at the pre-graduate level.

Summary of work: A brief questionnaire survey (12 MCQ, 3 open-ended Q) on training and use of hypnosis was sent to medical students of the 2nd (n=70) and 4th (n=44) grades, at the University of Lisbon, to explore their attitudes and willingness to attend such a course during pre-graduation years.

Summary of results: Students’ answers (from either groups) to MCQs revealed that beliefs in hypnotherapy effectiveness were high, and the intention to use it in their future practice, although smaller, was still high (85%). Almost all responders (92%) reported their interest in learning about hypnosis, and 76% considered that the course should be carried out during the 4th or 5th grades.

Conclusions: Take home messages: A high level of interest in and acceptance of hypnotherapy as a therapeutic tool was found amongst 2nd and 4th grade medical students. Courses in hypnosis should be offered (as special study modules) in the curriculum of medical schools.

Image-forming and knowledge of anaesthesiology among Dutch medical students

Diana Mathioudakis*, Jacomar van Koesveld, Roger Froklage and Aloys Oberthür (Royal Liverpool Children’s NHS Trust, Jackson Rees Department of Anaesthesia, Alder Hey, Eaton Road, Liverpool L12 2AR, UK)

Background: Little is known about perception, knowledge and image of anaesthesiology by medical students.

Summary of work: We surveyed 2nd year medical students (ALL, n=177) at a Dutch university during a 3-week faculty teaching period. 41 MCQs had to be answered beforehand, covering knowledge, perception and image of anaesthesiology and anaesthesiologists. Students allocated to anaesthesiology (ANAE, n=28) answered the questionnaire afterwards as well.

Summary of results: Short training in anaesthesiology improved knowledge. 2% of ALL versus 0% of ANAE supposed the duration of a general anaesthesia to be determined beforehand and not to be changed. 94% of ALL and 100% of ANAE knew that the duration can be determined beforehand and not to be changed. 76% of ALL had the opinion that the duration can be determined beforehand and not to be changed.

Conclusions: Anaesthesiology is still a terra incognita among students. It is encouraging that knowledge and image is influenced and modified by training. Anaesthesiology should doubtlessly be included in all medical curricula.

A customized program for improvement of health care in rheumatology

Francine Bordua*, Angèle Turrotté, Carlos Brailovsky and Michel Rouleau (Laval University, Clinique Médicale de Neufchatel, 101-2425 Boulevard Bâtiens, Suite 101, Quebec G2B 1G3, CANADA)

Rheumatology faces huge needs with limited resources. The Academy of Rheumatology was developed to improve access to high quality healthcare services in rheumatology. An advanced program was developed for family physicians interested in musculoskeletal disorders. Rheumatologists, health care professionals specialized in musculoskeletal problems and trained patient partners participated in a 4-day educational program. Satisfaction, self-confidence and clinical reasoning of the participants were evaluated. 3 cohorts of approximately 25 physicians attended the program offered in Québec and Montréal. A statistically significant improvement was demonstrated in participant self-confidence and clinical reasoning regarding clinical situations in rheumatology.

Some physicians were identified by their peers as local referents that can provide care in rheumatology and collaborate with specialists. Some participants were also invited to teach their peers. Links and exchanges between participants and with specialists were developed during and after the program. Specialists noted an improvement in referrals in specialty. The Academy of Rheumatology, an advanced program for family physicians interested in musculoskeletal disorders, significantly improved participants’ skills and self-confidence regarding clinical situations in rheumatology. This program also fostered the development of a powerful and effective network for better access to healthcare in rheumatology.

Improvement of breast feeding education after curriculum review

Prawit Wannaro* and Jerawan Wannaro (Hatayai Regional Hospital, Medical Education Center, 182 Rattakarn Road, Hatayai City, Songkla Province 90100, THAILAND)

Background: Breast feeding has been promoted by WHO. MOPH policy (Thailand) significantly increased breast feeding. The Hatayai hospital medical education center’s curriculum was established to educate health care providers. The previous curriculum was divided into 3 parts consisting of health and diseases of women, those of conceptus to adolescence and health promotion. Breast feeding education was not formally integrated into the curriculum.

Aims: To integrate the 3 parts in 1 session to reduce teaching resources and time required, and to increase learning efficiency and involve multiprofessional teaching.

Summary of work: (1) Evaluate the previous curriculum; (2) Set the essential contents; (3) Established lesson plan including objectives, contents, learning experiences and methods of evaluation based on resource allocation, instructors (obstetricians, neonatologists and skilful nurses) and active learners. (4) Draft of lesson plan was corrected by curriculum committee; (5) Lesson plan-based teaching was commenced and evaluated by learners.

Summary of results: (1) Breast feeding education was then formally integrated into the curriculum and taught by specialists on a multidisciplinary basis; (2) Demonstration using provided materials was initiated before practicing; (3) Students actively involved in this process; (4) All of the students fulfilled the requirements of this program.

Conclusions: The curriculum should be continuously reviewed for improvement.

Breast feeding education was formally integrated into the curriculum and taught by specialists on a multidisciplinary basis. Demonstration using provided materials was initiated before practicing. Students actively involved in this process. All of the students fulfilled the requirements of this program.
7O 5 **Practical teaching of obstetrics/gynaecology in medical school**
Claudia Kaden*, Karin Grosse, Jens J Kaden and Frank Melchert
(University Hospital Mannheim, Frauenklinik, Theodor-Kutzer-Ufer 1-3, Mannheim 68167, GERMANY)

Medical education progressively has to cope with limited resources while at the same time, teaching quality and reproducibility become increasingly important. In obstetrics/gynaecology (OB/GYN), practical training is further complicated by the intimate nature of this specialty. Traditionally, the OB/GYN course at our institution consisted of two two-day periods to be spent at OB and GYN wards. This course structure lead to high heterogeneity in the quality of teaching, and received only fair ratings by the students. In 2004, we redesigned the course into a five-day block course that incorporates standardized, video-assisted seminars, simulator training, patient encounters, and brief presentations. All students were asked to assess the course by questionnaire, including course content, organizational quality, subjective relevance, teaching pace, and didactics. As compared to the evaluation results prior to the redesign (2002/03), the new course concept was evaluated significantly better in all aspects (p<0.05), and overall student satisfaction was high. The short-term teaching efficiency of the course was proven by an objective structured clinical examination. We conclude that our multi-modal, integrated approach significantly improved the teaching of OB/GYN in our institution. Further evaluation is necessary to evaluate the sustainability of these results.

7O 6 **Case based learning of temperomandibular joint dislocation for medical students and family members: an opportunity for prompt and effective treatment**
Anurak Amornpetchsathaporn* (Sawannarak Hospital, Atthakawee Road, Paknampho District, Nakhonsawan 60000, THAILAND)

**Background:** Anterior dislocation of temperomandibular joint is not a life-threatening or common problem but causes patients discomfort and fatigue in the open mouth state. Very few physicians had the experience of performing manual reduction. Many patients were transferred and treatment was delayed.

**Aim:** To present the usefulness of case based learning for temperomandibular joint dislocation which could be performed easily without special instruments in the emergency room or patient’s home by physicians or family members.

**Summary of work:** The 48 patients who were diagnosed with anterior dislocation of the temperomandibular joint were admitted to service of Department of Surgery in Sawanpracharuk Medical School during 1999-2005. The group of medical students of the surgical class and family members of patients were invited to the ward or emergency room to learn and observe the patient interview, physical examination, followed by the model of studying before demonstration of manual reduction. Discussion about causes, prevention and technique for closing the mouth were verbalized step by step. They were encouraged to do model reduction to gain confidence for doing it themselves.

**Conclusion:** A case based learning of manual reduction of temperomandibular joint dislocation could help medical students, young physicians and family members to understand and manage their patients promptly and effectively.

7O 7 **Increasing access to safe abortion: incorporating abortion care into family medicine training**
Melissa Nothnagle* (Brown Medical School, Department of Family Medicine, Memorial Hospital of Rhode Island, 111 Brewster Street, Pawtucket RI 02860, USA)

Although abortion is legal in most of North America, access to safe abortion is becoming increasingly limited, especially for low-income women. Because abortions are most often provided in settings separate from primary care or hospitals, most medical students and postgraduate trainees have little or no involvement in abortion-related care. The resultant shortage of physicians trained to provide abortion compounds the problem of limited access. Some post-graduate training programs in Family Medicine are attempting to address this public health need by incorporating abortion into their curricula. The aims of this presentation are to describe the experiences of several Family Medicine programs that have introduced abortion training in recent years, to discuss challenges faced in implementing controversial curricular content, and to report the benefits perceived by teachers and learners of integrating abortion curricula in Family Medicine training.

7O 8 **Third year medical students’ attitudinal changes towards palliative care: pre and post an educational week**
Katharine Garfath-Car* (Southampton University Medical School, 71 Seckford Street, Woodbridge, Suffolk IP12 4LZ, UK)

**Aim:** Undergraduate medical students, in their future careers, will be part of a team managing patients with life threatening illnesses, patients’ deaths and bereaved and grieving relatives. This study is interested in medical students’ confidence levels in regards to these situations and the effect of education on this.

**Summary of work:** At one UK medical school a one week attachment in Palliative Care is undertaken by 3rd year medical students. This is held at a local Hospice and consists of didactic lectures, role play and meeting patients. One session is held every month that 25 students attend. The information from a pilot study was used to design a closed pre-coded questionnaire that was filled out, pre and post the educational week, in order to observe attitudinal changes. Three sessions have answered the closed questionnaire to date with n=79.

**Summary of results:** What can be seen from the data already collected is that the education week has a positive effect on medical students’ confidence in communicating with and caring for dying patients.

**Conclusion:** If during undergraduate training a student’s confidence and self-efficacy towards palliative care can be increased, then once qualified they will be better equipped for situations that will arise throughout their career.

7O 9 **Further training and professional growth of hospice personnel in hospice nursing care**
Hilkka Sand* (Koivikko Foundation, Koivikko-koti, Pollentie 33B, Hämeenlinna FI-13500, FINLAND)

The research represents Finnish health sciences. The aim of the research is to identify the expert training offered for hospice personnel, its educational impact and possible need for additional training. It will be carried out as action research drawing on a cultural and a professional perspective. The research aims to describe educational models and traditions of care used in hospices. The research also seeks to identify future needs concerning training for hospice personnel to foster the nursing care of dying patients. The purpose is to develop policies that best enhance the educational impact and promote the professional growth of persons involved in hospice nursing care. The subsequent purpose of the research is to build care chains and patient-focused care pathways between specialised health care, primary health care, hospice care and home care. Schedule: Phase I-III (2006-2008). Current state of research: Starting February 2006, ongoing.

**Granting agency:** RAY Finland’s Slot Machine Association, Training and development project on hospice care 2006-2008, Koivikko Foundation.
70 10 End-of-life care education – residents’ attitudes and perceived preparedness
Glendon Tait* and Brian Hodges (University of Toronto, #1906-220 Victoria Street, Toronto, Ontario M5B 2K6, CANADA)

Background/Aim: End of life care has been inadequately addressed at the undergraduate and postgraduate levels internationally; in particular, there is a paucity of research into the knowledge, skills, and attitudes core to providing end-of-life care. There is a marked deficit in training that addresses the psychosocial and existential aspects of patient care and physician self-care, including fostering reflective practice to examine our own emotional reactions to end-of-life care.

Summary of work: Currently, a comprehensive survey is being administered to 120 psychiatry residents at the University of Toronto, assessing attitudes and perceived competence in end-of-life care. Qualitative questions elicit a) reflections on personal experiences with death and their impact on practice and b) understanding of dignity, a concept of paramount importance to dying patients, the constituents of which have been recently empirically studied. Qualitative and quantitative data will be presented.

Conclusions/Take home messages: Internationally, end-of-life education is currently receiving much needed attention. These data, notably the reflective component, may help us to better address the attitudinal aspect, core to effecting change. This study will potentially inform development of curricula and core competencies in end-of-life care education.

70 11 Introducing medical humanities to undergraduates: a practical approach
Anoja Fernando (University of Ruhuna, Faculty of Medicine, P O Box 70, Galle, SRI LANKA)

Aim: To describe the introduction of Medical Humanities at the Faculty of Medicine, University of Ruhuna, Sri Lanka.

Background: Teaching of Medical Humanities is rare in Asian medical schools. In the west, Medical Humanities is taught mainly as an optional SSM (Special Study Module) using resource-intensive small-group teaching and assessments. This paper describes the design, delivery and evaluation of a short course on Medical Humanities using limited resources and time.

Summary of work: A series of short, weekly lectures was given to fourth year medical students. Attendance was optional and student assessments were not done. Lectures were supplemented by handouts. A preliminary evaluation of the course was done by means of a questionnaire at the end of six lectures.

Summary of results: 99 students completed the questionnaire. The average attendance was 91. Enjoyment of the six lectures varied from 80% to 97%. Student agreement on the relevance of each lecture to the objectives ranged from 80% to 87%. The written comments of the students about the influence of the lectures on their attitudes and feelings reflected the effectiveness of the course. 96% wanted continuation of the course.

Take home message: Short, didactic lectures are feasible, acceptable to students, and effective as a preliminary method of introducing Medical Humanities to undergraduates.

70 12 Strategies to implement a postgraduate project in health and education – Medical School of Federal University of Rio Grande do Sul, Brazil
Waldomiro Carlos Manfrin*, Carmen Lúcia Bezerra Machado, Malvina Donzeles, Eliana Claudia Ribeiro and Ronaldo Bordin (Medical School of Federal University of Rio Grande do Sul, Rua Áudios Gonçaga 330, CEP 90460-020, Porto Alegre RS 915 003, BRAZIL)

Background: Medical doctors’ work is based on evidence, but when they work as professors, they don’t have the same concern.

Summary of work: Implementation of a Postgraduate Project on Health and Education. A research line in Health and Education was implemented in each of the ten Programmes already existing in the Medical School of the Federal University of Rio Grande do Sul - Brazil. The main objectives are to train educators mainly in pedagogic methodology in learning and teaching, at Masters and PhD levels, to study how the experience in Health Education has been developed, both theoretically and practically. The first group composed of eleven students (professors from Medical, Nursing and Odontology Schools) was selected in August 2004, according to the approved criteria. The group is expected to develop a process of research for new teaching, search, extension and education aimed at multiprofessional experiences in order to achieve in the short term entry to the Brazilian Diretrizes Curriculares for Medical and other Health Schools. In the medium term, it is planned to qualify the teaching staff and in the long term, to implement a Postgraduate Programme in Health and Education.

70 13 Giving health behaviour advice: do medical students’ attitudes change following a psychosocial skills training programme?
Maria Angeles Pastor, Sofía López-Raig, Juan Ricardo Bencomo, Salvador P Sánchez and Antonio F Companí* (University Miguel Hernández, Departamento de Patología y Cirugía, San Juan de Alicante 03530, SPAIN)

Background: Perceived control over health has shown effects on health behaviours and health outcomes. Doctors give patients health behaviour advice (HBA) and increase their control perception. Medical students should learn knowledge, skills and attitudes to give HBA as a component of their future medical role. Our aim was to test the effect of a Psychosocial Skills Training Programme on the pre-clinical medical students’ attitudes and intention to give HBA.

Summary of work: Experimental design with two groups (control: n= 89; experimental: n=102) and pre- and post measures. Students completed questionnaires about HBA cognitions, based on Theory of Planned Behaviour (attitudes, subjective norm, perceived behavioural control and intention to give HBA).

Summary of results: No differences pre-training were found between groups. Intention and attitudes to give HBA increased significantly in the experimental group (F= 5.108; p<0.025; F=5.771; p<0.018 respectively).

Conclusions: Psychosocial training programme had positive effects on attitudes and intention to give HBA with no difference between genders. The perceptions of personal difficulties to perform the behaviour of giving HBA (control perception) need more training in order to improve.

70 14 Health behaviour of medical students at Chiang Mai University
Ronnaphob Uaphanthasath† and Wiyada Tamratanaogul (Chiangmai University, Department of Family Medicine, Faculty of Medicine, Chiang Mai 50200, THAILAND)

The health behavior of 1st to 6th year undergraduate medical students at Chiang Mai University was surveyed. Fourteen students with health risk behavior were described as follows: failing to have a physical examination in the past year (85.7%); never or rarely using a car seatbelt (42.2%), not exercising regularly (37.9%), never or rarely using a car seatbelt (85.1%), failing to have a dental examination in the past year (46.6%), never or rarely using a car seatbelt (25.0%), drinking alcoholic beverages about 1 hour before driving a car (20.5%), drinking alcoholic beverages (20.0%), consuming stimulating drinks (9.3%) ,drinking alcoholic beverages about 1 hour before riding
7O 15 The health promoting lifestyles of medical students and new doctors, Lampang Medical Education Center, Thailand, 2005
Thavorn Pitaksiripan (Lampang Hospital, Lampang Medical Education Centre, 280 Paholyothin Road, Mueng, Lampang 52000, THAILAND)
Aim: One major role of the doctor is health promotion which is integrated into the medical curriculum. We conducted a descriptive cross-sectional study on the lifestyles of medical students and new doctors to determine their health-promoting behavior.
Summary of work: 4th, 5th, and 6th year medical students, interns and assisting doctors were requested to reply to the questionnaire on healthy-eating, personal hygiene, personal health care, addictive consumption, physical risk and emotional risk. The data were analyzed by percentage and tested for proportion difference.
Summary of results: There were 119 responses comprising 93.7% of the target group. There was no difference in the health-promoting lifestyles among the study groups in all the above six categories (p > 0.5). All had low percentage of health-promoting lifestyles on healthy-eating (53.5-59.9%) and personal health care (49.7-59.4%).
Conclusions: Doctors are trusted role models for health-promotion. Our study showed that the medical students and the new doctors can be the role models in smoking, alcohol consumption and unsafe sex, but may not be the role models in healthy-eating and personal health care. As health promotion is central to the doctor’s role, its principles should be incorporated in learning approaches, and health-promoting lifestyles should be imparted as the organization’s culture to enhance the future doctors and the new doctors with the knowledge, skills and confidence to practice their health-promoting role.

7O 16 Health literacy in community-based cancer control programs
Patricia Mullan* and Karen P Williams (University of Michigan Medical School, 1515 E. Medical Center Drive, G1116 Towsley Center, Box 0201, Ann Arbor MI 48109-0201, USA)
Low levels of health literacy are pervasive and linked to poor health outcomes. Health professionals are urged to integrate health literacy assessments into programs. This study was conducted to inform efforts to develop a community-based cancer control program. We conducted a focus group interview of lay health workers, following their completion of two structured literacy assessments: the Rapid Estimate of Adult Literacy in Medicine (REALM) and the Test of Functional Health Literacy in Adults (TOFHLA). Questions in the interview protocol were designed to elicit participants’ perceptions about the use of literacy assessments, as well as issues related to the continuing design and implementation of a breast and cervical cancer control program involving lay health workers. The performance of the participants confirmed that the lay workers could complete the assessments. The participants indicated that they could incorporate health literacy assessments into their practice, offering examples of similar tasks in which they engaged. They reported that administering these assessments seemed relevant and feasible, they urged the development of resources that would better reflect the words and tasks involved in cancer care, in order to empower persons in the community to understand, seek out, and participate in cancer prevention and screening practices.
7P 1 ‘Simulate to stimulate – rubber, plastic or the real thing!’
David Brighter*, Peter Dangerfield, David Taylor, Colette Balmer, Daniel Brown and Andrew Sackville (Mersey Deanery/University of Liverpool, C/O Regatta Place, Brunswick Dock, Summer Road, Liverpool L3 4BL, UK)In this presentation we will discuss the history and justification for the use of simulation in medical education – pedagogically, ethically and practically. We will review the types of simulator available (part task, computer based systems, virtual reality and haptic systems, simulated patients, simulated environments, integrated systems, cadavers and animals), and the evidence for the validity of simulation in the medical arena. We will conclude by looking at its future and how far this technology might take us.

7P 2 Evaluation of an automated version of a computer simulator designed to train veterinary students in bovine rectal palpation
S Baillie*, A Crossan, S Brewster, D J Mellor and S W J Reid (University of Glasgow, Department of Computing Science, 17 Lilybank Gardens, Glasgow G12 8RZ, UK)Background: Bovine rectal palpation is performed by veterinarians for fertility examinations. The procedure is difficult to learn and to teach using traditional methods. A virtual reality simulator has been developed using haptic (touch) technology to supplement existing teaching. Students palpate the virtual reproductive tract while an instructor follows hand movements inside the virtual cow and provides guidance. Teaching with the simulator equipped students with skills that resulted in improved performance when examining cows (Baillie et al, 2005).Summary of work: As the simulator training involved one to one teaching, which has limitations, a new automated version was developed for students to use in their own time. The haptic device moves the student’s hand along the path of an expert’s examination, with audio instructions replacing the instructor’s role. The performance of simulator trained students, when trying to find the uterus in cows, was compared with students who had received traditional training only. Summary of results: Simulator trained students were significantly better at finding the uterus than the traditional trained group (p<0.01). Conclusions: The automated version of the simulator was an effective teaching tool and provides a more accessible learning environment than one that requires the presence of an instructor.

7P 3 How effective is observation of medical simulation?
Yoo-Sang Yoon (Yonsei University College of Medicine, Department of Medical Education, 134 Shinchon-dong, Seodaemun-gu, Seoul 120-752, KOREA)Aim: Simulation-based medical education is now recognized as a very useful teaching method. However it is difficult to perform medical simulation by a large group of students simultaneously. Therefore, we examined how effective it is only to observe medical simulation by a large group of students.

7P 4 Simulation as a learning tool in health care education
Eva Johannesson*, Mats Olsson, Goran Persson and Charlotte Silén (University of Linköping, Faculty of Health Sciences, Unit for Educational Development and Research, Campus US, Linköping SE 581 83, SWEDEN)Aim: This study, simulation as a learning tool, focuses on pedagogical aspects related to problem-based learning, PBL. The aim of the study was to elucidate the students’ opinions about the value of CathSim® as a simulation learning tool in skills training of vein catherisation. Summary of work: Fifty-six nursing students in semester 3 at the Faculty of Health Sciences took part in the survey. These students practised intravenous insertion skills training on plastic arms. The experimental group practised on CathSim as a complement. Both structured and open questions were formulated in a portfolio document and in three questionnaires. Summary of results: The study shows that the following factors are important to take into account when this kind of simulation is introduced: the student (1) appreciate the variation of patient cases; (2) appreciate the immediate feedback in the simulation program; (3) get a better understanding of the anatomy through the simulation program; (4) miss holding an arm when using CathSim; (5) miss the real patient to talk with. Conclusion: CathSim would be useful in the learning process as a complement to plastic arms and patients in intravenous insertion skills training.

7P 5 Demonstration of nasogastric intubation using video compact disc as an adjunct to the teaching process
Paiboon Sookpattara*, Thino Sirinuchawatana*, Yongyos Jariya and Paivarn Vejchappat (Buddhachinaraj Hospital, School of Medicine, 90 Srimahatrirdipok Road, Amphur Muang, Phitsanulok 65000, THAILAND)Background and Aim: An in-house produced video compact disc (VCD) demonstrating nasogastric intubation was introduced to the curriculum at Buddhachinaraj Hospital, School of Medicine, Phitsanulok in 2005. This experimental study aims to evaluate quantitatively the effect of the VCD on our medical students’ procedural skills.

Conclusion: In summary, substantive data regarding attainment and assessment of CXR/basic radiology interpretation skills in the undergraduate curriculum are lacking; our report provides preliminary descriptive data regarding CXR teaching and assessment on the 3rd year IM clerkship. More study is needed to determine the ideal method of instruction and evaluation of this important clinical skill.
Summary of work: Sixty-one sixth-year medical students were randomly allocated into 2 groups; one group viewed the VCD but the other did not. The authors were blind to the allocations. After 2 months, we examined all students by asking them to perform the procedure using a manikin and a checklist.

Summary of results: The checklist’s complete score was 20. Thirty of 61 medical students who had watched the VCD got an average score of 15.9 ± 1.86, while the control group’s average score was 13.2 ± 1.94. Statistical analyses showed that the difference was significant (p < 0.01).

Conclusion: Our medical students were able to self-improve their procedural skills after viewing the VCD. Applying this method of learning to other basic procedures and making them available for further viewing (self-directed learning) may be useful.

**7P 6 Using medium fidelity simulation to teach emergency care skills to junior medical students**

I Ambrose*, S Summerville and JSR (University of Dundee, Clinical Skills Centre, Ninewells Hospital and Medical School, Dundee DD1 4SY, UK)  

Aim: Emergency care skills are an essential part of medical education. This teaching programme enabled advanced acute care skills in the form of ABCDE to be developed alongside the other clinical skills of communication and examination from a very junior level through the use of medium fidelity simulation.

Summary of work: All second year students participated in three Sim Man emergency care sessions in the clinical skills centre where they practice skills in a simulated environment with the focus on students’ needs. Sim Man is a medium fidelity simulator that allows the simulation of life support skills. The emergency care skills were introduced through scenario based teaching.

Summary of results: Students who participated in the teaching completed a group evaluation at the end of the session. Following the first session students defined the terms ABCDE. Following the second session students identified individual emergency care skills required in the management of ABCDE. Following the third session students identified the importance of communication and teamwork.

Conclusions: The evaluation demonstrated how students are able to develop advanced life support skills at an early stage in their curriculum and understand the need for clinical, communication and teamwork skills in advanced life support.

**7P 7 Computer Aided Instruction for preparing intradermal injection practice**

Kanokkorn Sawadichai*, Sinthya Sinthirth*, Tanaporn Saneebuttra and Jariyaporn Wannachot (Prapokklao Medical Education Center, Leabneon Road, Tambon, Tachalab, Muang District, Chanthaburi 22000, THAILAND)  

Aim: To compare self-confidence and success rate of performing correct intradermal injection technique among students with and without prior study on CAI.

Summary of work: This study comprised 20 medical students and 35 nursing students. They were randomly divided into two groups with 28 students in experimental and 27 in control group. Both groups received similar demonstrations on how to perform correct intradermal injection on newborns before being allowed to do by themselves. The experimental group had unlimited studied on CAI a week before performing on newborns. Self-assessment of confidence was conducted and the performance was evaluated. Self-confidence and success rate were compared between groups using Mann-Whitney U and Chi-square test. P-value of less than 0.05 was considered significant.

Summary of results: Gender and status were not significant. The level of self-confidence in the experimental group was higher than the control group but the success rate did not differ significantly.

Conclusions: The evaluation demonstrated how students identified the importance of communication and teamwork. Following the third session students identified the importance of communication and teamwork.

**7P 8 Intradermal injection practice using pig skin**

Kanokkorn Sawadichai*, Tanaporn Saneebuttra and Jariyaporn Wannachot (Prapokklao Medical Education Center, Leabneon Road, Tambon, Tachalab, Muang District, Chanthaburi 22000, THAILAND)  

Aim: To compare self-confidence and success rate of performing correct intradermal injection on newborns before being allowed to do by themselves. The experimental group had practiced on pig skin a week before performing on newborns. Self-assessment of confidence was conducted and the performance was evaluated. Self-confidence and success rate were compared between groups using Mann-Whitney U and Chi-square test. P-value of less than 0.05 was considered significant.

Results: Gender and status were not significant. The level of self-confidence in the experimental group was higher than the control group, whereas the success rate of the control group revealed higher score but did not differ significantly.

Conclusion/take home message: Intradermal injection practice using pig skin can enhance self-confidence but has no effect on success rate.

**7P 9 Optimizing experiential learning: a central line workshop as example of multicenter collaboration in clinical teaching**

FW & J Menn, MD Dunn and Wojciech Pawlina* (Mayo Medical School, Department of Anatomy, Mayo Clinic, 200 First Street SW, Stabile Building 9-38C, Rochester MN 55905, USA)  

Optimally harnessing the power of experiential learning has been a goal of educators since the era of John Dewey. During the last four decades, simulation has been increasingly utilized in medical education. Current focus on quality improvement, innovation, and patient safety has increased the use of simulation-based instructional methods. The Mayo Multidisciplinary Simulation Center (MMSC), together with the Mayo Department of Anatomy Procedural Skills Laboratory (PSL) developed a central line workshop for critical care fellows. This half-day experience occurs before each participant enters the first ICU clinical rotation. A pre-course briefing of pertinent literature is electronically provided. Initial MMSC experience includes: 1) procedural and (case-based) complication review, 2) ultrasound practicum, and 3) central venous access practicum (mannequin). At PSL, learners review procedure-specific gross anatomy (prosections and skeleton), central venous cannulation, and universal precaution technique (unembalmed specially prepared cadaver). Debriefing with reflective evaluation concludes the workshop. Clinical evaluation forms by supervising faculty represent a continuum of the training experience. The combination of simulation training with practical experience within the gross anatomy laboratory provides an optimized environment for teaching and assessing learner proficiency in specific techniques prior to performance of risk-laden procedures within a clinical rotation.
7P 10 Does injection skills training in simulated environments help ever-lasting learning?
Nüüler Demir*, Kievler Yoruk, A Hilid Batı, Ayse Erol, Mehtap Cinar (Ege University School of Medicine, Dekanlik Binasi, Tip Egitimi AD, Bornova, Izmir 31310, TURKEY)

Background: Drug administration skills should be taught adequately to medical students to prevent further complications of inappropriate medications. In addition, the skills training programs should be evaluated.

Summary of work: 2nd year students of Ege University School of Medicine received drug administration skills training during April 2005 and were assessed by OSCE. In March 2006, 116 of those were assessed by another OSCE, and asked their opinions on their competency and experience of injection on real patients. Results are evaluated considering previous OSCE grades, 2 years achievement level and experience with real patients.

Summary of results: 57.4% of 116 students feels confident in administering injection, 60.3% administered IM injection to real patients. Of those who administered injection, 68.2% did it during their regular visits to primary health centres, 55.7% were supervised by non-physician health workers, 55.1% received positive feedback from patients, while 44.9% received no feedback. Correlation between previous OSCE grades (90.57 ± 12.48) and second OSCE (74.77 ±12.94) was found to be slight (r: 0.270; p: 0.005).

Conclusions/Take home messages: Injection skills training in simulated environment under coaching of experienced instructors gives students the opportunity to practice provides enduring skills learning.

7P 11 A qualitative study into the clinical skills practice of 3rd year medical students whilst on placement in the NHS
Ann Donnelly*, Peter Foulal and Paul Bradley (Royal Devon and Exeter Hospital, Clinical Skills Resource Centre, Heavitree Hospital, Gladsstone Road, Heavitree, Exeter EX 1 2ED, UK)

Aim: To explore students’ experience of clinical skills practice in the clinical environment and how this relates to their earlier experience of the Clinical Skills Resource Centre (CSRC).

Summary of work: An exploratory study design (semi-structured interview). Thematic analysis with respondent validation. Setting: A problem-based, integrated spiral curriculum. Teaching clinical skills from Years 1 & 2 in a CSRC.

Participants: A purposive sample of 15 third year medical students from three sites of a UK medical school.

Summary of results: Third year medical students felt confident transferring their clinical skills to the clinical environment. Physical examination and communication skills were most useful. The students found opportunities to apply the skills learnt in the CSRC actively. Students did not feel confident and did not learn in the ‘real’ environment when learning opportunities were fewer because of poor clinical involvement and feedback. Students were anxious they might harm patients, feeling distressed and unsupported when involved with dying or acutely ill patients.

Conclusion: Early clinical skills training in a CSRC is beneficial to students. They can transfer their skill. To continue this development and transfer they need to be in a structured, supportive environment, to be given feedback and to feel valued.

7P 12 Train the trainers program for full scale simulation facilitators
Doris Østergaard*, Peter Deckmann, Marcus Rall, Hele Østergaard, Chris Sadler and Anne Lippert (Herlev University Hospital, Danish Institute of Medical Simulation, Herlev Ringvej 75, Herlev DK-2730, DENMARK)

Aim: To present a train the trainers program for new users of full scale simulation.

Summary of work: Based on needs of analysis of the competencies needed for facilitators using full scale simulation as an educational tool, a train the trainers program was developed in collaboration between 3 European Simulation Centres. The 3 day course aims to provide participants with knowledge and practical skills in briefing, debriefing, adult learning principles, patient safety and crisis management, scenario design and course development. The course has a “double feature”: new facilitators experience both the role of course participants and of course facilitators. Knowing and reflecting on the experience as a participant is a crucial part of becoming a skilled facilitator. First the novice instructors’ only ‘debrief’ scenarios, later they control their own scenarios and debrief participants. For every step participants receive thorough feedback. A pre- and post questionnaire was developed as a self assessment tool and given to 50 participants. We will present the course concept as well as participants’ subjective competency ratings concerning the running of simulator based courses, and their views on the course’s usefulness. Advantages of collaboration between centres are discussed.

Conclusion: A collaboration between centres resulted in a successful program.

7P 13 Simulation-based training on recognition and management of critical illness for final year medical students
H E Johannessen*, A Nunn, C M Roberts, C Sadler and T Smith (Bart’s and the London Medical Simulation Centre, 9 Prescot Street, Lower Ground Floor, Aldgate, London E1 8PR, UK)

Background: The National Confidential Enquiry into Patient Outcome and Death (Collinane et al, 2005) recommended junior doctors receive training in the recognition and management of critical illness.

Aim: To explore students’ experience of critical care simulation training and their views on the course.

Method: FY1 trainees who had attended the simulation centre were observed to lack basic practical skills such as applying monitoring, preparing intravenous infusions and administering intravenous drugs. The course for medical students therefore consisted of initial skill stations to demonstrate and practice basic procedures, followed by full immersion simulated emergency scenarios to apply these. Each scenario was followed by a facilitated debrief with an expert. The candidates completed a post-course questionnaire with a Likert scale and a free-text section.

Summary of results: Of 213 students, 94.8% strongly agreed that the course would help them as a FY1 doctor.

Conclusion: The medical students perceived this course to be valuable preparation for the FY1 year.

Take home message: Senior medical students agree simulation-based training is good preparation for postgraduate clinical practice.

7P 14 Implementation of a centralized skills laboratory in the Medical School of the University of Barcelona
C Gomar, J Palés* and Group for Development of the Skills Laboratory Centre (Faculty of Medicine, University of Barcelona, Casanova 143, 08036, SPAIN)

Background: The Medical School has defined learning outcomes and evaluated how students acquire them. Some inadequacies in clinical skills and procedures have been detected. To improve learning, a centralized skills laboratory (CSL), has been implemented for the first time. We report the process of implementation and evaluation of this CSL.
Summary of work: 50 students and 20 teachers participated in the experiment. CSL offered 12 workshops on mannequins, devoted to the principal clinical skills and procedures. Workshops were designed in enough detail to allow other teachers to implement them and the students to repeat skills individually. Groups of 10-15 students attended, for 2 hours, each workshop led by a teacher. After, students had free time for self-training. Students’ performance and teachers’ tasks were assessed, using different check-lists included in a log-book. Teachers’ and students’ opinion about the usefulness of the CSL were investigated, by administering specific questionnaires.

Summary of results: For both students and teachers, CSL is an excellent tool to increase individual clinical skills competence. It is necessary to improve CSL accessibility for all students and teachers. Teachers from different disciplines must identify now which other skills might be taught in CSL. The Medical School will continue investing to increase CSL facilities and accessibility.

7P 15 Strategic development for skills labs
J-V Patenaude*, R Lalonde, M Rinifret-Raynar, C Lamanche, C Mailhot, J Pepin, N Duhamel, A Sansregret, M Boivin, C Boudry, L Demers, P Drolet, S Duhe, M Julien and B Sku (Université de Montréal, . 4029 Lacombe, Montréal, Québec H3T 1M7, CANADA)

In 2004, the University of Montreal’s Vice-Principal (Academic) created an Executive Group made up of associate deans of dentistry, nursing, medicine (including rehabilitation and language schools), and pharmacy faculties.

Its main goal was to put forward a unique academic Vision and Functional Definition to fully develop simulation as the main educational method for all the university’s “Skills Labs.” Their focus is on facilitating the acquisition and maintenance of health competencies, new interdisciplinary practices, and technical expertise for humanist professionals. The University wanted to take pro-active orientations in face of the major growth of simulation in educational methods and to optimize the teaching syllabus and the state-of-the-art important infrastructures already operational and those in development.

Aim of presentation: (1) To discuss strategic orientations and a definition for “Skills Labs;”; (2) To investigate the need for the Community to have access to a methodology for creating Skills Labs with a template already existing for all the university’s “Skills Labs.” Their focus is on facilitating the acquisition and maintenance of health competencies, new interdisciplinary practices, and technical expertise for humanist professionals.

Aim of presentation: (1) To discuss strategic orientations and a definition for “Skills Labs;”; (2) To investigate the need for the Community to have access to a methodology for creating Skills Labs with a template already existing for all the university’s “Skills Labs.”

7P 16 Education in health care settings of tomorrow – interprofessional learning and teaching
Gunilla Ristner* (Center for Clinical Education, Department of Södersjukhuset, Södersjukhuset, Jägargatan 20, Stockholm SE 11883, SWEDEN)
The merger of Karolinska Institute (KI) and the former Stockholm College of Health Sciences created the opportunity for an integrated approach to health care education in Stockholm. CTC, clinical training center is a specially equipped center for practical and theoretical training and to master clinical skills. The availability of training possibilities creates the necessary conditions for learning that students are motivated to develop while feeling secure in their future professions.

The center is intended to create meeting places for learning and collaboration with the following aims: To bridge professional borders, to coordinate undergraduate studies and clinical reality, to work with standardized patients and to work in a simulated environment with special equipment facilities.

7P 17 Creating a positive attitude to learning in a clinical skills centre
Melanie Cappella, Nicki Coombes, Isobel Vincent and Matthew Pead* (The Royal Veterinary College, Hawkshhead Lane, N. Mymms, Hatfield, Herts AL9 7TA, UK)

Aim: To discuss effects on student attitudes to learning of (1) The timeframe and nature of the introduction of Clinical Skills Centre (CSC) teaching; (2) The relationship of the CSC to assessment.

Summary of work: The use of CSCs and OSCEs (Objective Structured Clinical Examinations) is well established in Medical schools. However The Royal Veterinary College (RVC) has only recently developed a CSC and introduced OSCEs, creating a chance to measure their effect on the uninstructed student. Many of the first year group of students apparently used the CSC to “learn the OSCE”. We conducted a survey of a year group who had only used the CSC as a “drop in” facility and compared it with a year group who had had a more formal introduction to the CSC as part of the course.

Summary of results: There are differences in attitude to the CSC as a learning opportunity that may indicate improvements in the centre’s future presentation.

Take home message: A CSC needs to be integrated into clinical teaching, but it may specifically induct students and evolve strategies to distance its learning opportunities from the OSCE process.

7P 18 Professional skill competency perceptions of grade three students of medical school of Ankara University

Background: In the Faculty of Medicine, Ankara University, professional skills education, which is one of the basic components of the restructured medical curriculum in 2002-2003 is competency based learning. In the professional skills laboratory each group consist of 10 students per one tutor and they use models for learning interventional and examination skills and role-playing for communication skills. Professional skills are assessed with OSCE.

Summary of work: In this study we use a questionnaire for assessing grade 3 students’ professional skills competency perceptions at the end of 2004-2005 academic year. Skills are grouped in five subtitles; communication skills, examination skills, interventional skills, radiological assessment skills and interpreting skills.

Summary of results: Highest professional skill competency perception is in interventional skills (min: 81.6%; max: 93.8%). Lowest professional skill competency perception is in radiological assessment skills (min: 81.6%; max: 74.7%).

Take home message: Professional skills training in grades 1-2-3 was perceived as efficient in the professional skills competency programme.

7P 19 Integration of human patient simulators (HPS) with existing physiology teaching for first year medical, dental, veterinary and medical science undergraduates
Judy R Harris*, Eugene Lloyd, Emma Richardson, Matthew Williams and Richard J Helyer (University of Bristol, Department of Physiology, School of Medical Sciences, University Walk, Bristol BS8 1TD, UK)

Human Patient Simulators are well-suited to illustrating physiological principles that require invasive measurements – these cannot be obtained in practical classes involving human subjects. We have developed and evaluated an HPS-based scenario that uses haemorrhage to illustrate cardiovascular physiology.
The use of standardized patient focus groups to ensure program quality

Jennie Struijk and Delia Anderson* (Tulane School of Medicine, Standardized Patient Program, Dean's Office, SL 93, 1430 Tulane Avenue, New Orleans, Louisiana 70119, USA)

As the use of Standardized Patients (SPs) in medical education has increased, so has the need to continually assess and improve quality in SP programs. One avenue of such improvement is to make use of the unique perspective of the SPs. As SPs are recruited from the “lay” public and work directly with students, they are good advocates for improvement in basic program operations. Standardized Patient focus groups have been successful in influencing program operations at many levels at the University of Washington and Tulane University Schools of Medicine, including: reviewing SP case scripts and checklists, developing feedback methods and training materials, and setting program standards and practices.

As a side-benefit, SPs participating in focus groups have reported increased satisfaction with their employment and a better understanding of SP program operations overall. Collaboration with SPs can be an important aspect of an SP Program’s quality assurance effort. By the nature of their participation in the program, SPs are well positioned to offer insight into basic operations and training. Additionally, involving SPs in program improvement strengthens SP insight and commitment, and helps to clarify the overall mission of the program.

Assessment of skills in and attitudes to Evidence based Medicine (EBM) by an encounter with a Standardized Medical Representative (SMR)

S Biller*, Y Falck-Ytter, A Pohl, A Zähringer and J Forster (University Hospital Freiburg, Medizinische Fakultät, Studiendekanat, Elsäser Strasse 2m, Freiburg 79110, GERMANY)

Aim: We designed and piloted a SMR encounter as a mean to evaluate an EBM course given to final year medical students and their preceptors.

Summary of work: To make the SMR fit in most clinical settings, the following two matters were elaborated: First the introduction of an i.v. formula of paracetamol (by presentation of a study both in adults and children), and second the gathering of opinion on the chance of a probiotic drug (EBM level I study in children with diarrhea) to be disposed successfully also in adults. Five young physicians were trained as SMR, both to embody the role and to use reliably certain buzz words.

Evaluation of the encounter: Twelve probands with an EBM performance in the expected range of the course participants, the encounter (mean 20 min) videotaped and scored by 6 independent raters using checklists to the reaction to specific items of the presented studies, as well by an overall judgement on the EBM performance.

Summary of results: Probands performed between mark 1.5 and 4.3 (6 grade scale), interrater reliability 0.826 (Cronbach’s Alpha)

Conclusion: The assessment by our content valid SMR encounter is to be used in the course participants’ evaluation.

The effect of simulation on nursing students’ self-efficacy

Mehdi Safari* and Fatemeh Eskandari (Tabriz University of Medical Sciences, Faculty of Nursing and Midwifery, South Shariate St, Tabriz, IRAN)

Background: Simulation can the teaching - learning process, identify common experiences, generate explanations and analysis, and determine a number of issues important to their practice experiences. Although different studies have stated the effects of simulation on student learning, few have examined the effects of classroom simulation on nursing students’ self-efficacy related to health teaching.

Aim and Summary of work: The purpose of this descriptive study was to investigate the effect of simulation on nursing students’ self-efficacy in health education. A convenience sample of 30 nursing student in Tabriz University of medical sciences completed questionnaire before and after simulation sessions.

Summary of results: All 30 participants were female. After the simulation self-efficacy scores were increased (p<0.001). Significantly difference (p<0.001) were found between pretest and posttest scores about of assessment, planning, implementation and evaluation phases of health teaching.

Conclusions: According to self-efficacy theory, students who active in simulations develop increased confidence in their ability to perform skills. Therefore Simulation can enhance learning behaviours.
Workshop 7Q Generalizability Theory

Geoff Norman (McMaster University Medical School, Hamilton, Ontario, Canada)

Background: Generalizability Theory (Cronbach et al., 1972) is an extension of classical theories of reliability that explicitly deals with multiple sources of error. Instead of thinking about separate studies of inter-rater reliability, test-retest reliability and internal consistency, the G theorist begins by identifying the main potential sources of error in any observation, then designing a single multi-factor study that captures each variance component. These multiple estimates or error variance are then used to compute G coefficients corresponding to different kinds of reliability. Finally, by conducting a “D study” which looks at the impact of multiple observations to different kinds of reliability. Finally, by conducting a “D study” which looks at the impact of multiple observations (e.g. 3 raters, 4 occasions, 2 cases), the investigator can evaluate each of the CanMEDS roles in the OSCE and strategies to provide feedback to the candidates about their performance related to each of the roles will be discussed. Participants are encouraged to share their own experience with the OSCE.

Learning Objectives: Upon completion of this session, participants will be able to: (1) Describe how the CanMEDS competencies can be incorporated into OSCE stations; (2) Understand one assessment tool that may be used to evaluate each of the CanMEDS roles in the OSCE and strategies to provide feedback to the candidates about their performance related to the CanMEDS competencies; (3) Provide OSCE candidates with feedback describing their performance related to the CanMEDS competencies; (4) Conceptualize an OSCE design which incorporates all CanMEDS competencies.

Intended audience: Anyone involved in student assessment.

Level of workshop: Beginner/intermediate.

Workshop 7R Using the OSCE to assess the CanMEDS Competencies

A Jefferies and B Simmons (Neonatal-Perinatal Medicine Training Program, University of Toronto, Toronto, Ontario, Canada)

Background: Assessing each of the seven CanMEDS competencies in a valid and reliable manner presents a challenge to many specialty training programs. Although the OSCE, a performance-based examination, is often used to assess the roles of medical expert and communicator, there is less experience with its use for the roles of collaborator, manager, health advocate, communicator, there is less experience with its use for the roles of collaborator, manager, health advocate, professional and scholar.

Content: This interactive workshop will provide teachers and educators with a framework that may be used to develop OSCE stations and examination blueprints that incorporate all seven CanMEDS competencies. Participants will have an opportunity to observe, analyze and score simulated OSCE scenarios and to design and discuss OSCE stations that incorporate a variety of CanMEDS roles. Assessment tools that may be used to optimize the overall reliability for a set amount of testing time.

Content and format: This workshop will take a conceptual approach to understanding, beginning with classical test theory and then building it conceptually to explore the key elements of G theory. As an added feature, participants will be given a CD-ROM containing a freeware program that does G theory analyses (urGENOVA, R.L. Brennan©) and an interactive shell, (G-String, R.Bloch©). Some time will be spent on the operation of these programs.

Level of workshop: Intermediate. Participants should have some knowledge of statistics, in particular analysis of variance, if only at the conceptual level. No knowledge of psychometrics is necessary.

Workshop 7S Cultural competence in progress: practical exercises for diverse student groups

Veronica J. Selleger (Department of Medical Psychology, VUmc, Amsterdam) and Adriaan van T Spijker (Department of Medical Psychology and Psychotherapy, Erasmus MC, Rotterdam)

Background: Cultural competence is indispensable to medical professionalism. Diverse student populations offer opportunities to train cross-cultural communication in small scale education. However, many educators are hesitant to focus on students’ cultural differences, as they do not want to reduce their minority students to ‘study material’. These hesitations may be overcome by a broader approach to diversity, stressing that each person has his/her personal (ethnic/religious/social/gender etc.) background, with its values and taboos. In this workshop several practical (playful and challenging) exercises will be presented, aiming to explore everyone’s ‘cultural’ background and biases.

Programme for workshop: Brief introduction into cultural competence and cross-cultural communication in medical education. Participants will take part in two exercises: 1. how to discuss and understand everyone’s background; 2. the consequences of the students’/doctors’ taboos in history taking. They will share their experiences in teaching cultural competence. In conclusion an overview of educational strategies for cultural competence will be presented.

Who should attend: Teachers, curriculum designers, and students.

Level of workshop: Some experience in a diverse (medical) society is presumed. Required experience in cross-cultural medical education: beginner/intermediate.

Take home message: Participants will experience that cross-cultural communication in small groups can be exciting. They will become aware of each other’s own cultural biases and evaluate different strategies for teaching cultural competence.
Focus groups in medical education research

Anne Mette Moercke (Unit of Medical Education, Aarhus University, Denmark)

Background: With reason, focus groups have become quite popular in medical education research. Potentially, focus group interviews can give answers to a lot of the burning questions, we currently have concerning why. But the focus group method has limitations and pitfalls. As with any other qualitative research method, you can end up with enormous amounts of unmanageable data or useless, trivial results, if you don’t think through a number of questions, before launching your research or evaluation project.

Objectives/intended outcomes: It is my intention that workshop participants learn to (1) identify good focus group studies; (2) describe and discuss why focus groups are appropriate for a given research question; (3) take part in planning a focus group research project.

Format and content: Brief introduction, group work, and discussions. The main focus will be on three topics: the appropriateness of focus groups, the subjects (sampling, homogeneity, recruitment), and the analysis strategies. Participants will be asked to read a (short) paper before the workshop.

Intended audience: Teachers, researchers, and administrators.

Level of workshop: Intermediate; participants should have basic, general knowledge of qualitative medical education research.

Best evidence simulation-based training using Harvey, the Cardiopulmonary Patient Simulator

S Barry Issenberg (University of Miami Miller School of Medicine); Donald Brown (University of Iowa School of Medicine); Joel M Felner (Emory University School of Medicine) and Ira Gessner (University of Florida School of Medicine, USA)

Background to the topic – While the cardiac bedside examination is accurate and cost-effective, important auscultatory findings often go unrecognized for lack of training, practice, and testing. Studies show that repetitive practice and self-assessment of these skills through the use of patients and simulation devices lead to enhanced mastery of the cardiac bedside examination. This, in turn, will lead to improved patient diagnosis and management. A recent Best Evidence Medical Education (BEME) systematic review identified the ten key features that lead to effective use of simulation for training.

Workshop content and structure - This workshop will use “Harvey,” the Cardiopulmonary Patient Simulator. “Harvey” simulates 30 cardiac conditions. The workshop will provide a practical, hands-on, interactive experience for each participant. This workshop will be carried out in an interactive patient-centered format. Bedside findings will be shared through audio stethophones, including breathing, venous, arterial and precordial impulses and auscultation. The presentation will also incorporate evidence-based strategies that lead to most effective learning. These will be based on the faculty’s recent BEME systematic review of high-fidelity simulation. The workshop facilitators are cardiologists, internists and medical educators with many years of experience in applying best evidence approaches to using simulation technology to teach and assess skills.

Intended outcomes - At the end of this workshop, participants will be able to: (1) recognize essential cardiovascular and pulmonary bedside findings; and (2) implement evidence-based learning strategies that maximize the effect of simulation-based training.

Intended audience - Clinical skills facilitators; Harvey users; clinicians; educators interested in finding out more about Harvey; educators interested in using simulators in multidisciplinary learning; clinicians and educators interested in clinical skills training.

Level of workshop – All levels of participants will find this workshop useful.

Computer simulated home visit

Irene Hamrick* and Moha Tabrizi (East Carolina University, Brody 4N-72A, 600 Moye Blvd., Greenville NC 27834, USA)

Aim: To improve teaching of home visits in light of worldwide aging of the population and rising fuel costs.

Summary of work: We have designed an interactive 3D-based computer simulated home visit system similar to computer gaming programs. It allows learners of all health disciplines to enter and walk through a virtual home. With the click of a mouse health hazards are identified and corrected. The computer keeps track of identified problems and provides rationale for answers. It evaluates learners and compares scores of repeat walk-through. In addition to the computer scores, learners will take pre- and post tests to measure knowledge gain and provide feedback on the experience. This innovative format speaks to the fast paced learning style of generation Y, who is used to interactive entertainment such as computer games.

Summary of results: The computer simulated home visit has expanded learners’ exposure to home hazards beyond those available in live home visits. The learning experience is more uniform and comprehensive.

Conclusion: The computer simulated home visit program, as an adjunct to real life home visits, allows for more comprehensive exposure to problems and better evaluation of learners, in an interactive and fun setting.

The accident and emergency department virtual consulting room

Eleanor Wood, Pasquale Berlingieri*, Kerrie Whitwell, Tim Rayne, Janet Dearden and Owen Epstein (The Virtual Consulting Room Project, Royal Free & University College London Medical School, Anthony Nolan Building, Research Institute, Hampstead Campus, Rowland Hill Street, London NW3 2PF, UK)

Aim: The Virtual Consulting Room (VcR)*, is an intranet-based guidance application providing direct access to local specialist knowledge. We assessed its usability to
evaluate whether it has the potential to educate staff while working in the Accident and Emergency (A&E) department.

Summary of work: At the A&E department of a London teaching hospital, 220 consecutive patients were identified from the triage section of their casualty card as having a presenting complaint that featured in the VcR. Members of staff were invited to consult with the VcR after assessing each patient by clicking on an icon located on the department's computer desktops.

Summary of results: The questionnaire was completed in 103/220 (46.8%) patients. The VcR was used in the management of 38/220 (17.3%) patients. In 21/38 (55.3%), users reported the VcR supported clinical decision making, in 20/38 (52.6%) the VcR improved knowledge and in 11/38 (28.9%) the VcR helped directly influence the decision to discharge the patient. In 2/38 (5.3%) users changed their decision to refer and in 1/38 (2.6%) investigations were altered.

Conclusions/Take home messages: The VcR has the potential to improve patient care by educating users while they work and by supporting decision making. Accessing the VcR is most likely to occur when clinicians perceive they are working in unfamiliar territory.

A sampler demonstration has been made available at the following link*. http://ucl.ac.uk/medicalschool/current-students/learning-resources/Virtual-consulting-room-demo/

7V 4 Using action mazes in medical education: A pilot study
C McQueen* and R Waller (Mid Yorkshire NHS Trust, Flat 3, 23 Stainbeck Lane, Chapel Allerton, Leeds LS7 3QR, UK)

Aims: Problem based learning is seen as a key strategy in teaching the clinical management of complex problems. Distance and online learning are increasingly features of many UK medical courses. The difficulty has been in combining the two, as problem based learning is often small-group based and tutor intensive. Can Action Mazes' provide a solution?

Design: Demonstration and Pilot Study.

Summary of work: 106 4th year medical students studying an integrated module in psychiatry, public health and primary care. Interventions: Two action mazes, teaching the management of depression in primary and secondary care.

Outcome measures: Student feedback prior to and during clinical placements.

Summary of results: The mazes provided an accessible, interactive, engaging and flexible learning tool that medical students enjoyed using and felt it enhanced their learning.

Conclusions: Action Mazes have a theoretical underpinning supporting their use in teaching complex decision making skills. They are acceptable to medical students, and online delivery provides a safe and standardised environment. It is not known if Action Mazes enhance student learning using objective measures.
8B Academic achievement, learning readiness and satisfaction

Sombat Skulphan*, Asawinee Namakankham and Sathit Wongsuraorakit (Chiang Mai University, Faculty of Nursing, 110 Inthavaroroad Thambol Sripoon, Amphur Muang Mai Province, THAILAND)

Background: Self-directed learning (SDL) can enhance learners’ creativity, responsibility, knowledge seeking, and self-development to achieve efficient and effective learning.

Aim: To study level of satisfaction among students attending the SDL course and to compare academic achievement and SDL readiness between experimental and control groups.

Summary of work: Subjects were third year nursing students, Faculty of Nursing Chiang Mai University. The research instruments consisted of 2 parts: first, the SDL Program and second, the instrument of data collection including (1) Demographic Data Recording Form, (2) SDL Satisfaction Questionnaire: (SDLSQ) (3) Self-Directed Learning Readiness Scale: (SDLRS), and (4) Test for the course Psychiatric Nursing 1. The content validity index of SDLSQ was .88. The reliability of SDLSQ and SDLRS obtained by Cronbach’s alpha coefficient were .96 and .92, respectively. Data were analyzed by descriptive statistics, independent t-test and paired t-test.

Summary of results: (1) Academic achievement between the scores’ test of the course Psychiatric Nursing 1 were not different. (2) The total score and each component’s scores of the SDL Readiness in the experimental group were high both before and after learning. The total scores and some components of the SDL Readiness of control group were moderate. (3) The total mean scores and each component means score of the SDL Readiness of experimental group were significantly higher than control group (p<.01) after learning. In comparison the mean scores of the SDL Readiness of experimental group, indicated only two components with statistically significant higher scores after learning (p<.05). (4) The SDL Satisfaction of experimental group after learning was at a high level both total and some components.

Conclusion: Nursing students in the SDL course showed readiness and satisfaction because it enhanced their responsibility, self-directed seeking of knowledge, and good relationship within groups and instructors.

8B 3 Learning styles of graduate and non-graduate entry medical students: implications for student performance and satisfaction

Sheila Bonas*, Clare Blackburn and Krishna Kasaraneni (University of Leicester, Department of Health Sciences, 22-28 Princess Road West, Leicester LE1 6TU, UK)

Background: Deep rather than surface learning approaches have been associated with academic success (Gibbs, 1994; Ferguson et al, 2002; McManus et al, 1998).

Summary of work: This study compared learning styles of different groups of Medical School entrants. Graduates are now recruited to 4-year programmes that run alongside traditional 5-year programmes. We investigated whether previous educational experience predicts learning style of entrants; whether styles change during the course; and whether they predict student satisfaction and performance in social science, biomedical science and clinical skills modules. Learning styles of health science and biological science graduates and non-graduates were assessed at course entry using the Study Process questionnaire (Biggs et al, 2001). N=374. Students were re-tested after 18 months, and data on satisfaction and performance collected.
Summary of results: At course entry females reported a ‘deeper’ style than males. Health science graduates had a ‘deeper’ style than non-graduates or biological science graduates (p<0.05). There was no significant difference between non-graduates and biological science graduates. We will report whether learning styles changed, and whether they predict performance and satisfaction. Implications for teaching and learning will be discussed. The results will inform strategies to improve support for student learning in Medical Education.

8B 4 Learning to be a physiotherapist

I Lindquist*, M Engardt, F Poland, L Garnham and B Richardson
(Karolinska Institutet, Department of Neurobiology, Caring Sciences and Society, 230 13 Huddinge 141 83, SWEDEN)

Aim: The aim was to explore students’ experiences of learning to be a physiotherapist over a three year programme, as few studies have examined students’ perspectives.

Summary of work: Four components studies. A metasynthesis, of the findings with a phenomenographic approach to analysis was carried out.

Summary of results: Students’ experiences of learning vary. Three patterns of learning were described in which views of knowledge, learning and context differ. In one pattern learning is described as creation with an aim of enabling movement in individuals for their own activities. A second pattern describes learning as discovery with the aim of learning how to teach and motivate individuals in order to solve the movement problems of patients/clients. In the third pattern, learning is described as transfer of knowledge from a more knowledgeable physiotherapist with the aim of learning to instruct and perform manual skills to cure body structure/function.

8C 1 Using Virtual Patients to contextualize e-learning: the IVIMEDS approach

David Davies (IVIMEDS, Tay Park House, 484 Perth Road, Dundee DD2 1LR, UK), Steve Smith (Brown University, Providence, USA and IVIMEDS), Ronald Harden (IVIMEDS) and Thierry Boucheny (IVIMEDS)
The International Virtual Medical School (IVIMEDS) is an international collaboration of leading medical schools. It offers a blended solution in which e-learning is combined with face-to-face clinical learning experiences. One of the educational components of the IVIMEDS approach is the Virtual Practice and Virtual Patients. IVIMEDS has created a Virtual Practice with more than 60 Virtual Patients covering the key areas of medical practice. The Virtual Patients do not replace face-to-face clinical experience but provide a powerful adjunct and support for student learning. We have incorporated reusable learning objects (ROLOs) including photographs, radiographs and other materials from the IVIMEDS repository to add clinical authenticity to our Virtual Patients. During our presentation we will demonstrate a range of applications of Virtual Patients including them as: (1) the basis or framework for a curriculum; (2) a presenting problem in problem-based learning; (3) interactive exercises or case studies to illustrate principles and concepts in more traditional learning approaches. We have developed our Virtual Patients using a standardized XML information model to provide consistency and compatibility with other systems including the opportunity of sharing Virtual Patients with other groups. IVIMEDS Virtual Patients run in any web browser and are distributed either as simple IMS content packages or as SCORM objects. Our virtual patients are interoperable with all e-learning platforms that support these standards.

8C 2 Models for virtual patients

Jonathan Round*, Chara Balasubramaniam, Arnold Somasunderam, Ferhal Utku and Terry Poulton (St George’s, University of London, Paediatric Intensive Care Unit, Lanesborough Wing, St George’s Hospital, Blackshore Road, Tooting, London SW17, UK)

Aim: St George’s wanted to create a generic ‘model’ for virtual patient (VP) design, simple enough for clinicians to use, yet flexible enough to simulate real clinical decisions. The intention is that once pedagogically modelled, perhaps the hardest part of VP development, a variety of applications could be used to create a user interface.

Summary of work and Results: For each VP an ideal pathway was described. Along this, there should be 3 or 4 ‘nodes’, which the patient must pass through. These might be the restoration of cardiac output after an arrest, ward transfer, or referral to another doctor. In order to navigate between nodes, a map of different interconnected possibilities was designed, typically with 3-4 steps and 3-4 choices at each step. Choices at each step mimicked some of the choices that would be available for a real patient. Many of these would not allow progress to the next node. As a result, a simple educational model was created for ergonomically designing VPs.

Conclusions: This method provides a simple way of creating apparently complex virtual patients.

For more information visit: www.etu.sgu.ac.uk/virtualpatients
**8C 3 Innovative strategy to build and validate a large repository of virtual patients from real life clinical cases**

M Botezatu*, H Matz, N Zary and U Fars (Universidad el Bosque, TV 9 A Bis No 132-55, Bogotá, COLOMBIA)

Background: In 2005, El Bosque University introduced in the Internal Medicine course the Web Based Simulation of Patients software (Web-SP), developed by Karolinska Institutet. Virtual cases used for teaching and assessment purposes are based on real life patients.

Aim: To build a large repository of real life clinical cases to support the Web-SP system.

Summary of work: We used clinical records of patients in four main hospitals in Bogotá. Our internal medicine students collected the cases, using an Excel template created for Web-SP and an informed consent form (available for download from the course website). The next step was validating each case. Summary of results: a total of 120 cases was gathered. Each one was reviewed by 2 internal medicine specialists, who selected 104 cases (16 were rejected for missing critical data). They chose the optimum patient presentation for a given teaching/assessment objective. The resulting cases were validated by peers (2 other specialists) and introduction of virtual patients in Web-SP was begun. Conclusions: Implicating students in the collection of cases is a valuable strategy to build a large repository of virtual cases. All cases should be validated prior to their use in teaching/assessment. We estimate as necessary the use of follow-up surveys for the new cases.

**8C 4 Evaluation of a blended learning scenario with virtual patients**

S Huwendiek*, J Zumbach*, S Koeprf, B Hoockel, J Heid, M Bauchz, H M Bosse, M Haag2, FJ Levenz, GF Hoffmann1 and B Toensholf1 (1University Children’s Hospital Heidelberg, Department of General Pediatrics, Im Neuenheimer Feld 153, Heidelberg D-69120, GERMANY; 2Laboratory for Computer-based Teaching and Learning Systems in Medicine, University of Heidelberg, GERMANY; 3Department of Science Teaching and Teacher Education, University of Salzburg, AUSTRIA)

Background: Despite the fact that Virtual Patients (VPs) are increasingly integrated into medical education, there are only very little data available on how to integrate them successfully. The study on hand was designed to explore this issue.

Summary of work: The blended learning scenario consists of two parts: (1) Working with the VPs online “face-to-face” (1-3 students/ computer), followed by (2) a discussion about the VPs in groups of 6-8 students facilitated by a tutor. The applied questionnaire included a German version of four scales of the “Theory-guided Rating Scale for Course Evaluation in Problem-Based Curricula” (Schmidt et al. 1995). Focus group analysis for more in-depth study is currently under way.

Summary of results: 71 medical students participated in this study. 67 (94%) responded. Descriptive results (Likert scale 1 (very low) – 5 (very high)) included the perceived relevance of learning (4.0), tutor performance (3.9), quality of VPs (3.7) and group functioning (3.7).

Significant correlations (Pearson) were found between the perceived relevance of learning and quality of VPs, tutor performance, group functioning (0.7, 0.4, 0.4), respectively.

Conclusions: In this blended learning scenario the perceived relevance of learning was high. The quality of VPs, tutor performance and group functioning seem to be decisive factors in the described learning scenario.

**8C 5 The accident and emergency department virtual consulting room**

Eleanor Wood, Pasquale Berlingieri*, Kerrie Whitwell, Tim Rayne, Janet Dearden and Owen Epstein (Royal Free & University College, University College London, Anthony Nolan Building Research Institute, Hampstead Campus, Royal Free & University College Medical School, University College London, Rowland Hill Street, London NW3 2PF, UK)

Aim: The Virtual Consulting Room (VcR), is an intranet-based guidance application providing direct access to local specialist knowledge. We assessed its usability to evaluate whether it has the potential to educate staff while working in the Accident and Emergency (A&E) department.

Summary of work: At the A&E department of a London teaching hospital, 220 consecutive patients were identified from the triage section of their casualty card as having a presenting complaint that featured in the VcR. Members of staff were invited to consult with the VcR after assessing each patient by clicking on an icon located on the department’s computer desktops.

Summary of results: The questionnaire was completed in 103/220 (46.8%) patients. The VcR was used in the management of 38/220 (17.3%) patients. In 21/38 (55.3%), users reported the VcR supported clinical decision making, in 20/38 (52.6%) the VcR improved knowledge and in 11/38 (28.9%) the VcR helped directly influence the decision to discharge the patient. In 2/38 (5.3%) users changed their decision to refer and in 1/38 (2.6%) investigations were altered.

Conclusions/Take home messages: The VcR has the potential to improve patient care by educating users while they work and by supporting decision making. Accessing the VcR is most likely to occur when clinicians perceive they are working in unfamiliar territory.

A sampler demonstration has been made available at the following link.

http://ucl.ac.uk/medicalschool/current-students/learning-resources/Virtual-consulting-room-demo/ It will also be demonstrated at AMEE 2006.

**8C 6 Impact of collaborative online tutorials on the development of clinical reasoning**

Kai Sattmann*, C Liermann, S Mülller, J Höffe, G Goedickie and M Gross (Charité - University Berlin, Department of General Paediatrics, Klinik für Allgemeine Peadiatrics, Augustenburger Platz 1, Berlin 13353, GERMANY)

Background: In the past few years, virtual patients and case-based eLearning-scenarios gained more and more influence on teaching and learning in undergraduate medical education.

Aim: The aim of the study was to examine the development in clinical reasoning that students experience while using an online moderated Online-tutorial for several virtual clinical cases.

Summary of work: Each week a new virtual patient case was presented to the students. Embedded into the case-based learning program CAMPUS, only the first part was offered. We used the online discussion forum of our Learning-Management-System to let our students discuss their problems online with their peers. They had to solve certain given tasks during one week and present their propositions in the discussion forum. They had to find a solution in their team. Further steps of the clinical pathway were offered. Finally they received the diagnosis and the case solution. Faculty members facilitated the discussion groups and provided feedback. Examination scores (MC) will be measured and together with the results of the content analysis related to the quality of participation in online discussions. First Results will be shown, whether this instrument can be used as a valid and reliable tool to analyze the development of clinical reasoning. The first group of participants will finish the scenario this summer.

The Project ELWIS-MED, FKZ 01|05005 is funded by the German Federal Ministry of Science and Education.
8D 1  Which factors affect changes in study performance during the first year at medical school?


Background: At medical school four subgroups of students with different study behaviours can be distinguished:

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<th>Pre-admission GPA</th>
<th>GPA during medical school</th>
<th>Study duration</th>
<th>Pre-admission GPA</th>
<th>GPA during medical school</th>
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Pre-admission GPA could not distinguish subgroups 1 and 2, and only in a limited way subgroups 3 and 4. We investigated which factors other than pre admission GPA could explain changes in study performance during the first year at medical school.

Summary of work: 133 of 204 students responded to a questionnaire that measured student-related, curriculum-related, and social environment related aspects. Performance indicators and demographic data were included. For students in subgroups 1 and 2, and in subgroups 3 and 4, regression analyses were done.

Summary of results: For subgroups 1 and 2, the factors intrinsic and extrinsic motivation explained 38% of the variance in performance (r=.65). For subgroups 3 and 4, the factors pre admission GPA and extrinsic motivation explained 55% of this variance (r=.76).

Conclusion: This study revealed that motivation could be used to distinguish students in subgroups 1 and 2. In addition to pre-admission GPA, extrinsic motivation could be used to distinguish students in subgroups 3 and 4. More studies should be aimed at the identification of the subgroups before admission.

8D 2  “Hold on tight to your dreams”: study motivation in the preclinical years – a longitudinal study

Geeta Falla*, Marianne Gusler and Daniela Goos (Albert-Ludwigs University of Freiburg, Department of Medical Psychology, Rheinstrasse 12, Freiburg 79104, GERMANY)

Background: At the beginning of their education medical students are generally very committed and have a strong motivation to study medicine. However retrospective studies indicate that medical students’ expectations of their university education are often disappointed. Especially relating to their preclinical studies, they complain about lack of practical relevance and factual overload. Another demotivating factor is the increasing unattractiveness of occupational perspectives in clinical medicine.

Summary of work: To examine how initially highly motivated students are affected by study conditions, we conducted two longitudinal studies in 2003/2004 and 2005/2006. We asked medical students three times during their first year about various aspects of motivation. The results show that a small proportion of students are demotivated at the end of the first year. Altogether these students are less satisfied with their education. Additionally they are more critical about courses and staff than their more highly motivated peers.

Conclusions: The study shows that some students might be more susceptible to such effects than others. We hope that our current study sheds some light on possible causes of demotivation.

Take home message: Since motivation results from an interaction of personal traits and situational factors, special attention should be paid to potentially demotivating effects of learning environments.

8D 3  Balancing medical studies and the tasks of life in the twenty-first century

A E Dodds*, J Lyons and J A Lawrence (The University of Melbourne, Faculty Education Unit, Faculty of Medicine, Dentistry & Health Sciences, Level 7, Medical Building, Victoria 3010, AUSTRALIA)

Background: It is commonly believed that medical students are socialised early into diligent approaches to academic study. Yet the sociologist Beck argues that twenty-first century institutions demand individualized responses.

Summary of work: We examined whether contemporary medical students are homogenous or whether there is a range of responses to balancing the rigours of medical study with emerging adulthood.

Summary of results: Cluster and discriminant function analyses revealed consistencies and inconsistencies in the priorities of 82 medical students (in their fourth year) on a variety of computerised rating, diagrammatic and open-ended tasks focused on organising life, handling the challenges of a developing medical student and forming professional and personal goals. Three cluster groups demonstrated different priorities and perspectives. A larger group (61%) shared the traditionally expected profile of medical students under pressure, with little control over time or activities. A smaller group (18%) focused on living socially satisfying lives, rather than on their careers. A socially oriented group (21%) lacked dreams of the future, and were presently focused on a satisfying lifestyle. Goals are significant indicators of current priorities. Students whose personal and professional goals meshed (57%) had different current priorities from those with clashes in goals (43%).

Conclusion: Teachers of contemporary medical students cannot expect uniform approaches to medical study.

8D 4  Factors influencing Korean medical students’ quality of life

Woolark Jeon* and Jin Young Park (Yonsei Medical Center, Department of Medical Education, College of Medicine, Yonsei University, CPD Box B404, Seoul, KOREA)

Aim: The low quality of life (QoL) of medical students suffering heavy study and competition stress has attracted research attention in medical education. This study evaluated Korean medical students’ QoL to set school policy for supporting students.

Summary of work: The survey form comprised three parts: demographic characteristics, WHO QoL Assessment in brief form (WHOQOL-BREF) and school records. The QoL results from the survey of 215 medical students were assessed using the total and four-domain scores: physical, psychological, social and environmental.

Summary of results: Female students’ total score and social domain scores of QoL were lower than those of male students. Total score and physical, social and environmental domain scores were significantly higher for those doing physical exercise 1-3 hours a week. In the physical domain, QoL of freshmen and juniors was significantly lower than that of sophomores. No significant difference was observed in QoL among the groups divided by living in dormitory, religion, relationships with opposite-sex friends, club activities, and school record.

Conclusions: Take home message: Medical School authorities must concentrate on the improvement of students’ QoL, with an emphasis on female students and freshmen and juniors who start clinical training, particularly by supporting students’ physical exercise.
8D 5  Is there an association between the views of medical students on student-teacher relationship and their academic grades in undergraduate medical education?

Khalid Bin Abdulrahman (King Saud University, College of Medicine, Medical Education Center, PO Box 2935, Riyadh 11461, SAUDI ARABIA)

Aim: To assess the students’ views on student-teacher relationship and its association with their academic grades at King Saud University, Saudi Arabia.

Summary of work: The survey questionnaires were distributed to all 420 students, at pre-clinical years. Different aspects of student-teacher relationship were addressed.

Summary of results: The current relationship between the student and teacher was evaluated as very good and good by 61% of the study sample. Banishment as a proper action to control the class was felt by 84.1% of students of higher and above average grades, while these responses were associated with their grades (p=0.012). Also these students (78.2%) felt that the teachers treat them with respect, as their responses were significantly associated with their grades (p=0.003). That teacher performance was affected by students’ attendance or absence was strongly agreed by 84% of students with higher and above average grades and the responses were significantly associated with their grades (p=0.037). The responses to most of the items by the students were independent with their grades.

Conclusion: Student-teacher relationship was good in our medical school and the views of students on this relationship were independent with their academic grades.

8E 1  A systematic review of faculty development initiatives designed to improve teaching effectiveness in medical education: final report

Yvonne Steiner*, Karen Mann, Angel Centeno, Diana Dolmans, John Spencer, Mark Gelula and David Prideaux (McGill University, 607 Belmont, Montréal, Québec H3Y 2W1, CANADA)

Aim: Faculty development has become an increasingly important component of medical education. However, despite numerous descriptions of program development and implementation, there is a paucity of research demonstrating the effectiveness of faculty development interventions. The goal of this presentation is to present the results of a systematic review which aimed to answer the following question: “What are the effects of faculty development interventions on the knowledge, attitudes and skills of teachers in medical education, and on the institutions in which they work?”

Summary of work: This review is based on 53 articles that met the following inclusion criteria: the articles described faculty development activities that focused on teaching effectiveness in medicine; were published in English, French, German and Spanish, between 1980 and 2002; and included outcome data beyond participant satisfaction.

Summary of results: The faculty development interventions included workshops (43%), seminar series (19%), short courses (11%), longitudinal programs (10%), and other interventions (17%). Using Kirkpatrick’s model of evaluating outcomes, 74% of the studies assessed reaction; 77% assessed learning; 72% assessed behavior change; 13% assessed change in organizational practice; and 6% assessed change in student and resident learning. Despite methodological limitations, the findings suggested consistent satisfaction with faculty development interventions; positive changes in attitudes toward teaching; self-reported gains in knowledge and skills; self-reported and observed changes in teaching behavior; and few changes in organizational practice and student learning. Program features which contributed to effectiveness included the use of experiential learning, provision of feedback, effective peer and colleague relationships, and adherence to principles of teaching and learning.

Conclusions: Research in this field requires more rigorous study designs and the use of methods which reflect the complexity of the interventions. Newer assessment methods and qualitative methodologies should be considered, to understand the process of change over time.

8E 2  A BEME systematic review on the OSCE validity, reliability and feasibility in undergraduate medical education: Preliminary results of the first 200 studies

M F Patricio*, M Júlia, F Frelleiro and A V Carneiro (Centre for Evidence based Medicine (CEMBE), University of Lisbon, Faculdade de Medicina de Lisboa, Av Prof Egas Moniz, Piso 1, Lisboa 1649-028, PORTUGAL)

Background: The Faculty of Medicine of the University of Lisbon undertook a BEME (Best Evidence Medical Education) systematic review in order to identify if the OSCE is a valid, reliable and feasible method of assessing clinical learning outcomes in undergraduate medical education.

Summary of work: Consensus was established for the first 200 studies randomly selected from the database material published by Harden et al in 2002 (nearly 1,000 references). Two independent coders rejected 92 papers according to inclusion/exclusion criteria (49 non-undergraduate, 21 non-OSCE, 13 non-medical, 9 modified OSCEs, 8 excluded for double criteria). Distinction was made between “fully” and “incidental” studies depending if the aim is focusing (or not) in the three dimensions under scrutiny.

Summary of results: From the 108 studies accepted only 12 report simultaneously on validity, reliability and feasibility. Heterogeneous data was found for validity, reliability and feasibility in 27, 25 and 10 full studies. Results will be presented in terms of evidence found for each dimension. Implications for the use of OSCEs as a clinical objective assessment tool, the way validity, reliability and feasibility should be reported and the characteristics a clinical objective assessment must have in order to be considered an OSCE will be discussed.

Conclusions: Results confirmed what was previously found with the pilot study (51 papers) and again missing, weak and heterogeneous data were the major problems making the synthesis of evidence very difficult. The authors believe a higher degree of evidence on the OSCE validity, reliability and feasibility could be found if OSCE studies were better reported.

Take home message: Medical education community must agree on common terminology and minimum acceptable standards for reporting OSCE studies namely on the validity, reliability and feasibility. Editors may play here a fundamental role.
Postgraduate educational portfolios – the emperor’s new clothes or a robust aid to learning?


Background: Portfolios are becoming established in the health professions as a means of demonstrating and facilitating learning and assessment. Electronic versions are being increasingly used. There is a body of literature published from many different contexts, including health, regarding their utility. However, studies vary both in quality and conclusion. The extent and nature of the educational value of portfolios is unclear.

Aims: This BEME systematic review aims to combine all relevant evidence from all disciplines of further education to determine the efficacy and utility of portfolios as postgraduate educational instruments.

Specifically: (1) What aspects of portfolios enhance effectiveness? (2) What is their role in assessment? (3) How can they support reflective practice? (4) What are the implications of an electronic format?

Summary of work: A multi-professional group has formed and agreed the review’s inclusion and exclusion criteria. A comprehensive literature search was conducted, and selection of studies has commenced. The group will work to a BEME protocol, extracting and synthesising evidence over the coming months. The group is working in conjunction with the BEME Birmingham group, which is evaluating the undergraduate evidence.

Conclusion: A synthesis of the extracted evidence will be presented. This robust and objective review could inform the future development of educational portfolios within the health professions and optimise their use as learning tools.

Assessing self-assessment: a BEME systematic review

Alex Haig*, Jan Illing, Iain Colthart, Gelisse Bagnall, Alison Evans, Brian McKinnstry, Helen Albult and Rachel Adams (NHS Education for Scotland, The Lister, 11 Hill Square, Edinburgh EH6 9DR, UK)

Introduction: While educationalists maintain the ability to accurately self-assess is critical to the process of one’s self directed learning and continued professional development, Gordon’s review in 1990 suggested the evidence for effectiveness of self assessment is yet to be established. This review examines the evidence since 1990.

Review question: What is the evidence that explicit methods used in self-assessment ("A personal evaluation of one’s professional attributes and abilities against perceived norms") to identify learning needs, promote change in learner activity or promote change in clinical practice?

Findings: The search focused on the period from 1990 to 2005 and retrieved 5785 potential papers. From this over 200 abstracts were reviewed by pairs before reviewing 194 full papers. 123 papers were selected for inclusion in the review. On-going analysis points to the following findings. Many papers reported the use of self-assessment mainly in comparison studies where self assessment is evaluated against a gold standard. From these studies there is very little evidence of the ability to accurately self assess. Many studies had methodological problems i.e used a gold standard that was not validated, assumed all the sample had the same ability to self assess and had inadequate sample sizes. A model put forward by Kruger and Dunning (1999) is advanced to explain the differing findings with regard to self assessment ability.

While acknowledging the difficulties associated with self assessment, many studies suggest how it could be improved, i.e use of video feedback, group rankings and benchmarking.

Students 6: The student as a teacher – a previously neglected resource

Medical students might be as good as senior doctors at teaching clinical skills – a controlled randomized study

Amandus Gustafsson*, Perntilla Höby, Catherine Gamborg Muller, Maria Birkvad Rasmussen, Martin Grønnebaek Tilsgaard and Charlotte Ringsted (Copenhagen University Hospital Rigshospitalet, Centre for Clinical Education, Blegdamsvej 9, Copenhagen 2100, Denmark)

Aim: Several studies have demonstrated high satisfaction with student teachers facilitating the learning of basic procedural skills. However, given their teaching experience and their clinical experience, doctors might be more effective in teaching procedures. Comparative studies on actual learning outcome are sparse. The aim of this study was to compare learning outcome of basic procedural skills teaching provided by student teachers and doctors.

Summary of work: IV access and bladder catheterization were chosen for the study. 59 first year medical students were randomized into two groups: one group taught by doctors and the other group taught by medical students. The students were randomly assigned to small groups and taught by either a senior doctor or by an experienced student teacher. Learning outcome was assessed by a pre- and posttest.

Summary of results: Learning outcome on performance of bladder catheterization was significantly higher in the student teacher group compared to the doctor-teaching group, mean (SD) 65.5 (12.9) vs. 35.0 (23.3), p<0.0001. There were no significant differences between teacher groups on the IV procedure.

Conclusion: Experienced student teachers are equally as good as senior doctors in facilitating learning of practical clinical skills – and might be better in some aspects.

Students as examiners: are they effective and what are the benefits?

V Bond*, D Collier and P Owens (University of Liverpool, Clinical Skills Resource Centre, The Infirmary, 2nd Floor, E Block, 79 Pembroke Place, Liverpool L69 3GF, UK)

Background: The department holds twelve Objective Structured Clinical Skill Examinations (OSCEs) a year, eight of which last an average of six days. Each OSCE can generate as many as 240 examiner sessions, usually filled by post graduate medical and nursing staff. Using students as examiners for all formative examinations could reduce the requirement for examination sessions by approximately 960 per year.

Summary of work: Previous ad hoc use of senior students as examiners has indicated that they found the experience of acting as an examiner positive, benefiting educationally, psychologically and financially. 2nd year undergraduate medical students were randomly allocated to act as examiners in the first year formative OSCE and offered the same level of training as their qualified counterparts. Students’ and qualified examiners’ marking was compared and their ability to provide feedback on candidates’ progress was measured via a candidate evaluation questionnaire. Both groups were also asked to list perceived advantages and disadvantages of being an examiner and their opinions of utilising relatively junior students as examiners.

Conclusions/Take home message): By definition OSCEs are objective and structured, implying consistent training should enable anyone to examine students in this form. The results confirm that students are as effective at examining as qualified examiners. We discuss the reasons for this conclusion, the opinions of those involved and the effectiveness of feedback provided.
8G 3  A teaching rotation and a student teaching qualification for senior medical students
Olle ten Cate (UMC Utrecht, Center for Research and Development of Education, PO Box 85500, Utrecht 3508 AB, NETHERLANDS)

Background: Physicians have a scholarly role, including educating others, be it patients, colleagues or students. This made UMC Utrecht organize a one-week obligatory teacher training course for senior medical students and a six-week optional teaching rotation. Students who complete both may receive a student teaching qualification. They must show didactic skill, experience teaching and learn about medical education topics.

Summary of work: Between October 2004 and March 2006 42 students (10%) took the six-week rotation. Rotating students are attached to an undergraduate curriculum unit (4-6 weeks). The rotation includes 30 hours of independent teaching of junior medical students, often as a group-tutor, studying the BMJ’s ABC-of-learning-and-teaching series and sitting a written exam on it, constructing 14 test questions, completing an advisory project for the unit co-ordinator and writing an essay on a medical education topic of choice.

Conclusions: The senior students, the co-ordinating teacher-supervisors, and the younger students are generally very satisfied with the student teachers. The curriculum benefits from the advisory projects and most essays are so well written that a selection is published as a booklet to read for teachers. These graduates start their career with a teaching qualification.

Take-home message: Teaching rotations appear to be a win-win enterprise in many respects.

8G 4  The long-term impact of a resident teaching skills improvement program – a model for program evaluation
Linda Snell* (McGill University Health Centre, Department of Medicine, Room A3.09, 687 Pine Ave West, Montreal, Quebec H3A 1A1, CANADA)

Background: Residents’ teaching skills improvement programs (RTP) have become an important part of many residency programs, often in response to curricular initiatives highlighting the CanMEDS ‘Scholar’ Role or ACGME ‘Practice-based learning’ competencies.

Objectives: to evaluate the evolution and impact created by a RTP.

Summary of work: We use a variant of Kirkpatrick’s model to analyze the 20-year history of our RTP from a single specialty educational event for PGY-3s, to an intervention with impacts at the level of individuals, programs and systems. We use a clinical educator’s portfolio to display and reflect on qualitative and quantitative outcomes.

Summary of results: Residents’ teaching skills and their satisfaction with their teaching roles improved from residency through to practice. Unanticipated consequences included: addition of additional related topics to RTP, transfer of teaching format to other specialties and other levels of learners (medical students, fellows, practitioners), experimentation with innovative learning formats, adaptation of novel evaluation methods, presenting workshops on how to implement RTPs, conducting educational research, and supervising undergraduate and graduate student research in this area.

Conclusions: This model of a long-term program evaluation demonstrates how one can examine diverse outcomes of a teaching improvement program for residents.

8G 1  Catching the wave of medical student increase without compromising the teaching environment and clinical skills acquisition at University of Montreal Medical School
C.Bourdy*, M Julien, P Gagné, M J Bédard and R Lalande (University of Montréal, CP6128 Succursale Centre-ville, Montréal, Québec H3C 3J7, CANADA)

Background: In recent years, Canadian Medical Schools were confronted with a major increase in student admissions. University of Montreal medical school is the largest in Canada and the fourth in North America according to the number of students admitted every year. As such, there were 259 students admitted in 2005 compared to 138 in 1998, representing an 87% increase in 7 years. To maintain high standards of clinical skills acquisition, the Faculty added to the existing network of 5 University hospitals, 2 new clinical sites in community hospitals in 2000, 4 others in 2004 and finally in 2005, the new regional campus in “La Mauricie”, 150 km away from the city of Montreal. Faculty development has been implemented rigorously in all these new teaching sites. Learning outcomes remained equivalent in all of the 12 sites. We will present the key components and the pitfalls we have come across to accomplish this tremendous challenge.

8G 2  The National Evaluation of the Expansion of Medical School Places in England (NEMS) project. This 3 year project, finishing towards the end of 2006, has attempted to examine the implementation and impacts of the recent expansion in medical schools places in England. From 1998 to 2003 there has been an approximate doubling of the number of places available at English medical schools, representing the largest expansion of undergraduate medical education since the establishment of the National Health Service. This research has been supported by the UK Department of Health and the Higher Education Funding Council for England.

Summary of work: An extensive mixed method (quantitative and qualitative) evaluation has been conducted. The evaluation model has utilised routine and bespoke data collected across all English schools, whilst conducting in depth case study work with a limited number of schools.

Summary of results: This presentation will give details of preliminary findings from this national evaluation project, including those covering the impacts of the expansion on clinical teaching settings, the participating medical schools, and on medical students. Implications for widening participation policies will also be examined.

8G 3  Designing a GME scorecard: Metrics for merit, productivity, impact and alliance
William M Stone* and Tamara Kay Erickson* (Mayo Clinic Arizona, 13400 E. Shea Blvd, Scottsdale AZ 85239, USA)

Background: In an environment of shrinking financial support for Graduate Medical Education (GME), a developing organization needs to strategically align new training programs with the clinical practice. This presentation will provide an overview of how to design...
an objective score card to 1) equitably assess requests for new or expanded training programs, and 2) determine resource allocation.

Summary of work: Mayo Clinic College of Medicine-Arizona has designed a GME prioritization process in order to establish or expand GME training programs. Based on four key indicators - academic merit, clinical productivity, financial effect and strategic alliance, questions are weighted for importance and scored by a review committee comprised of physicians, allied health and administration. To assure consistency, a defined scale provides guidance for assigning relevant scores. Proposals from department/divisions with the highest prioritized scores are proposed for approval and institutional funding. The process has been validated, by approval of all requests for funding.

Conclusions: This prioritization process is an integral part of fiscal planning for Graduate Medical Education at Mayo Clinic and provides valid measures to successfully leverage institutional resources. Participants will receive examples of the application, score sheet, rating scale and recommendations based on five-years of data collection.

8G 2 Smartphones as tools in PBL tutorials

K Hakkasaini*, J Jääskeläinen and A Syvänen (University of Tampere, Medical School, Finn-Medi 1, PO Box 33014, Tampere, FINLAND)

Aim: The new smartphones with advanced information access features offer information-seeking and processing tools that can be used in PBL tutorials. We studied students’ strategies of using these devices in PBL tutorials.

Summary of work: One tutor group of second year medical students (9 students) used smartphones (Nokia® communicator 9300 or 9300i) for six weeks. The communicators have 80 Mb memory, office applications and the 9300i models also support Wlan. Finnish Physicians database was installed into the phones. The medical students (9 students) used smartphones and portfolios were analyzed, and the students’ experiences before a clinical competency has been achieved, and score in the end of year ISCE.

Conclusions: Assessment performance across all of the localities shows that any differences can be accounted for in other ways and are not an effect of the place of study.

Take home message: It is possible to teach the same curriculum across three distinct localities and achieve the same level of student performance regardless of the type of assessment being undertaken. This is true whether the assessment is central or local providing common standards are applied.

8G 4 A tale of three cities: assessing student performance across a multi locality medical school

Lee R Gooberts*, Adrian Freeman and Chris Ricketts (Peninsula Medical School, University of Plymouth, C207 Portland Square, Drake Circus, Plymouth, UK)

Background: Students at the Peninsula Medical School (UK) study the same curriculum at one of three localities. Assessment is provided both locally and centrally but remains consistent across all locations. Student performance should be similar across all three sites in all areas of study regardless of the nature of the assessment and geographical location.

Summary of work: This work focuses on the Progress Test, a 125 item multiple choice test administered four times a year, clinical skills competencies and integrated structured clinical skills examinations (ISCSEs). Data will be presented that compare results from students studying in three different cities across these assessment measures including the number of correct, incorrect and don’t know responses on the progress test, number of attempts

8G 5 Change in interprofessional health professions education: a national program in Brazil

Regina Helena Petroni Menin*, Laura Feuerwerker and Stewart Mennin (Universidade Federal de Sao Paulo, Avenida Jacutinga 579, Apto 41, Sao Paulo CEP 04515-030, BRAZIL)

Background: Brazil has initiated comprehensive national innovation and change processes involving all health professions involving competencies in politics-management, education and health care. The goal is to educate a critical mass of health professionals to act strategically and collaboratively at local and regional levels to improve health care nationally.

Summary of work: The Ministry of Health, the National School of Public Health and Rede Unida (NGO), have organized a specialization course to develop leadership skills for 100 faculty members. In an amplification strategy, each of them works with 8 or 9 other faculty members in small groups making a total of 960 change agents in health professions education. These teachers represent federal, state and private universities and municipalities from different geographic regions in Brazil.

Course competencies integrate the everyday work world of health care practice and the world of health professions education. Course activities occur over one year and involve a combination of face-to-face, small-group, problem-based methods and online distance learning.

Conclusions: The experience of working together has stimulated significant exchanges and mutual learning among health professionals on a scale that is unprecedented in the history of Brazil’s Unique System of Health (SUS) and its national health education systems.
Conclusions: Take home message: The smartphone offers an opportunity for individual access and instant sharing of information in a PBL learning environment. The advanced technical solutions should be used to advance the social learning within PBL curriculum. Technical solutions offering access to digital databases with reasonable costs should be developed.

8H 3  
PBL in clinical clerkships at the Charité: students elaborate their own cases from real-patient encounters
Andrea Antolic* and Dagmar Rolle (AG Reformstudienag Medizin, Charité - Universitätsmedizin Berlin, Trainingszentrum für Ärztliche Fertigkeiten, Schumannstr 20/21, Berlin 10117, GERMANY)

Aim: To integrate PBL into clinical learning and give students more responsibility and creativity in the learning process, as part of a new concept of clinical clerkships.

Summary of work: At the reformed track in Berlin problem-based learning (semester 1–5) is changed to patient-based learning from the 6th to the 10th semester during which students also attend clinical clerkships. In the obstetrics/gynaecology clerkship students attended PBL-courses with prewritten case-scenarios and seminars for two weeks and afterwards learn on hospital wards for another two weeks. A new concept was developed to solve the disconnectedness of "theory and practice" during clinical clerkship and render PBL more interesting and stimulating for students to heighten their attentiveness during the proceeding study years. Now students spend more time at the hospital ward, they come back to seminars and PBL at the university only once a week. On the ward each student prepares a case for PBL to given topics (i.e. bleedings), based on a real patient and with aid of a handed-out matrix. Each student presents his case in his PBL study group. As all students have prepared themselves individually and have elaborated a case concerning the same topic, they all have already studied literature on it and are able to work on learning goals within one session. Afterwards open questions can be discussed with the mentor on the ward. After the session a copy of each case is given to all participants. The first course will begin in April 2006.

Conclusion: The evaluation of this project includes questioning students and PBL-tutors on different items including advantages and disadvantages of the new PBL method and the analysis of quality and topics of the presented cases. The results will be presented.

8H 4  
Cooperative learning and assessment
Pevkhat Bahar Özvarý*, Fısun Çuhadaroğlu Cetin, Sevgi Turan and Antoniette S Peters (Hacettepe University-Faculty of Medicine, Department of Public Health, Sihhiye, Ankara 06100, TURKEY)

Aim: Problem-based learning (PBL) tutorials are not necessarily cooperative, which may compromise learning. We introduced a cooperative assessment in PBL tutorials to increase interdependence and learning. We compared this cooperative learning and assessment model with individual, lecture-based learning.

Summary of work: We randomly assigned 150 students to experimental (8 cooperative PBL tutorials) and control groups (2 lecture-based groups). All students took a multiple-choice pre-test and earned individual scores. Experimental students discussed the PBL cases, and worked cooperatively to prepare for the final assessment. Experimental and control students received the same post-test. Individual achievement scores – pre-test/post-test gains – were calculated for control group students. All experimental group members shared their group’s average achievement scores. Experimental students completed a satisfaction survey.

Summary of results: Experimental groups gained more knowledge than did controls. The experimental students who scored low on the pre-test made the greatest gains. Groups that engaged in greater cooperation tended to have higher achievement scores. Experimental students felt that cooperation helped them learn but it also took more time and was sometimes chaotic and frustrating when the group lacked knowledge.

Conclusion: Cooperative learning and assessment may enhance achievement in PBL.

8H 5  
Student assessment in PBL tutorials: are they really useful and how can they be used?
Ray Peterson*, Carole Gannon and Ted Cleary (University of Queensland, School of Medicine, Herston Road, Herston, Queensland 4006, AUSTRALIA)

Summary of work: This study explored whether PBL tutors’ assessments of students in tutorials can predict student performance in the program, and whether the assessments should have a greater summative role. The key factor in the design of the assessment instrument was the alignment of the PBL tutor assessment process with the model of the PBL program being delivered, and with student summative assessment. The analysis explored the relationships between student assessment in tutorials on PBL process and knowledge base development (6 items) and knowledge base (6 items) development and their performance in the summative assessments. A global tutor rating was also compared with summative assessment performance.

Summary of results: The results demonstrate that both the tutor global rating and student assessment against the three criteria indicate that student performance does correlate with summative examinations, and is a predictor of student performance in the Modified Essay Question Paper and the Integrated Final Examinations.

Conclusions: Ensuring the alignment of the student assessment with the PBL model and the summative assessment strengthens the argument for the tutor assessment being a useful component in the assessment process. Therefore, should more weighting be given to this element in the overall summative assessment or should they only be used in a diagnostic manner?

8H 6  
Culture and learning: some useful lessons from problem-based learning
Matthew C E Gwee* and Hoon-Eng Khoo (National University of Singapore, Yong Loo Lin School of Medicine, Medical Education Unit, Block 17, 10 Medical Drive, Singapore 117597, SINGAPORE)

Background: Problem-based learning (PBL) is a learning system design implemented more than three decades ago. The basic tenets of PBL include student-centred, self-directed, reflective and collaborative small group learning, thus requiring students to be actively engaged in learning through active social interaction in an “all teach all learn” environment. The teacher’s role in PBL is that of the facilitator (tutor) of the learning process. However, the educational process in such a learning design may pose an apparent conflict with the Asian culture, generally characterized by respect for seniority, authority and elders, as well as an inherent trait of remaining reticent even when one is knowledgeable about a subject matter. The question then arises – will PBL be more of a hindrance to rather than an enhancement of learning for Asian medical students?

Summary of work: Evidence from the literature will be reviewed and discussed from the perspective of the influence and impact of the PBL learning environment on student perceptions and acceptance of PBL in the Asian context. Some Asian cultural traits which tend to support, rather than to impose, barriers to learning through the PBL way will also be discussed.
8.1 The FOSCE (Funny Objective Structured Clinical Exam)

J Newman*, C Newman*, X Casey* and C Casey* (Mayo Clinic, College of Medicine, 200 First St. SW, Rochester MN 55902, USA)

Learning how to obtain an accurate history and perform a thorough exam are essential steps in learning to practice medicine. This session will prepare the student to do neither of these. The FOSCE or Funny OSCE is a humorous way of involving students and stimulating discussion, as a precursor to more in depth educational efforts. The FOSCE has been described as the Monty Python School of learning. This high intensity session, tailored specifically for the Fringe time frame, will cover highlights of the Abdominal Pain, Chest Pain and Dermatosis FOSCEs. Audience members will be selected and have 2-3 minutes to make their diagnosis. FOSCEs have been used at the University of Texas Medical Branch at Galveston and the Mayo Clinic College of Medicine. Warning: FOSCEs may be hazardous to your sense of decorum.

8.2 Teaching on the run: the junior doctor in difficulty

F Lake* and G Ryan* (University of Western Australia, Education Centre, Faculty of Medicine, Dentistry and Health Sciences, MBDP: M515, 1st Floor ‘W’ Block, SCGH, Nedlands 6009, AUSTRALIA)

This workshop is one of 6 staff development workshops implemented widely and successfully in Australia. It is proposed the workshop be run for an audience of up to 24, to provide insights into the Teaching on the Run Package (see associated abstract).

Workshop summary: Junior Doctor in Difficulty: A small number of medical students and doctors have difficulties and require help; many more have minor problems and would benefit from support. The former however take up much time. Workshops outcomes: Regarding junior doctors in difficulty, participants will be able to: Understand the problems; Identify the causes; Examine management strategies; Identify prevention strategies; Increase confidence in dealing with difficult situations. Workshop activities include case review, collaborative problem solving in small groups and role play in pairs.

8.3 How and why do GP educators use literature (poetry and prose) to teach registrars?

Marion Lynch* (Oxford PGME, 7 Orange Close, Buckingham MK18 1JJ, UK)

Aim: To present a doctorate study into how and why GP Trainers and course organisers use poetry and prose to teach registrars.

Summary of work: A literature review reveals many gazes on this subject, from competency development eg narrative competence to being a good in itself, from empathy skills to observation skills. The findings from a qualitative study with GP educators in the Oxford Deanery will add to the understanding. There will be no book list, there will be themes. These themes may then inform the design and delivery of or even expectations within GP training and perhaps move us towards a more embodied education for an embodied profession.

8.4 E-learning or reframing social phobia as a revolution

E Hoffman*, P Kube, A Braunsberg, S Reinsch, W Blaum and J Pelz (Charité, Prodekanat Studium und Lehre, Schumannstr 20-21, Berlin 10117, GERMANY)

From AMEE 2005: “E-learning is (part of) the new educational revolution … student and teacher meet in the virtual classroom where there is no limit in time or space” – “…transferring their E-learning and didactic knowledge to the …medical teachers to develop fully integrated interdisciplinary blended-learning scenarios on their own.” – “…offers the introduction to a great tool that closes the gap between teacher and student”.

From REALITY 2006: 10 victims of E-learning attack during their traditional curriculum were interviewed using a qualitative research approach trying to analyse and understand the didactic advanced blended learning revolution in situ:

The typical of the untypical is lost – digitalisation demands either …or – high standardisation leads to loss of individuality – stress component does not exist either for the electronic patient or for the ‘physician’ - if you lose the patient restart the game by pushing the refresh button – reactions of the programs are programmed - learning medicine by program means execute medicine by program.

Pros and cons of E-learning and traditional ‘face to face’ teaching have to be carefully analysed. Share with us “…not to contradict and confuse, nor to believe and take for granted... but to weigh and consider.” [Francis Bacon]

8.1 Development of a compulsory national clinical skills examination in Peru

W P Burdack*, P Mendoza, P Soles and J J Norcini (Foundation for Advancement of International Medical Education and Research, 3624 Market Street, 3rd Floor, Philadelphia PA 19104, USA)

Background: The Association of Peruvian Faculties of Medicine (ASPEFAM) is developing a national clinical skills assessment in response to a new compulsory medical school accreditation law. The Foundation for Advancement of International Medical Education and Research and the National Board of Medical Examiners are assisting ASPEFAM in the development of this new instrument. We aim to describe the process of a transnational, multi-institutional faculty development project in a resource limited environment, and an analysis of the change process.
8J 2 

Developing a patient partnership scheme to support assessment and teaching: a joint undergraduate-postgraduate venture

L Park*, H S Cameron, A Elder, A Wood and A D Cumming (University of Edinburgh, Chancellors Building, Room GUG15, Little France, Edinburgh EH16 4SA, UK)

Aim: Authentic clinical assessment requires patients with clinical signs but they are often enrolled via an opportunistic system that is time-consuming, does little to address patients' needs and does not develop our patients' expertise. We have developed a patient partnership scheme with the University of Edinburgh and the Royal Colleges of Physicians and Surgeons in Edinburgh to enable patients' involvement in assessment and teaching. We will outline the background to the project, the process of recruiting patient partners and evaluation data.

Summary of work: Over the past six months we have enrolled 115 patients onto our patient partnership scheme and 98 have taken part in 17 days of examinations. The challenges include encouraging clinicians to refer appropriate patients, assessing the suitability of self-referred patients and maintaining accurate clinical information securely. We have developed a formal consent procedure, guidelines and protocols to protect the interests of patients, further improve the assessment process and offer opportunities to develop expert patient partners.

Conclusions: The patient partnership scheme has resulted in a wider range of suitable patients being readily available for the clinical examinations and patients have benefited from having a more structured approach to their involvement in the examinations with attention to their individual needs.

8J 3

The formative and summative use of mini-CEx assessments with undergraduate medical students

Faith Hill* and Kathy Kendall* (University of Southampton, Medical Education Development Unit, School of Medicine, Biological Sciences Building, Bassett Crescent East, Highfield, Southampton S016 7PX, UK)

Aim: The paper reports on the introduction of the mini-CEx at the Medical School in Southampton in 2004-5 and changes made in 2005-6. It outlines the findings of an evaluation that will be of interest to others planning to use this assessment.

Summary of work: A statistical analysis of 2,340 completed mini-CEx forms was undertaken, along with analysis of qualitative data from tape-recorded interviews with staff and students. The results led to changes that have been evaluated in a follow-up study.

Summary of results: The findings from the first evaluation were mostly positive but a range of problems and concerns were identified. It was necessary to make a number of changes to the format and organisation. The recent evaluation shows that these changes have helped overcome many of the concerns.

Take home messages: The mini-CEx can be successfully adapted as a formative and summative assessment tool for undergraduate medical programmes. Staff and students prefer the mini-CEx to traditional long-case examinations and particularly value the formative aspects of the assessment.

8J 4

The Script Concordance Test as a tool for assessment in context of uncertainty: a scoring process study

Bernard Charlin*, Robert Gagnon, B Carrière and C Lambert (Université de Montréal, Faculté de Médecine - direction, C.P. 6128, succursale centre-ville, Montréal, Québec H3C 3J7, CANADA)

Aim: The Script Concordance Test as a tool for undergraduate medical programmes. Staff and students prefer the mini-CEx to traditional long-case examinations and particularly value the formative aspects of the assessment.

Summary of results: The findings from the first evaluation are compared to those of the panel of reference. Scores reflect the degree of concordance with panel members.

Aim: To study different scoring methods, checking how best they take in account variations among panel members and how well they provide examinees with meaningful scores.

Summary of work: Different scoring methods are tested on two data sets, one on radio-ONCOLOGY and the other on pediatric emergency knowledge.

Summary of results: Several methods: traditional aggregate, distance to the mean and T score transformation give highly correlated results, good discrimination of examinees and similar alpha Cronbach coefficients.

Conclusion: T score transformation gives more meaning for score interpretation.

8J 5

Shared clinical examinations between medical schools require shared examiner training if comparisons between schools are to be valid

A M S Chesser*, K A M Bouriscot, N Cameron, J Oelend, P Evans and G Mires (Barts and the London NHS Trust, Renal Unit, Royal London Hospital, Whitechapel, London, UK)

Summary of work: Examiners in different schools may vary in the way in which they award marks, thus confusing any attempted comparison between students across schools. We embedded a common history taking station in the third year OSCE of four different UK medical schools. In each school, the station was double marked for a subset of the students. One examiner was 'local' to the medical school, receiving that school's usual examiner training. The second was drawn from a 'central' pool of examiners, who conducted their examiner training together and independently of local examiners.

Summary of results: The passmarks set by the borderline group method varied significantly between the schools while mean scores awarded by the local examiners were significantly higher in two of the schools. The numbers of students failing varied from 28.8% to 38.6% across the schools. The passmarks set by the central examiners did not vary significantly between the four schools. Mean scores and the percentage failing were not significantly different in three of the schools, but the mean score was significantly higher in one school.

Conclusion: We conclude that student scores in common clinical OSCE stations can be compared across different medical schools only if examiner training is standardised and controlled. If examiners are locally trained, we have shown that differences in examiner behaviour confound the comparison of students between schools.

8J 6

Are postgraduate trainees in family medicine as good observers as trainers in an OSCE?

Anneck Derminck* and Jan Degryse (I.C.H.O. Kapucijnenvoer 33 blok J, Leuven 3000, BELGIUM)

Background: The final assessment procedure of general practitioners in Flanders consists of an oral examination, a written (MCQ) examination and an OSCE.

The OSCE is organized every year for ±200 students. Experienced GP trainers have been appointed as observers. This study explores the possibility of using second year trainees as observers in the existing OSCE.

Research Questions: (1) How do the ratings of the trainee-observer on the one hand and the ratings of the trainer-observer on the other relate to the ratings of a "golden standard"? (2) Is there a significant effect on the pass/fail decision?

Summary of work: We videotaped 5 out of the 20 stations. Trainees and trainers observed those 5 stations simultaneously (independently). Afterwards, those stations were observed on tape by a 'golden standard', a jury of well-experienced trainers in family medicine. The 3
ratings were compared using different methods: Plotting, correlations, Bland Altman plots.

Summary of results: The scores of the trainee and the trainer showed large differences. The observed correlations were only significant in 3 cases.

Conclusion: Trainees scored differently from the well-experienced golden standard. Surprisingly the trainers did as well. Trainees scored differently from the trainers. A difference in pass/fail decision was observed.

Workshop 8K Constructing single-best-answer question in the integrated curriculum

Zubair Amin (Department of Paediatrics, Yong Loo Lin School of Medicine, National University of Singapore)

Background: Single-best-answer questions, more popularly known as MCQs, are the mainstay of written examination in medicine. Although highly valued for their broad content coverage and objectivity, MCQs are often criticized for their inability to test clinical judgment, patient management, decision-making skills and other higher order cognitive attributes.

Program objectives: In this specially designed workshop we will take an evidence-based, skill-oriented practical approach. At the end of this workshop, we will be able to (1) Recognize features of MCQs; its advantages, limitations, and usability; (2) Develop clinical scenario-based integrated MCQs that test higher order cognitive skills; (3) Avoid common technical flaws in MCQs.

Intended audience: This is a workshop for medical teachers (basic and clinical science) involved in student assessment.

Level of workshop: A prior working knowledge of assessment terminology will be helpful.

Programme format: A mixed learning environment including brief plenary, group discussion and hands-on activities. We will work in small groups (2-3 persons) to develop MCQ and review each other’s work. You might want to bring samples of your work (clinical scenario, images, x-rays) that you might want to use in the MCQs. Please bring your own laptop if possible.

Pre-reading: In order to get maximum benefit we highly recommend that you read “Constructing Written Test Questions for the Basic and Clinical Sciences” by Drs Susan Case and David Swanson. This is available freely in the web in the following address: http://www.nbme.org/about/itemwriting.asp

Workshop 8M Item banking: an international session to discuss styles and approaches

Chairperson: Ged Byrne (University of Manchester, 1st floor ERC, Wythenshawe Hospital, Southmoor Road, Manchester M23 9LT, UK)

The purpose of the session is to meet and discuss approaches to question writing and quality assuring with individuals and groups involved in writing for and using assessment banks (intra and inter-institution).

Posters 8N General assessment; Written assessment

8N 1 What is the function of permanent evaluation in the first year in a traditional curriculum?

Johan Beullens*, Jos Rogiers and Nathalie Drune (Centre of Medical Education, Faculty of Medicine K.U. Leuven, Herestraat 49 bus 400, Leuven B-3000, BELGIUM)

Background: In 2004-2005 biophysics was reformed in the first year of medical and dental education so as to stimulate students’ learning activities and to integrate contact moments and electronic guidance. Additionally, permanent evaluation was introduced. In 2005-2006 this innovation was extended to biomedical sciences education, however, without the permanent evaluation. Research questions are: (1) What was the students’ attitude towards permanent evaluation? and (2) What was the effect of the innovation on examination results of the three subjects examined, i.e. biophysics, biology and chemistry?

Summary of work: In 2005-2006, 189 medical and dental students and 120 biomedical sciences students filled out a questionnaire after their biophysics examination. 36 of the 39 questions were common. For each item students had to judge on a six point scale to which degree they agreed with a statement. For biophysics, biology and chemistry the examination results were compared with those of the three preceding years.

Conclusions: Medical and dental students were very positive concerning permanent tests which count for their final marks. Only in biophysics were their results significantly higher than in preceding years. Although biomedical sciences students also wished a permanent evaluation, this was not organized for them. Their scores for biophysics and biology were lower than in preceding years.

Take home messages: A permanent evaluation in the first year at university can be an effective tool in activating students to learn, resulting in deeper understanding of the course material and higher examination scores.

8N 2 Assessment in parasitology: time for more innovative strategies?

T de Waal (University College of Dublin, School of Agriculture Food Science & Veterinary Medicine, Veterinary Sciences Centre, Room 034, Belfield, Dublin 4, IRELAND)

Aim: To investigate the current assessment practices in undergraduate parasitology curricula in United Kingdom and Ireland.

Summary of work: Lecturers involved in teaching parasitology at ten Universities in the United Kingdom and Ireland were asked to complete a questionnaire on curriculum and assessment formats.

Summary of results: Ninety per cent of the questionnaires were returned. A basic course in parasitology was delivered anywhere between year 1 and year 3 of study. Only 3 courses had a specific form of self assessment
while peer assessment of students was not practised at all. The range of summative assessment formats varied considerably among the respondents but all used a combination of assessment formats. Essay type questions still appeared to be the most popular for assessing student knowledge and understanding and multiple choice questions (MCQ) were regarded as the most practical form of student evaluation. The drawbacks of these formats were well recognised.

Conclusion: Although there have been considerable efforts at many Universities to change curricula (including the parasitology curriculum) from a teacher-directed to a more student-centred one, anecdotal evidence would suggest that the theory and practices surrounding assessment is lagging behind. With the increasing demand on staff time there is an obvious need for continual re-evaluation of assessment methodologies not only to enhance its cost-effectiveness but also its validity, reliability and fairness. We intend to further investigate alternative strategies, such as Extended Matching Sets (EMS), for example, to assess higher order cognitive skills such as understanding and analysis across the breadth of the subject area.

8N 3 Integrated assessment in the St Andrews undergraduate curriculum

A Fleet* and C J M Nicol (University of St Andrews, Bute School of Medicine, Queen's Gardens, St. Andrews, Fife KY16 9TS, UK)

Aim: This presentation aims to describe how to examine students using novel case-based scenarios to assess specific knowledge streams.

Summary of work: The curriculum at St Andrews has moved from a situation where many modules ran in parallel, to a systems-based delivery in the Honours years, where normal structure and function is followed by abnormal structure and function, diseases, and treatment, all within a single module. When we teach our students, we hope that they will not only be able to recall facts taught to them, but also apply their knowledge to novel situations. To test this, we included integrated questions, based around a case-based scenario in the module examinations. The case-scenarios were written by a multi-disciplinary team and used to ‘hang’ assessment of specific modalities on. In the previous curriculum at St Andrews, these aspects of the course were taught in distinct modules and hence examined separately.

Summary of results: In the end of module examinations, the students were assessed using both single-modality questions and integrated questions. The grades for each type of question were not significantly different.

Conclusions: Take home messages: Integrated questions allow the examiners to assess a broad spectrum of disciplines within one case, mirroring medical practice more closely than single-modality questions can.

8N 4 Psychometric properties of a ‘tag test’ of three-dimensional anatomical knowledge

Sebastian Schubert*, Kai Schnabel, Andreas Winkelmann (Charité – Universitätsmedizin Berlin, Arbeitsgruppe Reformstudiengang, Schumannstrasse 20/21, Berlin 10117, GERMANY)

Background: The ‘tag test’ is an alternative to written or oral examinations in anatomy. The students rotate through ‘stations’ of anatomical specimens with corresponding multiple-choice or short answer questions. This assessment format combines the objectivity and practical form of student evaluation. The drawbacks of these formats were well recognised.

Conclusion: Although there have been considerable efforts at many Universities to change curricula (including the parasitology curriculum) from a teacher-directed to a more student-centred one, anecdotal evidence would suggest that the theory and practices surrounding assessment is lagging behind. With the increasing demand on staff time there is an obvious need for continual re-evaluation of assessment methodologies not only to enhance its cost-effectiveness but also its validity, reliability and fairness. We intend to further investigate alternative strategies, such as Extended Matching Sets (EMS), for example, to assess higher order cognitive skills such as understanding and analysis across the breadth of the subject area.

8N 5 The evaluation of student poster-presentations by using rubrics at Ankara University Faculty of Medicine

M F Atacanli*, M Ozen, D Palouglou, A Kinkoglouali, S Kiemath, H Akan and H Ayhan (Ankara University, Medical Education and Informatics Department, Faculty of Medicine, Ankara, TURKEY)

Ankara University Faculty of Medicine (AUFM) has undergone a major curricular change and developed a problem-based hybrid curriculum in 2002. An evidence-based medicine (EBM) course was introduced as one of the innovations in the new curriculum. In the EBM programme, students put into practice their theoretical knowledge through poster presentations. In this study we aimed to evaluate the posters by using a rubric. During the 2005-2006 academic year Term 2 students prepared 31 posters and Term 3 students 61 posters. Different rubrics for each term were formed by the authors according to learning objectives and lecture content. All posters were evaluated in sections using these rubrics.

Statistical analysis showed that in “Introduce”, “Methods”, “Discussions”, “Visual features” and “Total” sections Term 3 students were more successful (p>0.01); “Title” and “Results” sections were not significantly different. In AUFM, the EBM programme aims to help students gain competency in medical investigation and presentation. Our findings suggested that students’ success in EBM practice is progressively increasing over the year, and the well-prepared rubrics are suitable for measuring this skill.

8N 6 Making assessment relevant for practice in an MA in clinical education

Gathy Sherratt and Andrew Sackville* (Edge Hill University, Faculty of Education, St Helens Road, Ormskirk L29 4QY, UK)

This poster outlines the philosophy and design of the assessment methods used on an MA Programme in Clinical Education, offered by Edge Hill University College in the UK. This programme is delivered primarily by supported online learning.

The course team has been determined, since its inception, to use assessment methods in this programme which are both formative and continuous throughout all modules – rather than relying wholly on an end-point, summative assessment task. They have also been concerned to ensure that the products of the assessment are grounded in real experience and reflect each student’s unique clinical context. Assessment tasks can therefore be used subsequently in teaching and learning facilitation activities in the student’s work situation.

The poster will outline these assessment methods; and will also present evaluative research on the effectiveness of this philosophy and the related assessment processes.

8N 7 Final obligatory practice

Jose Maria Willington (National University of Cordoba, Faculty of Medical Sciences, Enrique Barros S/n, Pabellon Peru, Cordoba CP 5000, ARGENTINA)

Background: The Faculty of Medical Sciences of the National University of Cordoba, Argentine Republic, was founded in 1876. Since 2001 it has reduced the number of students admitted from 2,000 to 500. This drastic reduction was decided upon because we were
not qualified by CONEAU (National Commission of Education and Accreditation) in its evaluation of 2000. In 2003 a further evaluation qualified our Medical School. Since 1999 we implemented a voluntary final practice for sixth year medical students. This final practice becomes obligatory for sixth year pupils in 2007.

Summary of work: 622 students have taken the voluntary practice since 1999 (six years 99 – 05). Students and teachers involved in this process are highly satisfied as proved by evaluations and surveys taken at the end of their practice.

Conclusion: With this previous experience we are certain that the obligatory final practice, beginning in 2007, will improve the capacity of our students allowing them to reach the skills and competencies that we consider necessary.

Take home message: It is possible, although very difficult, to develop drastic changes in our environment which is highly politicised by student unions.

8N 8 Undergraduate surgical examination assessment: an evaluation of individual examination method versus overall result
B D Barry*, J M N Mhuircheartaigh, J B Conneely and M J Kerin (University College Hospital, Department of Surgery, Clinical Science Institute, Room 313, Galway, IRELAND)

Background: There is much debate as to the most appropriate means of student assessment at the end of their medical undergraduate training. The aim of this study was to compare student performance across 5 modalities of assessment.

Summary of work: In our medical institution final MB students are examined in 5 ways (all of which contribute to the overall result) – essay type questions (30%), continuous assessment (25%), major cases (17.5%), minor cases (17.5%) and oral examination (10%). All examiners are blinded and results are generated from each section independently. Descriptive statistics were generated, results were compared. The mean and standard deviation were similar for all examinations. Spearman’s correlation coefficient was >0.7 for all modalities except continuous assessment. All exams were reliable with Cronbach’s alpha >0.7. Agreement analysis for pass/fail showed that written and oral exams demonstrated substantial agreement, major and minor demonstrated moderate agreement and continuous assessment demonstrated poor agreement (table included in poster).

Conclusion: This study confirms that final medical students can be examined in several valid ways.

8N 9 Psychologico-pedagogical technology of assessing students’ educational achievement
A N Kalinichenko* and L N Novikova (Izhevsk State Medical Academy, 281 Kommunara str, Izhevsk 426034, RUSSIA)

This technology is designed to be implemented in both higher and secondary medical schools. It is based on three elements: (1) a system of signs, reflecting aspects of the educative process; (2) a rating module of assessing both individual and group educational achievement in rating units; (3) computerized program which processes the data of the course of the teaching process permitting us to conduct operative analyses of educational achievement of the student, of the group, of the year of study, of the faculty, of the school, as well as of several medical schools. Maintaining the existing 4-mark (1, 2, 3, 4) system of assessing academic achievement, this technology allows us to assess educational achievement within the range from 2.50 to 5.50, taking into account encouraging (from +0.10 to +0.50) or penal (from –0.10 to –0.50) points received by the students. Thus the scale of 300 educational units is formed. This approach gives us a possibility to determine the following levels of achievement: –0.50 – lowest, 0.49 – 5.00 – higher, 4.49 – 4.00 – high, 3.99 – 3.00 – middle, etc. This method of assessing to within 0.01 can be one of the most important factors of qualimetric monitoring in the system of medical education.

8N 10 Effect of assessment format on students’ information processing strategies
Marjolein Penninga* and Janke Cohen-Schotanus (University Medical Center Groningen, Faculty of Medical Sciences, Institute for Medical Education, Ant. Deusinglaan 1, Groningen 9700 AV, NETHERLANDS)

Background: Students use different strategies to process information. According to the literature deep learning (characterized by improving understanding, applying and comparing ideas) is didactically preferable above surface learning (characterized by reproduction strategies without integration). Theoretically, open-book tests are expected to stimulate deep learning. In the present study the relationship between assessment format and learning strategies of medical students is examined. The primary research question is: do open-book tests stimulate deep learning more than closed-book tests?

Summary of work: Using the Test for Deep Information Processing second year medical students (N= 440) evaluated their preparation for open-book tests and for closed-book tests. This questionnaire consists of 24 items divided into three subscales (Critical reading, Broaden one’s context, Structuring).

Conclusions: Students scored significantly higher on the subscales Broaden one’s context (t (370) = 5.33, p < .001) and Structuring (t (367) = 7.79, p < .001) and on total (t (336) = 5.43, p < .001) when answering the Test for Deep Information Processing about closed-book tests.

Take home message: Information processing strategies are influenced by assessment formats. Closed-book tests stimulate deep learning more than open-book tests.

8N 11 Using an evaluation form to determine the level of learning in students completing practical training in forensic medicine
N Abeyasinghe* (Faculty of Medicine, 70 B Byness Road, Colombo 7, SRI LANKA)

Aim: Evaluation could be used to determine the level of learning in students completing practical training.

Summary of work: Fourth year students learn Forensic Medicine as a month long module after which they are assessed. Thereafter student groups undergo two weeks of practical training to enable them to prepare professional reports. This training is assessed by a viva comprising of photographs, autopsy material, court reports and their own reports. Eighty six students who completed the module and practical training were given an evaluation form with questions testing different levels of learning.

Summary of results: Their pass rate at the module assessment and practical training were 96% and 86% respectively. Findings of the evaluation showed that 90.7% of students passed questions testing factual recall and 52.4% of students passed questions testing interpretation and analysis. The difference was significant (p<0.01).

Conclusions/Take home messages: Although formal assessments showed a high pass rate, it appears that most students learned at a ‘factual recall’ learning level (90.7%). Only half of them learned at a higher learning level (52.4%).

Assessments should address different levels of learning. This necessitates that course content, instructional methods and practical training also address those levels of learning.
8N 12 Continuous adjustments of assessment activities in order to improve learning
Elisabeth Persson*, Gunnar Birgegärd, Fredrik Andes, Kristofer Nyström and Astrid Hoppe (Uppsala University, Faculty of Medicine, Educational Unit, Kunskapscentrum, Entréen 61, 1st Floor, Uppsala Akademiska Hospital, Uppsala SE 751 85, SWEDEN)

In order to improve learning from the assessment at the end of a course in clinical chemistry, continuous adjustments were carried out during five semesters. The assessment initially consisted of a home assignment followed by teachers presenting the expected answers. The teachers wanted to improve the learning outcome of the course and so peer-review as well as small-group discussions were introduced. The peer-review was performed through e-mail exchange. This was abandoned due to practical constraints and low scores in student evaluations. The groups were initially asked to discuss the assessment and identify difficulties or misunderstandings which were presented at the follow-up. When the peer-review was abandoned, the groups were instructed to formulate their common answers, to be submitted together with outstanding questions. The follow-up was initially dominated by teachers followed at the end by questions from students, then changed to presentations by all student groups to be commented by teachers, and finally adjusted to each question in the assessment being briefly presented by teachers and student remarks directly invited.

This work shows how an action-oriented approach led to stepwise changes in assessment methods until both students and teachers were highly satisfied.

8N 13 Post review process increases item quality
Doerte Wieland*, Katrin Osterberg and Katrin Braun (AG Progess Test Medizin, Charité Campus Mitte, Schumannstr. 20/21, Berlin 10117, GERMANY)

Assessment is supposed to measure the performance of a student at a specific point of time. Often, grave consequences result if a student fails an exam. Therefore it is important that all assessment tools meet scientific criteria. Usually they are constructed according to Classical Test Theory (CTT). Single items are constructed capturing a specific content of medical knowledge. The sum of all items answered correctly represents the performance of each candidate. Calculating the reliability and validity controls the quality of an exam. In this process, testing, and if necessary eliminating items, is often neglected before usage in a test because it is difficult in daily practice. To meet the requirements of CTT one should control the characteristic item values a posteriori to identify those items which are for instance not selective. In addition to statistics one should give suspicious items (back) to a review committee of university teachers to judge the items in a Post Review Process. Critical items can be removed from the test or, if necessary, the answer marked as correct can be exchanged.

In addition to an increase of test quality, the Post Review Process also offers quality control of review committee work and the items themselves. In addition, permanent feedback to the review committee members and authors emphasizes their professionalism. We will present a study which investigates the effect of a Post Review Process at four different levels: Improvement of item quality, changes in review committee work, changes in item writing by the authors and the acceptance by the students. We will discuss costs and value.

8N 14 Oral exam in group
Helene Wallsten* (Karolinska Institutet, Department of Clinical Sciences, Intervention and Technology, Section of Audiology, Alfred Nobels Alle 10, Stockholm 14183, SWEDEN)

The aim with this study was to investigate how students at the Audiology programme at Karolinska Institutet experienced an oral exam in a group. Each student was supposed to prepare at least three different subjects/talks based on topics from the course. They were supposed to actively discuss the topics in the group as well as acting as leaders of the discussion. The discussions were supposed to be held in the form of a debate, a problem presentation or to bring up an issue in question. 16 students answered the evaluation voluntarily. 11 of the students thought the examination was appropriate according to the curriculum. Some of the comments were “Beneficial to learn more about the issues in question”. Good for the group to practise skills in discussion”. 4 of the students were more critical about this form of examination. Some of their response were “The examination was quite appropriate, but the risk is that not all topics are brought up”. “Several students had chosen quite equal topics which did not reflect the total content of the course”. Some changes can improve this form of examination. However it is a useful way to examine students in many perspectives.

8N 15 Use of the ‘bookmark’ standard setting method on a test of clinical acumen, so that the test can be used to predict the training needs of GPs
Phil Matthews (Cardiff University, Murrton Lodge, Murrton, Swansea SA3 3AT, UK)

Aims: The “Bookmark” standard setting method, preferred by most North American state education boards, enables the meaningful interpretation of examination scores. This account outlines the method itself; and the manner and product of its application to a test of broad clinical knowledge, so that the test can be used to reliably predict doctors’ training needs.

Summary of work: In Wales during 2005, a group of 24 GP educators applied the method to determining the test score ranges which equate to four levels of pre-defined learning need.

Summary of results: The procedure was completed in 3 hours; was easy to use; and had good face validity. The test in question and standards set have since been used alongside complementary assessments to successfully establish the training or induction requirements of (1) doctors wishing to train as GPs in Wales; (2) UK GPs wishing to re-enter the Welsh workforce; (3) foreign GPs wishing to work in Wales.

Conclusions: The “Bookmark” method is an effective and efficient means of setting test standards; and can facilitate the meaningful prediction of the knowledge learning needs of doctors aspiring to work in UK General Medical Practice.

8N 16 Multiple-choice assessment: a comparison of scoring algorithms for multiple-answer questions
M Holzer*, D Bauer, V Kopp and M R Fischer (University of Munich, Klinikum der Universität München, Medizinische Klinik - Innenaust, Ziemssenstr 1, Munich 80336, GERMANY)

Aims: To compare four different scoring algorithms employed to determine students’ scores in multiple-choice (MC) exams with multiple correct answers regarding performance, reliability, selectivity, and item difficulty.

Summary of work: Data from 420 3rd year medical students’ end of term exam in internal medicine at Munich University were analysed. Each student answered 30 MC questions with up to 15 possible answers. Each question scored one point. No negative scores were applied. The following scoring algorithms were compared: (1) “Dichotomous” (D); One point if all correct and no wrong answers were chosen; (2) “Partial 1” (P1): One point for 100% correct answers; 0.5 points for 50% or more true answers; zero points for less than 50% correct answers; (3) “Partial 2” (P2): A fraction of one point depending on the total number of possible answers was given; (4) “Partial 3” (P3); 0.5 points were granted for n-1 correct answers.
8N 17 Reliable and valid assessment of knowledge and understanding in medical students

L J Woodgate*, M J Coffey and R W Marshall (Cardiff University, Department of Pharmacology, School of Medicine, Heath Park, Cardiff (CF14 4XN, UK))

Summary of work: Knowledge and understanding of medical students is assessed using an EMQ format. Five standard question types have been defined and templates for their production developed with the aim of preventing candidate confusion and facilitating the accumulation of question databases. A standardised value system has been developed where each question is worth 5 marks with a nominal scoring rate of a mark/minute for 1h. Scripts must contain at least two open questions requiring de novo answers. The scripts are marked using Remark® scanning software that was chosen because it allows us to prepare flexible format templates in Microsoft Word® and because it retains the image of each script allowing easy checks of scanning accuracy. Software for rapid analysis of the response data has been developed to allow examiners to review and, where necessary, amend the nominal answers. The implementation of this system required the development of strict protocols to ensure that it is and remains valid and reliable.

Conclusion: This innovation has improved the assessment process by allowing formal checking of the validity of each question in the light of candidate response. It has shifted the nature but not reduced the resources required to manage the assessment process.

8N 18 Is a multiple choice questionnaire a reliable method of testing skills retention?

B T Langham*, M Dawson, S Canaway, D Jones and M Riyat (Derbyshire Royal Infirmary, Dept of Anaesthesia, London Road, Derby DE1 2QY, UK)

Background: The ALERT course was designed as a teaching package to recognise early detection of life threatening events in hospital. However, there is no evidence to suggest that these skills are retained and patient treatment is improved. This study looks at the process of knowledge testing and whether the use of a simple MCQ can accurately assess skills retention.

Summary of results: The P1-algorithm showed best results concerning total item correlation, item difficulties, and internal consistency (Cronbach’s alpha), respectively.

Conclusions: The P1-algorithm seems to be the preferable method for the scoring of multiple answer MC questions.

8N 19 Does time of leaving multiple choice-type assessments correlate with performance?

S L Fowell*, R Fewtrell and D C M Taylor (University of Liverpool, School of Medical Education, 2nd Floor, Cedar House, Ashton Street, Liverpool L69 3GE, UK)

Students often leave multiple choice-type assessments well in advance of the allotted time for the assessment, and MBChB students are no exception. It is not clear whether students who leave early perform well on the assessment, or whether early completion leads to poor performance. Studies on college students suggest that there is little relationship between time of completion and performance, but this has not been investigated for undergraduate medical students. It is important to establish whether there is any relationship between time taken to complete the assessment and performance on the assessment. This information could be used to supplement existing guidelines on exam strategy for students taking such assessments. In addition, information on the time spent on the assessments by candidates would enable us to ensure that these assessments match recommendations regarding the timing of assessments and do not function as speeded tests, which would limit their reliability. Data for the correlation between the time spent and candidates’ scores for the Year 4 formative and summative assessments taken in 2006 will be presented. The implications regarding advice to candidates and the duration of multiple choice type assessments will be explored.

8O 1 Using the Calgary-Cambridge communication skills framework: what do students find difficult?

Chris Harrison*, Jo Hart and Val Wess (University of Manchester, Primary Care, Rusholme Academic Unit, Walton Street, Manchester M14 6NP, UK)

Aim: The study aimed to investigate which aspects of the Calgary-Cambridge framework second-year medical students found most problematic. Medical students at the University of Manchester receive experiential training in communication skills based on the Calgary-Cambridge framework from the beginning of their course. Students develop their skills with both simulated and real patients.

Summary of work: 361 2nd year Manchester medical students were assessed (in a 2 station summative OSCE with trained role players) on 5 constructs of the framework. Each construct was scored on a 4 point scale based on the number of key skills they used.

Summary of results: Students used most aspects of key skills on introductions (89.2% students used most skills), gathering an account (66.7%) and relationship-building (70.1%), but fewer students used most skills in responding to patients’ concerns (61.6%) and structuring the consultation (55.0%).

Take home message: Although equal curricular time is spent on each of these skills, students are finding it particularly difficult to structure consultations, pick up cues and respond to concerns. The implications of this for curriculum design will be discussed.

8O 2 Factors influencing knowledge of communication skills in medical students

Anders Boerheim*, Per Hjortdahl, Tor Anvik, Ole Bernt Fasmer, Hilde Grimstad, Tore Gude, Are Holen, Terje Risberg and Per Vagum (University of Bergen, Department of Public Health and Primary Health Care, Section for General Practice, Kalfarveien 31, Bergen N-5018, NORWAY)

Aim: To elucidate whether elements of the curriculum and student background factors influence medical students’ knowledge about communication skill.
80 3 Learning to communicate as an academic

Julia Cork* and Alison Ahearn (Imperial College London, Division of Surgery Oncology Reproductive Biology and Anaesthetics, Room T003, Charing Cross Hospital, London W6 8RF, UK)

Background: We observed poor academic communication skills in medical students on the six-week, Year 3 Foundation Course of the BSc in Surgery and Anaesthesia at Imperial College, London. They communicated in an opinionated, journalistic style which did not reflect their knowledge and understanding. To help students develop these skills, we provided the tools to use evidence-based writing to communicate their critical thinking, avoid plagiarism and develop academic expository writing skills.

Summary of work: Three 3-hour sessions were delivered and topics included oral presentations, with and without visual aids, posters and essays. Sessions were a mix of didactic teaching, application and practice, with self and peer critical evaluation. The ‘hand-talker’, a planning tool for all forms of academic communication, was demonstrated. Students were given the opportunity to practise skills throughout the course and were assessed by a group poster presentation and individual essay based on a given research topic. The students showed improvement from those of the previous year and it was noted that they maintained this improvement in the assessments during the following Science Year.

Conclusions/Take home messages: Students can develop academic communication skills if they are provided with the tools and opportunities to practise.

80 4 The introduction of the ‘Reflection-on-action’ method with ‘experienced’ students: a comparison project

Anita Laidlaw* and Gerry Humphris (University of St Andrews, Bute Medical School, Westburn Lane, St Andrews, Fife KY16 9TS, UK)

Aims: Medical students are often taught communication skills using role play either between students or using a simulated patient (SP, an actor playing the role of a patient). Previous work has shown that: (1) This type of workshop can result in student anxiety, especially if group size is large; (2) Students not only enjoy role play with simulated patients more than traditional role play, but also rate this type of workshop as more effective learning experience. A system of reflection-on-action, where discussion focuses on how to proceed was introduced in our workshops with the aim of reducing student anxiety.

Summary of work/results: Students completed attitude questionnaires and the student/SP interactions were videotaped, coded (types of question, interaction length and SP behaviour) and analysed. Students who were ‘naive’ to communication skills teaching were compared to those more experienced. Initial results were favourable for the reflection-on-action method.

Conclusions: These comparisons will give further insights into the effectiveness of teaching, and its effectiveness. They should also indicate the impact of differences in curriculum upon the attitude and performance of students.

Take home messages: This work provides support for reflection-on-action as a suitable approach for learning communication skills.

80 5 From asking questions to listening: experiences from communication training during first and second years

Sven-Olof Andersson*, Karin Seijings* and Katarina Hamberg (University of Umeå, Department of Public Health and Clinical Medicine, Family Medicine, Unit of Professional Development, By 9A, N05, Umeå S-90183, SWEDEN)

Aim: To develop early communication training in medical education.

Summary of work: During the first year the students interview one patient each about his/her experiences of disease and health care and follow patients to the doctor at a health centre during one day. They interview the patients before and after the consultation about expectations/experiences and watch the doctor and the patient in the consultation. They write a report about these experiences and relate them to the literature. The students are trained to listen in a structured way in groups of three (T1). Later on the listening/talk/consultation as the physician’s basic method is repeatedly trained with focus upon a mutual investigation of a phenomenon or problem, such as own experiences of “understanding” and “misunderstanding” (T2), important driving forces/interests in life and worries in life (T2), problems and satisfaction in the work as a medical student (T3) and similar subjects (T4). The training concludes with role plays and feed-back (T4). Experiences from the training will be presented.

Conclusions: Training of communication, with focus upon listening, mutual/joint investigation of common phenomena or personal experiences and thoughts, is appreciated by the students in the early phase of medical studies.

80 6 The correlation of medical students’ communication skills and physician-patient interaction scores

Sun Kim* and Yena Hur (The Catholic University of Korea, Department of Medical Education, College of Medicine, Seocho-gu Banpo-dong 505, Seoul, REPUBLIC OF KOREA)

This study focuses on the Patient-Physician Interaction (PPI) in Clinical Performance Examination (CPX) context. Its purpose is to clarify the relationship between medical students’ PPI scores and their communication skills level. Tools used to measure students’ communication skills were “Essential Elements of Communication Skills” and 7 PPI items in the CPX assessment sheet which was completed by the SPs. Among the 7 items (Professional quality, Effective information, Active listening, Building relationship, Encourage patient, Sympathize patient, Explain treatment), 5 items showed significant differences. In all 5 items which showed the differences, SPs’ scores were higher than the students. In correlation analysis, out of 49 pairs, only 6 showed significant correlation between students’ communication skills level and PPI scores. From the result of the study, we conclude that medical students tend to underestimate their Physician-patient interaction skills. Although this study proved students’ communication skills level does not directly relate to Physician-patient interaction skills, we must undergo a close examination of the assessment tools’ context as to whether they actually assess the corresponding criteria. Further studies are recommended with a wider range of medical students in various medical schools.
**807** 
**Patients’ attitudes towards medical students in Riyadh, Saudi Arabia**  
Mohammed O Al-Rukban*, Hamza Abduljani and Shafti Ahmad (King Saud University, PO Box 91678, Riyadh 11643, SAUDI ARABIA)  
Aim: To describe patients’ attitudes toward medical students.  
Summary of work: A cross sectional study was conducted at two hospitals, in Riyadh, Saudi Arabia. A group of medical students interviewed randomly selected patients using a questionnaire that covered 20 variables. Data were analyzed using SPSS software.  
Summary of results: Of the 492 patients surveyed, (51%) were out-patients, (50%) were males, 86.4% were Saudi, 73.8% were married and (55%) had interacted with medical students before. The majority of the patients, (80.7%), felt that the appearance and manner of the medical students affected their co-operation with them (p<0.01). However 64% would not object to the presence of medical students during examination (p=0.003), while 63% insisted on being informed (p=0.005). Half of the patients believe that they have the right to refuse medical students and about 60% prefer medical students of same sex (p = 0.01). Forty two percent of the patients prefer the presence of a physician only during examination, while 38% accept both physician and student.  
Conclusion: The patients in Saudi Arabia prefer students’ participation to be based on their consent. Medical students visits to patients should be restricted to certain times as preferred by patients.

**808** 
**Effective use of interpreters in the clinical encounter**  
Gail S Marion*, Jennie E Anthony, Eleanor J Russell and Sonia J Gandall (Wake Forest University School of Medicine, Department of Family and Community Medicine, Medical Center Blvd., Winston-Salem NC 27157-1084, USA)  
Effective, culturally competent patient-provider communication is essential for good health care outcomes. The communication gap between provider and patient is likely to be wider in diverse, elderly and other high risk populations, which leads to decreased patient satisfaction, poorer health outcomes, a higher likelihood of non-adherence and worsened health disparities. In the Physician Assistant Program at Wake Forest University a patient-centered communication curriculum has been implemented. Included in this curriculum is a “Working Effectively with Interpreters” workshop, which is conducted by a certified interpreter. Beginner and Intermediate courses in Medical Spanish have also been implemented to further students’ ability to bridge the communication gap. This unit of the curriculum culminates in a standardized patient assessment, aimed at appraising patient-centered communication, cultural competency and effective use of interpreters. A 12-item checklist developed by the certified interpreter was used to evaluate effective interpreter use. Preparation for this assessment included training Spanish speaking standardized patients, interpreters and evaluators. This poster will present the format of the “Working Effectively with Interpreters” workshop, interpreter checklist, related training and how the assessment was administered.

**809** 
**A comparison of student self-evaluation and standardized patient evaluation in advanced communication interviews**  
Rebecca Bowden*, Richard Heibel, Jonathan King, Nicole G Bentze and Thomas E Skoloda (LECOM Bradenton, 5000 Lakewood Ranch Blvd, Sarasota FL 34231, USA)  
Aim: In order to review our method of teaching interpersonal skills, we compared evaluations by standardized patients (SPs) of second-year medical students with the students’ self-evaluations following an interview with a “difficult” patient.  
Summary of work: Medical students conducted interviews with SPs who had assumed the role of a difficult patient. The SPs and students completed identical post-interview evaluation forms. Forms were quantitatively assessed for twelve items including: engaging the patient, information gathering, degree of understanding, four items regarding communication skills, organization, closure, overall assessment, anxiety and any “other concerns”. Seven-point Likert scales were used in the analysis. The evaluations were analyzed to measure the degree of congruence and divergence between the two groups.  
Summary of results: Major differences exist between the students’ and the SPs’ perception of the students’ interpersonal skills. When dealing with a difficult patient, students rated themselves significantly lower than the standardized patients in the following areas: organization, anxiety and general concerns. Student comments suggested this realistic experience was a valuable addition to the curriculum. This interaction increased students’ interest in obtaining additional experience involving advanced communication skills. These results will be used to improve evaluation forms, provide training feedback and evaluate curriculum and competence.

**810** 
**The final year medical students’ attitude toward their best role model in Khon Kaen Regional Hospital**  
Wichian Thianjaruwatthana (Khon Kaen Regional Hospital, Medical Education Center, Sirichan Road, Amphur Muang, Muang, Khon Kaen 40000, THAILAND)  
Being a role model in medical school is one effective way to teach students to be a good future doctor. The model does influence the inspiration of young doctors. This study examined students’ attitude toward their role model, how each selected and defined his/her model, and what they think the obvious qualifications of the model should be. The open-end questionnaire was given to thirty-six final year medical students. They felt free to express their opinion and impression to any staff that they considered as their model including a promise to imitate them. Almost all students thought having a role model in medical school was necessary. The main reasons for choosing their role model were a strong intention to work (28%), maintaining the practical standard (25%), taking care of students (17%), enthusiastic and curious to learn more (9%), high responsibility for both work and family (5%), endurance and appropriateness of decision making. Additional reasons were arriving on time for classes, dedicated time to work, friendly personality and high morality. The students were willing to start behaving like their role model within one year but only half expected to imitate the role model completely.

**811** 
**Postgraduate parent-physician communication training in paediatrics - effects on physicians’ self-efficacy and parents’ satisfaction**  
Background: Communication plays a fundamental role in the physicians’ profession. In paediatrics it is not only the communication with patients but also with parents that is essential. A communication training for paediatricians working in the emergency outpatient department was held to improve the parents-physician communication.  
Summary of work: Two matched groups of paediatricians (n = 33) participated in the study. The intervention group took part in a communication training of four 2-hour sessions with standardised patients and video feedback. Paediatricians’ self-efficacies as well as satisfaction of parents whose children were treated in the emergency outpatient department were assessed by questionnaires before and after the training.  
Summary of results: The self-efficacy increased significantly for paediatricians who participated in the training while there was no significant change for
paediatricians in the control group. Results of survey assessment of parents' satisfaction with their children's treatment in the emergency outpatient department will be presented.

Conclusions: First results show an improved feeling of self-efficacy for physicians who participated in the communication training. Thus it seems reasonable to integrate communication training not only into students' medical education but also into the practice of postgraduate physicians. In doing so it might be possible to address and train job-specific needs more thoroughly.

8O 12 Communication training for residents in pediatrics to improve doctor-parents relationship: acceptance and effectiveness

J H Schultz*, K Hoffmann, H Luder, H M Bosse, S Huwendiek, J Schönenmann, G F Hoffmann, B Kraus, J Jünger and C Nierenberg (University of Heidelberg, Klinik für Psychosomatische und Allgemeine Medizin der Münzlichen Klinik, INF410, Heidelberg 69120, GERMANY)

The clinical consultation with parents is a major aspect of the doctor's role in pediatrics. To determine if pediatric residents working in the emergency outpatient department could improve their ability to counsel and inform parents about their children, communication training with standardized parents (SPs) was held. 30 residents at the Department of Pediatrics of the University of Heidelberg were randomised to an intervention and control group. The intervention group participated in a communication training of four 2-hour-sessions using SPs and video feedback. Role scripts (n=9) were based on everyday situations in the pediatric emergency outpatient clinic. After the individual interviews SP and peer group feedback were provided. Residents' acceptance was assessed by a questionnaire after training. Finally both groups performed an objective structured clinical examination (OSCE). The communication training was rated by the residents on a Likert scale: according to this rating the feedback of SPs was most appreciated, followed by the peers' feedback, followed by the usefulness for the personal competency in communication and the preparation for everyday clinical life. Remarkably, repeat training units were seen to be highly desired. Data of the OSCE-results will be presented. Using SPs to train pediatric residents in communication skills is a highly accepted method that provides trainees with interactions that simulate real-life experience.

8O 13 Impediments in teaching to, and assessing, diagnostic competence

Frank Papa (UNTHSC, Department of Medical Education, 3500 Camp Bowie Blvd, Fort Worth, Texas 76107-2699, USA)

In this presentation, the author will briefly review the literature related to five primary impediments to the development of DDX competence. First, the fact that the vast majority of illnesses lack necessary and sufficient clinical diagnostic criteria (i.e., bedside-derived signs and symptoms). Second, patients with the same disease can present with combinations of signs and symptoms (S/S) that may represent anything from the most prototypical to atypical presentation; thus, presenting S/S of the same disease may vary dramatically from case to case. Third, a student's diagnostic knowledge-base depends more heavily upon personal experience with real cases than simulated case scenarios, textbooks or lecture-based learning. Unfortunately, the number of cases and the range of patient presentations (prototypical through atypical) that a student must experience in order to achieve diagnostic competence is unknown. Fourth, there are no established assessment tools or performance criteria that faculty or institutions might use as the basis for determining that a given student is competent in diagnosing a given problem or disease. Fifth, there are no evidence-based instructional methods that faculty might follow in order to conduct an optimal DDX training experience.

8O 14 The satisfaction of rehabilitation patients on teaching and learning system

Suchat Tantiniramama* and Wiwan Wiwatkatip (Prapokklao Hospital, Medical Education Centre, 38 Leubnoen Road, Muang District, Chanthaburi 22000, THAILAND)

Aim: To compare satisfaction between informed and uninformed patients on the teaching and learning system.

Summary of work: The questionnaire comprised 9 questions. 5 levels of the satisfaction of patients on the teaching and learning system after they received medical services. The first group was patients who were informed in advance of the next appointment. The other group was patients who were not informed in advance.

Summary of results: The average satisfaction level was 3.68 ± 0.76. The satisfactions of informed and uninformed group were 3.81 ± 0.54 and 3.53 ± 0.54 respectively. There was no significant difference (p=0.08). On satisfaction, the medical students' participation gained the highest scores whereas the duration of physical examination by medical students gained the lowest scores (3.84 ± 0.69 vs. 3.52 ± 0.74).

Conclusions/take home messages: The satisfaction of the informed group was higher than the uninformed group in every topic of assessment. Even though the difference was not significant, the advance information is still important and is the patients' right. The exception is the service during the period of teaching and learning, which cannot be informed in advance, and depends on their voluntary nature.

8O 15 Incorporating practice-based learning, face-to-face feedback and objective assessment of interprofessional and communication skills in a busy ambulatory teaching clinic

Gunjan Y Gandhi, Denise A Bargsten, Kurt A Kennel and Neena Natt* (Mayo Clinic, 200 First Street SW, Rochester MN 55905, USA)

Aim: We developed a teaching model in our "Bone Clinic" for Endocrinology fellows to stimulate self-directed learning, provide face-to-face feedback, and assess interpersonal and communications skills via direct observation.

Summary of work: Educational aspects of the model include: (1) an initial session reviewing learning goals and expectations for the rotation; (2) structured teaching sessions based on fellows' self-directed learning and; (3) face-to-face feedback and review of goals for future learning. An objective checklist was also developed for faculty to directly observe and assess fellows' interpersonal and communication skills when counseling patients. Currently, observation is unstructured and use of the checklist will be implemented in February 2006. Fellows and faculty were surveyed on the teaching model's strengths and weaknesses.

Summary of results: Trainees reported improved impetus for learning, were appreciative of the dedicated teaching time, valued the feedback provided after observation by staff and residents, and that this pilot get rolled out in the other teaching clinics. Faculty found it easier to provide face-to-face feedback when objectives and expectations had been discussed up-front and assessment was more objective based on direct observation. Barriers to implementation included cancellation of some of the planned sessions due to bus schedules, and fellows trying to accomplish more than was practically feasible during the rotation.

Conclusions: Incorporating structured education time into a busy ambulatory clinic may increase self-directed learning and quality of feedback provided to learners.
80 16  Informed consent regarding the role of medical students: a survey of outpatients’ views
Milind Akrolker*, David Wall, Ellen Jones and David Wood (Heart of England NHS Foundation Trust, Education Centre (Undergraduate Office), Bordesley Green East, Birmingham B9 5SS, UK)

Background: Patients are positive about involving medical students in their health care, but have clear opinions regarding being informed about this. This study determined if outpatients in a peripheral teaching hospital understand the medical student’s role, and discovered the factors influencing outpatients’ consent for students to see them.

Summary of work: An original questionnaire was distributed to 500 outpatients whilst waiting for their appointment. 449 responses (89%) were collected and results were analysed quantitatively.

Conclusions: Our study revealed a mixed picture of lay knowledge of what activities students do. Outpatients entitle the student training to become a doctor differently, and their preference reflects their beliefs on what such students do. Quantitative analysis of data agreed with patients’ opinions on gaining consent for student involvement collected qualitatively in earlier studies.

Take-home messages: Individual outpatients’ prior experience of students, age or work status, and gender should be considered when gaining consent for students to see them. Patients need reassurance regarding their right to refuse and wish to know that students are being supervised. Further study is required to explore in-patients’ need for supervision of students and to compare results of a similar study in a main teaching hospital.

80 17  The effect of communication skill training on clinical skill of internal medicine and infectious disease residents
A Zamani*, B Shams, Z Siadat, P Abdi, H Salehi, H Sanei and Ghoudjani (Isfahan Medical University, #322 Fajr 3, Ostadan Ave., Navaz Jari Street, PO Box 81746 73793, Isfahan, IRAN)

Background: Communication skill is one of the most essential components of clinical competence.

Aim: To determine whether communication skill training for residents improves their clinical competence.

Summary of work: 13 residents were involved in this study, 8 residents in group one and 5 in group two. Group one first participated in a communication skill workshop and then their clinical skill was evaluated with objective structured clinical examination OSCE1. Group two’s clinical skill was first evaluated with OSCE1 and then after participating in a communication skill workshop again their clinical skill was evaluated by OSCE2. The scores of group one in OSCE1 after participation in communication skill workshop were compared to group two in OSCE1 before the workshop. The scores of group two before the communication skill workshop (OSCE1) and after the workshop (OSCE2) were compared. Also the scores of group one after the workshop (OSCE1) and group two after the workshop (OSCE2) were compared.

Summary of results: Group one after the communication skill workshop had significantly higher scores in clinical skill compared to group two before the workshop. Group two had significantly higher clinical skill scores after the communication skill workshop compared to the clinical skill scores of the same group before the workshop.

Conclusion: Communication skill workshop significantly improved the clinical skill of residents.

80 18  Assessment of communication skills in Qazvin Medical School
Saeed Asefzadeh* and Sara Khatami (Qazvin University of Medical Science & Health Services, Department of Research, Shahid Bahonar Avenue, Qazvin, IRAN)

Background: Good communication is important in the effective management of patients.

Aim: To assess the doctor-patient communication skills of the interns of Qazvin Medical School and the patients in 2004-2005.

Summary of work: Two structured questionnaires were designed in order to assess the interns’ skills. The first was used for the patients and the second for the interns. All of the interns participated in the study and their respective patients were asked. All of the 110 interns training in Avicenna Teaching Center participated in the study.

Summary of results: Of the total 110 interns 38.18% greeted their patients and put them at ease. Only 10.8% introduced themselves to the patients and 21.82% always showed empathy and sensitivity. 10.41% usually explain to the patients with clarity and avoiding jargon. 23.64% always allowed the patients to ask questions, but none of them asked the patients about the method of treatment. From the point of view of the patients 49.09% of them were understood about their problems, 52.73% could ask questions and 61.82% of interns show empathy and sensitivity but 89.09 % of the patients never asked about the method of treatment.

Conclusion: Results of this study show that although intern doctors have eagerness in establishing a good relationship with the patients, because of the lack of teaching courses in this field they have major deficiencies in communication skills. This shows the importance of teaching this program in the Medical Teaching System all over our country.

10N 6  Clinical teaching of medical students – a plan of action in Linköping, Sweden

Torbjörn Leidar*, Matis Hammar, Malin Asp, Gösta Berlin, Ulf Dahlström, Christina Eintrei, Anne Ekdahl and Rolf Maller (Linköping University, Department of ENT, Faculty of Health Sciences, Linköping SE 581 83, SWEDEN)

The Faculty of Health Sciences in Linköping adopted a plan for introducing a new Master’s program in Clinical Education in 2005 within the Medical Teaching System. The program has been designed to improve leadership, practice, education and service delivery through delivering best practice and continuing professional development within all sectors. The focus on collaborative partnerships related to practice, education and service delivery is enabling members to become more effective leaders, role models and change agents. It is envisaged that this inclusive meeting will be adapted within a variety of health, social and educational settings covering a range of interests and client groups in many countries to improve leadership, practice, education and service delivery.
Contents of psychology for speech therapy students

M L V Rodrigues*, P L dos Santos and B C Machado (Medical School of Ribeirão Preto, Hospital das Clinicas - Otorhinolaringologia, 12 andar - Campus V, Ribeirão Preto 14048-900, BRAZIL)

Recently, the Medical School of Ribeirão Preto implemented five new undergraduate courses. One of them was the course of Speech Therapy (LOGOPEDICS), linked to the Department of Ophthalmology, Ototorhinolaringology and Head and Neck Surgery. In order to plan the teaching of Psychology in this course, using a self-administered questionnaire, the authors collected the opinions of 29 Speech/Language Pathologists, aged between 22 to 47 years (median=30 years), about important topics in clinical practice and what are the best teaching/learning methods. The results pointed out that important topics are: Management of behaviors that interfere in the success of therapy; Human development periods; Mechanisms of familiar relationship; How to identify the relationship between physical symptoms/emotions/behavior; and Counselling Procedures (patients and families). It was suggested, as contents of a Psychology course for undergraduate Speech/Language Therapy students the following topics: Development Psychology, Psychopathology, Learning Psychology, Special Education, Family Counselling and Remediation of Learning Disabilities.

As teaching/learning methods the participants suggested Discussion of clinical cases; Lectures; and Group dynamics. The suggestions of practitioners were very important for curriculum planning.

The implementation of an interdisciplinary educational programme – an ongoing process

M M Bester (University of Stellenbosch, Centre for Health Science Education, Faculty of Health Sciences, PO Box 19063, Tygerberg 7505, SOUTH AFRICA)

The need to produce practitioners who are adaptable and flexible and who collaborate with other health professionals in determining the best clinical options for the patient provides impetus for the development of interdisciplinary learning opportunities (Parsell and Bligh 1998). There appears to be a lack of evidence regarding the ability of healthcare professionals to learn interdisciplinary team skills while practicing, without formal education (Hall and Weaver 2001). According to Orchard et al (2005) the way health professionals practice together, largely influences the future of the health system. The aim of the poster presentation is to share: (1) the process of the development and implementation of a programme in a community clinical setting and (2) the interim results of a grounded theory research process which aims to describe the phenomena and produce a theory on which to base the programme in the future. The interim conclusion is that better synergy should be achieved between the community orientated approach and the interdisciplinary educational programme and that the latter should be introduced much earlier. The students acknowledge the value of the programme. It is furthermore vital that the logistical issues regarding the placement of the different disciplines be addressed (the research process is continuing).

Collaborative planning for Multiprofessional education

Ian Clarke*, Peter Rolland and Trish Knight (Leicestershire, Northamptonshire & Rutland Healthcare Workforce Deanery, Lakeside House, 4 Smith Way, Grove Park, Enderby, Leicester LE19 1SS, UK)

The Healthcare Workforce Deanery (HWD) has modernised the way it commissions post-registration training from five local universities. The WDC has recognised that to keep pace with the rapidly changing requirements of today’s dynamic health service, higher education institutions (HEIs) need to have the flexibility to be equally dynamic in the way they respond to service need. The HWD have commissioned the HEIs to provide an agreed number of modules for LNR post-registration professionals. Service managers now apply directly to the HEIs for places on courses as appropriate in the knowledge that they are funded by the HWD. This has reduced the workload of all involved and has allowed the HWD and HEIs to more accurately monitor the number of modules accessed and ensure that all modules are appropriate. It also ensures that the needs of the healthcare community are provided for. Education is now more flexible and appropriate and incorporates inter-professional or shared learning as standard. Mechanisms exist for service representation to the HWD and HEIs with regard what education provision is required and these mechanisms need to be used to ensure local HEIs provide the education that service need.

The case administrator – an important resource in interdisciplinary case-based teaching

Birgitta Björk*, Mareet Konttila and Hans Gyllenhammar (Karolinska Institutet, Institution for Medicine, Karolinska Institutet Huddinge, Karolinska University Hospital, M54, Stockholm SE 14176, SWEDEN)

We studied interdisciplinary education using the case method for nursing and medical students in early parts of their respective curricula. To facilitate interaction in this heterogeneous group of students we defined and evaluated the role of a case administrator (CA) added to the team of instructors. Students cooperated in 2 week periods on patient cases and results were discussed in large group seminars. The instructors present were physicians, nurses and the CA whose role was to interact with the medical professionals so that all students were equally engaged and to observe and give feedback to the instructors on their interaction with the students. Before the introduction of the CA the instructors noted that the communication between nursing and medical students was modest. After addition of the CA they could better focus on the subject matter and evaluated the student communication as much improved. The feedback from the administrator to the instructors was evaluated as important and helpful in improving their teaching. There was no difference in the positive evaluation of the CA role whether this person was a medical professional or a course administrator. The presence of a case administrator is valuable in case seminars improving student activation and interaction as well as teacher development.

Induction and transition into the NHS

Hywel Thomas*, Gill Cressey, Judith Hicks and Graeme Martin (University of Birmingham, Centre for Research in Medical and Dental Education, School of Education, Edgbaston, Birmingham B15 2TT, UK)

Aim: A pilot study to examine policies and practices in England of induction into employment of children’s nurses, community dentists, pharmacists and radiographers.

Summary of results: The formal process of induction, relating to health and safety, etc. was secure. Tailored induction for staff in their area was often very good but sometimes support was limited, contributing to stress. It was largely a profession-specific process reinforcing professional identities with little opportunity for learning with other groups. There were some well-integrated teams but elsewhere the emphasis was on ‘getting on with your job’. Differences in opportunities and requirements for CPD may be explained by different needs but may be a product of profession-specific agreements with the NHS.

Take home message: There is a disjunction between policies emphasising greater integration and practices largely rooted in supporting profession-specific roles.
8PA 7 The use of undergraduate multidisciplinary team working to improve understanding of care of the elderly

Michael Gibson* and Lesley Olack (The Robert Gordon University, School of Pharmacy, Schoolhill, Aberdeen AB10 1FR, UK)

Aim: To analyse the use of undergraduate multidisciplinary team working to improve understanding in care of the elderly.

Summary of work: The aim of this initiative is to generate an appreciation of interprofessional team working and the National Health Service. This was to be achieved using multidisciplinary workshops within an undergraduate student population focussing on the interprofessional communication involved in the treatment of an elderly patient. In each workshop, groups of 8–10 first year students from all eight health and social work courses across the two universities in Aberdeen, over 650 students in total each year, took part in tutorials to explore the different roles of their future professions in the care of an elderly patient. The students brainstormed ideas, made suggestions and provided their views on the content and process of the session.

Summary of results: After the workshops the students expressed a greater appreciation of the importance of multidisciplinary team working. This paper will analyse the qualitative and quantitative evidence collected during the sessions over a period of three years.

Conclusions: This initiative for first year undergraduates will provide the foundation for a strong and growing interprofessional healthcare programme in Aberdeen.

8PA 8 A qualitative analysis of team skills needed in the delivery room and the operation theatre

Kurt Nielsen*, Marlene Mohr, Morten Lebek, Nini Vallevo and Doris Bisterpaard (Danish Institute of Medical Simulation, Herlev University Hospital, Herlev Ringvej 75, Herlev 2730, DENMARK)

Aim: To present a method for task analysis of the emergency situation in the delivery room and the operating theatre looking specifically at team skills.

Summary of work: Based on observational studies in the delivery room we developed scenarios illustrating different emergency situations in the delivery room addressing both the adult and the neonatal patient. A combination of a simulated patient and a manakin was used in the full scale simulations. The midwife was supposed to call for help as the situation worsened and introduce the new team members to the situation. The scenarios were video recorded and later analysed for specific categories and relationship between decision making (diagnosis and treatment of the patient) and team skills such as communication, collaboration and leadership. Immediately after the simulation scenario the team was interviewed about the situation, their ability to function as a team, their experiences and their thoughts regarding the situation. Aspects with relevance for patient safety were addressed.

Conclusion: The method used was well accepted by the participants in the scenarios and interviews. By combining simulation and interview it was possible to initiate reflection-on and -in action.

8PA 9 The establishment of a ‘midwifery firm’ within medical student practice during their women’s health module

T Bourne*, H Morgan* and C Saunders (Middlesex University, Furnival Building, Archway Campus, Highgate Hill, London N19 3UA, UK)

Partnership within healthcare is a driving force both in present and future provision (DOH 2000). Interprofessional working is perceived to be central to this focus, with professional barriers diminished in favour of improved patient care (DOH 1998). Interprofessional education is considered as a means to strengthen interprofessional working, and hence patient care (Miller et al. 2001). However, the focus must remain the clinical domain with the patient central to this process (DOH 2001). The introduction of a ‘midwifery firm’ running alongside the students’ obstetric/gynaecological firms provided the opportunity for students to work with midwives. Thus students develop their knowledge of other roles within maternity care provision and how teamwork can be improved. Additionally, the students’ experience is extended beyond that of high risk obstetric care as they become familiar with the care of women and their families through a range of service provision. So far the ‘Midwifery Firm’ appears well evaluated and as an additional benefit, it has been noted that midwifery support and teaching have improved since its configuration. Student comments include: ‘friendly, felt involved’, ‘friendly midwives – very supportive’ and perhaps more pertinently ‘very useful to see normal births and see pregnant women without medical problems’.

8PA 10 Evaluation of the AILW (Accredited Interprofessional Learning in the Workplace) programme: a partnership between the health service and higher education

K Duncan*, S Corbett, M McCall and G Rhodes (Northumbria Healthcare NHS Trust, T106, Research and Development Education Centre, North Tyneside Hospital, Rake Lane, Tyneside NE29 6HJ, UK)

Background: To evaluate a model of accredited interprofessional learning in the workplace (AILW) addressing the key issues of access, interprofessional working and learning that changes practice.

Summary of work: The model contains three elements: interprofessional learning, workplace consultation, and change management. Staff identify a problem in the workplace, consult with all professions involved, develop and implement a protocol to improve practice and evaluate resulting changes. The learning is supported by an academic tutor and assessed for academic credits. AILW was piloted in a team including nurses, a health care assistant, dietitian, occupational therapist, physiotherapy assistant and care home manager. AILW was evaluated using semi-structured interviews and focus groups and themes were identified.

Summary of results: The themes identified from interviews showed that AILW provides evidence of all 6 levels of the JET classification of learning outcomes for an interprofessional learning initiative (Barr et al. 2005): learner reaction; modification of attitudes/perceptions; acquisition of knowledge/skills; behavioural change; change in organisational practice; and benefits to patients/clients.

Take home messages: Work-based learning is useful in improving access to continuing education and accreditation is an important motivator for staff. In addition, AILW is a useful model for improving interprofessional working and leads to significant improvements in practice.

8PA 11 Making lead history: inter-professional learning and scholarship at The Intergenerational School

Kashif Ali*, Jared Weintraub, Cherrie Gilbert, Terry Wolpaw and Peter Whitehouse (Case Western Reserve University School of Medicine, Office of Society Deans, 10900 Euclid Avenue, Cleveland OH 44106, USA)

Aim: Our project is designed to broaden the scope of public health curricula at Case Med by using public schools to educate local communities about pertinent health issues, focusing particularly on lead toxicity. In order to encourage inter-professional learning both nursing and medical students are participating in course development and implementation. We will pilot the program at The Intergenerational School (TIS), a unique learning environment located in greater Cleveland.

Summary of work: Medical and nursing students are working together to create an educational module for 5-6th graders at TIS, educating them on the dangers and prevention of lead poisoning. During the presentation TIS students are given a homework assignment that
8PB 1 Identifying the laboratory skills that physicians have to know and perform
S Ayhan Caliskan (Ege University, Faculty of Medicine, Department of Medical Education, Tip Et University (www.sheffield.ac.uk/cuilu) provides a framework for this to happen.

Take-home messages: •Interprofessional mentorship should focus on interprofessional knowledge, which is common to all professions. •The Capability Framework facilitates this. •Training for staff needs to focus on raising awareness of interprofessional learning opportunities within the practice setting and the development of interprofessional knowledge.

8PB 2 The fuselage of medical education
Ioannis D K Dimoliatis*, Panagiotis Anastassopoulos and Margery H Davis (Ioannina University Medical School, Department of Hygiene & Epidemiology, c/o 9 Whittet Court, S Gowrie Street, Dundee DD2 1ES, UK)

Background: An outcome-led curriculum is now being adopted by an ever growing number of medical schools. Such curricula are characterised by end-point back planning, to ensure achievement of the desired outcomes, but are implemented by a forward progression through planned learning experiences towards the exit learning outcomes. Traditional curricula on the other hand, show divergence in the pattern of learning as students achieve the objectives in terms of knowledge, skills and attitudes of individual courses.

Summary of work: We propose a model integrating the above two approaches. In the outcome-based model, medical teachers sequence student learning towards the outcomes through carefully planned competence-based educational opportunities, for each of which there are knowledge, skills and attitudinal objectives. Recombination of the objectives into competencies occurs, followed by recombination of competences into meta-competencies otherwise known as outcomes.

Conclusions: Objectives and outcomes are not contradictory, but complimentary and both necessary; no medical school exists without objectives, but it is the outcomes that define which objectives. The desired doctor is ‘designed-down’ from the outcomes (backwards), but ‘built-up’ from the objectives (forward).

Take home message: Aims and objectives are a necessary component of an outcome-based curriculum.

8PB 3 Integration of objectives and outcomes in medical education using the ontogenetic paradigm
Panagiotis Anastassopoulos*, Ioannis D K Dimoliatis and Margery H Davis (Department of Obstetrics & Gynaecology, 4 Mackenzie Drive, Perth PH1 3XT, UK)

Background: Outcome-led curricula are characterised by a number of different sets/patterns of learning events aiming to achieve the specified learning endpoint/outcome. Their ‘convergence’ property favours their selection by medical schools. Traditional curricula based on aims and objectives, however, provide divergence in the pattern of learning events, aiming at a variety of endpoints/objectives.

Summary of work: We developed a model based on the biologic ontogenetic principle, where two distinct developmental phases appear. The initial phase, characterised by proliferation/expansion, provides the
divergence necessary for the latter phase to take place, by differentiation/‘specialisation’ towards end-tissues and end organs. Using the above paradigm, we integrate the aforementioned curricula approaches. Medical teachers deliver the content by teaching knowledge, skills and attitudes. These predetermined learning objectives provide divergence and ‘proliferation’. Objectives may be viewed as ‘cells’ or elementary blocks, which combined, comprise the various competences. The latter subsequently recombine (or ‘differentiate’) and converge into outcomes, the congregated end-targets of the desired curriculum.

Conclusions: Using biological principles of development (ontogeny) objectives and outcomes, although seemingly contradictory may be combined in constructing the desired curriculum. This is achieved by utilising the initial divergence in developing objectives as a building base for subsequent convergence into complex outcomes.

8PB 4 Role of academic medicine in national qualification framework and speciality training programmes in Croatia

N Cikes*, M Kapovic, S Jankovic, P Filakovic, Z Bradamante, A Radoxic Budinovic, Z Dogas, S Kaden and D Derezic (University of Zagreb, School of Medicine, Salata 3, Zagreb 10000, CROATIA)

Aim: To present the cooperation among all four medical schools in Croatia in the development of a national qualification framework in the higher education system.

Summary of work: To build the qualification framework we are in the process of defining the learning outcomes for medical studies in Croatia, levels and profile of learning. We intend to clearly relate them to academic standards, national and institutional quality assurance systems, to enhance the public understanding of the importance of nationally recognised qualifications and competences. The purpose and objectives of qualifications should be clarified, foundations for national cooperation of partners in higher education should be provided, access to education and qualifications should be facilitated, the higher education responsibilities should be met. Furthermore, we are working on harmonisation and development of a network of doctoral study programmes in biomedicine and health and continuing medical education in Croatia. Together with the Croatian Medical Association and the Croatian Medical Chamber we are developing the training programmes for medical specialists that will define specialists’ competences, specific requirements for training institutions, mentor and trainee, logbooks for particular specialisation and visitation rules.

Conclusion: We understand the important role of academic medicine in setting the national and overarching framework of qualifications in the European higher education area.

8PB 5 Using confidence scales to monitor improvement in clinical and practical skills determined by a neonatal competency framework for paediatric trainees

C Morgan*, HP Satch and M Peake (Liverpool Women’s Hospital, Department of Neonatology, Neonatal Intensive Care Unit, Crown Street, Liverpool L8 7SS, UK)

Paediatric senior house officers (SHOs) spend 6 months of their training developing neonatal practical and clinical skills. A competency framework was introduced to: (1) provide a programme for acquiring skills and a structured training record; (2) monitor individual/group progress and target training. SHOs maintained a competency record of 37 practical procedures and 17 clinical skills during their attachment. Each procedure/skill was signed off (by a team of senior nurse practitioner mentors) using 3 levels of supervision: observation, direct supervision and independent practice. Once independent practice was achieved for any procedure/skill, SHOs scored their corresponding confidence level (CL) from 1-10 at their 0, 3 and 6 month appraisals. Few SHOs started with any experience: only 2% of procedures scored CL>4 at month 0 (baseline appraisal). Scores at 3 months: practical procedures CL>4:55%; CL>7:4%; clinical skills CL>4:51%; CL>7:8%. Scores at 6 months: practical procedures CL>4:83%; CL>7:72% (core procedures 90%); clinical skills CL>4:92%; CL>7:71%. The competency framework provided a clear training record for individuals and groups. Targeted training ensured trainees became very confident in 90% core practical procedures. All SHOs required 6 months to acquire neonatal practical/clinical skills.

8PB 6 Health professional education and genetics: developing an outcome based approach

Catherine Bennett* and Peter Farndon (NHS National Genetics Education and Development Centre, c/o Birmingham Women's Hospital, Edgbaston, Birmingham B15 2TJ, UK)

Aim: To integrate genetics into health professional education in the UK.

Summary of work: In its first year, the UK’s NHS National Genetics Education and Development Centre (www.geneticseducation.nhs.uk) has worked with medical professionals; nurses, midwives and health visitors; dietitians and others to develop strategies to integrate genetics into pre- and post-registration health professional education.

Through collaboration, the Centre aims to: (1) provide leadership in genetics education; (2) raise awareness of genetics; (3) involve patients and families in informing our work; (4) identify genetics knowledge, skills and attitudes useful for clinical roles; (5) develop a framework for competences in genetics; (6) facilitate the integration of genetics into curricula; (7) identify and develop resources for health professionals and trainers. For some professions, a traditional route of defining necessary genetics knowledge, skills and attitudes has been followed. However, it is recognised that demonstrating clinical relevance enhances acceptance and uptake of education. Therefore, a collaborative project is underway to develop competences in genetics for all health professionals. These competences can form the basis for educational tools and assessments.

Conclusions: Integrating genetics into health professional education is a challenge but an outcome- and patient-based approach is being adopted to demonstrate relevance to clinical practice.

8PB 7 Assessment of CanMEDS-based competencies during clerkship

F Jousma and A van ’t Spijker* (Erasmus MC Rotterdam, Department of Medical Psychology, PO Box 1738, Rotterdam 3000 DR, NETHERLANDS)

Aim: Present an assessment instrument for CanMEDS-based competencies during clerkships.

Summary of work: We developed a structured assessment instrument for use during clerkships. Three main functions of the instrument are: providing feedback to students, providing data for objective evaluation of the clerkship, and providing insight in the development of interns over clerkships. Written feedback is provided at least two times per week in several situations (e.g. interviewing and examining a patient, giving a presentation). Different clinicians give feedback, so that the evaluation of the clerkship is based on multiple observers. The whole clerkship as well as each competency separately is evaluated and the development of students over several clerkships is monitored.

Summary of results: Results of the first 100 students yield that this is a feasible assessment instrument for most competencies. Both students and clinicians appreciate the feedback and structured way of evaluating a clerkship. The most suitable situations for feedback are contact with patients, discussing a patient-record and giving a presentation. The instrument in its present form
seems less suitable for assessment of collaboration and management.

Conclusion: Competency-based assessment of clerkships with this instrument is feasible and valued by both students and clinicians.

8PB 8 Facilitating the design of competency-based postgraduate curricula: experiences with extremes of the spectrum
Hanneke Mulder*, Theo Voorn, Marjo Wijnen-Meijer and Olle ten Cate
(Universiteit Medisch Centrum Utrecht, HB 4.05, Postbus 85500, Utrecht 3584 CG, NETHERLANDS)

Aim: The CanMEDS 2000 model of competency-based learning has generally been adopted as the basis for restructuring and modernizing postgraduate medical education. For most Program Directors curriculum reform of this extent is not a daily routine. We offer tips and tools to facilitate this process.

Summary of work and results: As advisers we contributed to competency-based educational programs in the field of public health and orthopaedics. An analysis of the daily practice was used as a starting point to formulate specific, relevant and recognizable competencies. Thus we obtained a solid basis to identify useful elements as well as gaps in current educational and assessment practice. From here on the construction of a competency-based program became within reach.

Conclusions: Experience in education and change management can be used as a catalyst in modernizing postgraduate medical education. Educational experience facilitates the transition from professional activities and competencies to training and assessment programs. Experience in change management facilitates the process. Our approach proved to be effective in the context of two, completely different, medical specialties.

Take home messages: (1) Start from existing medical and educational practice, documents, procedures, tools; (2) Use the language and frame of reference of the profession: don’t write your plan but theirs!

8PB 9 A matrix model as a development tool for competency-based medical education
P Bakker* and A Me宁inger* (Wenckebach Institute, University Medical Center Groningen, Postbus 30.001, Groningen 9700 RB, NETHERLANDS)

Aim: More and more medical curricula are becoming competency based. The national Central College of Medical Specialties has determined that competency based curricula are to be implemented in specialist training programmes. Some general evaluation criteria were formulated to evaluate this. Unfortunately, no methods have been developed for teachers to link the general CanMEDS competencies to educational practice. There are as yet no clear guidelines for the implementation of competency-based teaching and learning in specialist training programmes.

Summary of results: Various ‘teaching moments’ within and outside of teaching practice are shown on the x-axis. The y-axis shows critical situations that are crucial to professional practice as well as competencies for adequately dealing with those situations. Instruments for assessing competencies in critical situations are also given.

Conclusions/take home messages: Appropriate methods and tools are prerequisites for implementation of competency-based curricula. They are crucial for effectively incorporating competencies into specialist training.

8PB 10 Characteristics of a practical framework to guide curriculum innovation of postgraduate medical education
E Jipps* and M C Achterkamp (Wenckebach Institute, University Medical Center, Groningen 9700 CC, NETHERLANDS)

Aim: Clinical teachers may struggle with implementation of competency based training programmes. A review of the recent literature showed that little is known about the implementation of complex innovations in healthcare and medical education and the many factors concerning context, organisation and innovation that influence these processes. To fill this knowledge gap and help clinical teachers, a framework is presented containing key elements of context, organisation and innovation regarding the implementation of competency based curricula.

Summary of work: The elements of the framework were derived from a literature study and interviews with medical experts involved in paediatric specialist training at University Medical Center Groningen, Netherlands.

Summary of results: The framework should contain diagnostic (analytic) and therapeutic (problem-solving) elements. Diagnostic elements include characteristics of the: (1) Users of the innovation (e.g. willingness, knowledge and ability to change); (2) Innovation itself (e.g. perceived benefit); (3) Medical department (e.g. structure, care processes, culture and leadership); (4) Network (e.g. acceptance by the hospital and the scientific association). Therapeutic elements are based on diagnostic results and include: (1) Implementation team (roles/responsibilities); (2) Change strategies (e.g. providing information, training, resources and steering activities).

Take home messages: Using the framework cannot guarantee but will certainly enhance the chances of successful curriculum change.

Workshop
8Q Planning and developing interactive cases

Sharon R. Krakow (Albany Medical College, Albany NY USA and Center for Education Research and Evaluation, Columbia University College of Physicians and Surgeons, New York NY USA), Elza Mylona (Stony Brook University School of Medicine, Stony Brook NY USA) and Henry Pohl (Albany Medical College, Albany NY USA)

Background and rationale: Case-based teaching has been an essential feature of teaching and assessment in medicine for a number of years. Several learning theories emphasize the importance of the learner’s involvement in his/her own education (1-10). Well-crafted cases present a variety of “real life” situations with which the learner can grapple in a protected environment and under the supervision of experienced faculty. They enable the learner to take responsibility for his/her learning, develop problem-solving skills, and apply theories and facts to practice. During this workshop, the participants will have an opportunity to learn about and use a variety of case–based modalities commonly used in medical schools.

Workshop objectives and intended outcomes: At the end of the workshop, participants will be able to: (1) Identify the outcome they want to achieve with a case; (2) Identify the type of case methodology best suited to accomplish the learning objectives, for example, written case scenario, PBL case, standardized patients, web-
based module, simulation; (3) Identify faculty resources (including faculty development) needed to accomplish their goals; (4) Design their own cases for teaching and assessing learners.

Workshop format and content: Introduction; Demonstration of different cases; Environmental assessment; Case development; Case presentation; Next steps.

Intended audience: Faculty at all levels who are involved in teaching and assessment of medical students, residents and practicing physicians, and curriculum development, evaluation and faculty development.

Level of workshop: All levels.

(Reference list available on request).

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Workshop 8R  Faculty Professionalism: addressing the hidden curriculum

Anita Duhl Glicken (University of Colorado Health Sciences Center, USA)

Background: Over the past five years, numerous articles and reports have identified attributes and themes of medical professionalism. These papers primarily focus on historical attempts to measure and teach professionalism to new medical providers. This workshop will challenge some of the traditional ways we have explored this issue and introduce related concepts of educator/faculty professionalism, an important but often overlooked component of the hidden curriculum.

Intended Outcome: This workshop provides participants with an opportunity to collectively explore concepts of educator professionalism through a personal and cultural lens. This workshop will: (1) Challenge some of the traditional ways we think about faculty professionalism in medicine; (2) Identify elements of faculty professionalism that impact teaching and learning; (3) Explore the impact of institutions, administrators, faculty and students on the culture of faculty professionalism.

Format and content: Working primarily through guided activities and case discussions, participants will explore major categories of faculty conduct and generate strategies for impacting institutional culture. The workshop will be interactive, encouraging networking and collaboration.

Intended audience: Faculty and Administrators; any person involved in the teaching process

Level of workshop: All levels of experience.

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Workshop 8S  East European/Central Asian Group

Sabri Kemahli, Ankara University, Departments of Medical Education & Pediatrics, Faculty of Medicine, Morfoloji (Dekanlik) Binasi, Ankara 06100, TURKEY

A discussion of the issues of relevance to participants from the region. Participants are invited to contact Sabri Kemahli if there are issues they would like to raise, or if they wish to make a short presentation to the group.

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Workshop 8T  Assessing the written communication skills of physicians

Thomas Rebbecchi, John (Jack) Boulet and Gerald Whelan (Educational Commission for Foreign Medical Graduates (ECFMG), Philadelphia, USA)

Background to topic: The ability of physicians to communicate with other healthcare workers, especially in writing, is a fundamental skill. In 1998, the Educational Commission for Foreign Medical Graduates (ECFMG) began administering a clinical skills assessment (CSA) as part of the certification requirements for graduates of international medical schools. Included within the CSA was a post encounter patient note (PN) exercise. This exercise assessed whether candidates could summarize and interpret data collected in a clinical encounter with a standardized patient. The output from the PN exercise (a one-page record in a SOAP format) was scored holistically by physician raters.

Objectives/intended outcomes: Participants will have an understanding of how a holistic evaluation of written patient summaries can provide reliable and valid assessment scores. Participants will become familiar with the note format, the development of rating scales and associated scoring criteria, and how raters can be trained and monitored.

Format and content: Following a review of the content of a typical standardized patient case, and the general guidelines for holistic rating, participants will develop applicable holistic scoring criteria. These ‘performance standards’ will be based on the presenting patient complaint and what, ideally, should be documented. Several written notes will then be reviewed and rated based on the proposed rubric and scoring guidelines. These ratings will be tabulated and discussed. By reviewing individual note ratings, one can ascertain a) where raters are having trouble applying the rubrics and b) if individuals who are being assessed are gathering sufficient data and summarizing it appropriately.

Intended audience: Medical educators who are responsible for the assessment and evaluation of medical students and/or graduates.

Level of workshop: Intermediate
Patient safety education is a major priority for all healthcare educators but there are several major challenges. Decisions have to be made about what is taught, how it is taught and how it can be assessed. The Virtual Nursing School (IVINURS) Object Repository (LOR) for the International metadata and staff development (legal matters, classification systems, additional services needed to support an international environment for sharing resources, and find it flexible enough to meet local needs. Obtaining shared resources and their subsequent use seems to be dependent on good staff development and understanding the potential of a LOR. The other support services also seem to be important prerequisites for the educational development of the LOR.

Conclusion: A LOR can provide a useful educational resource for institutions which are geographically dispersed, but this needs to be developed with a user focus, and with adequate support services in place.

Study guide design to facilitate self-direction in e-learning

Elizabeth Rogerson*, Linda Martindale and Pauline Horton (Distance Learning Centre (Nursing and Palliative Care), University of Dundee, Tay Park House, 484 Perth Road, Dundee DD2 1LR, UK)

Aim: The move to increase self-directed learning in health professionals is well documented (Harden and Smyth, 1994; Fisher, King and Tague, 2001). Study guides effectively promote self-direction in traditional and distance learning but use in e-learning is less well understood. This study aimed to evaluate ability of online study guides to facilitate self-direction.

Summary of work: Literature reviews of self-directed learning and study guide use were conducted. Subsequently online study guides were developed, for new multiprofessional continuing education units. These online units include: content information; PBL scenarios; learning outcomes; assessment; supplementary resources. Online specific tools include: online notebook; weblinks; interactive components; formative assessment feedback.

Summary of results: Ability of the online study guides to facilitate self-direction was evaluated through literature review, critical analysis of the design process and student/teacher evaluation. Self-direction was facilitated through: (1) Flexibility – students used the study guide differently, suitign their own needs; (2) ‘ANCHORING’ – strengthened students’ ability to link new ideas/resources to existing knowledge; (3) Advanced online organisers - incorporated preparation and support for learning; (4) Active learning – supported through interactivity with learning and assessment components; (5) Instant feedback – gave learning tips and indicators of weak/strong areas.

Conclusion: Self-direction in e-learning can be facilitated through use of appropriately designed online study guides.

Using a collaborative engine to develop didactical material

Andreas Robert Formiconi*, Elenara Vanzì, Ilaria Ferrà, Ugo Santosuosso and Antonio Conti (Università di Firenze, Dipartimento di Fisiopatologia Clinica, Presidenza Facoltà Medicina e Chirurgia, Viale Morgagni 85, Firenze I 50134, ITALY)

Summary of work: For two years we have been applying a blended-learning approach based on the Open Source ATutor platform to teach basic informatics in curricula of the Faculty of Medicine. The idea was to extend this experience by giving to the students a tool to develop themselves in a collaborative way some of the didactical material for courses that are taught in the conventional
Towards an equivalence between distance and face-to-face education: standards, requirements and conflicts under copyright law in medical education

E Berlingieri*, M Masoni, G Gensini and A Conti (Florence University, Faculty of Medicine, Viale Morgagni 85, Firenze I-50134, ITALY)

Background: According to Italian statutory law academic programs may be held in traditional or non traditional formats or media, and students can pursue degrees entirely through distance education. This means that the exemption of fair use, provided by copyright law to maintain a balance between the rights protected and the larger public interest - particularly in education, research and access to information - should apply to distance education as well. Medical education in particular deals with a massive use of copyright protected materials such as images, audiovisual recordings, databases and text as well. By contrast to fair use in education, copyright law is actually expanding the scope of the copyright protection and presently it covers all kind of rights in the digital environment in order to keep control on materials over the internet. Fees to use protected materials may be high, and the occurrence of contracts and fiscal constraint may delay access to information when it is needed. For this reason, the measure of educational performance requires evaluation in observance of legal requirements.

Summary of work: This work summarizes the standards and requirements established by copyright law that weaken fair use in distance education, focusing in particular on the needs of medical education. It will provide cost-efficient recommendations to avoid copyright infringement and to comply with law.

Conclusions: Take home message: Traditional education and distance education meet different requirements to comply with statutory copyright law, and this should be taken into account when implementing distance education programs.

The perception of nursing degree students of the feasibility and quality of blended learning of humanities: evidence for action

Andrea A Conti*, Antonio Conti, Maria Renza Guelfi and Gian Franco Gensini (Università degli Studi di Firenze, Dipartimento di Area Critica Medica Chirurgica, Fondazione Don Carlo Gnocchi, IRCCS Firenze, Centro Italiano per la Medicina Basata sulle Prove, Viale Morgagni 85, Firenze I-50134, ITALY)

Background: Blended learning has already been proven feasible and of high didactic quality in academic teaching settings; yet limited data are available with reference to nursing degree students.

Summary of work: A survey of basic informatic knowledge of students of the nursing degree course was performed, and a user-friendly section of the website of the Florence Medical School (http://www.med.unifi.it/riperadi-line.htm) was specifically dedicated to Humanities for nurses. Traditional face-to-face learning systems were combined with Web-based materials. The teaching materials of the section were proposed to 86 students of the nursing undergraduate curriculum (age range: 21–48 years), together with the full indication of a set of other Internet addresses focusing on Humanities for nurses.

Conclusions: The use of the Internet as measured by the presence of personal e-mail addresses was relatively high (more than 60%). The perception of the usefulness and quality of the original and specific learning materials on the web was high (significantly higher than that attributed by the nursing students to the documentation retrieval in the other teaching websites indicated; p < 0.01).

Take home messages: The formative experience of the Florence Medical School in Blended Learning of Humanities in the nursing degree course provides evidence that such an educational approach is feasible and is positively perceived by the students in absolute terms; moreover, its teaching materials are considered of high quality.

OPAL (Outcomes for Personal and Adaptive Learning)

Rachel Ellaway*, Patricia Warren, Catriona Bell, Phillip Evans and Susan Rhind (University of Edinburgh, NVM Learning Technology Section, The Medical School, Hugh Robson Link Building, 15 George Square, Edinburgh EH8 9XD, UK)

Background: The use of curriculum mapping for both planning and delivery is well established in principle although the means for going about it are less well considered. The use of web applications and services can support much of the essential information handling but there are still many decisions to be made regarding methodology (including content, granularity, inter-relationship of tagged items, search capability, and rendering).

Summary of work: This paper will present the OPAL Curriculum Mapping system being developed at the University of Edinburgh, for both the undergraduate medicine and undergraduate veterinary medicine curricula. These two degree programs have followed differing paths regarding the practicalities of curriculum mapping including divergent ways of handling granularity, professional factors and the way the objectives and outcomes are related to each other and to the rest of the learning environment. We will describe our experience regarding the generic considerations relating to language, semantics, probabilistic mappings, metadata, coding frameworks and their relationships to other educational informatics systems used for the two instances. We will discuss the differences between them, the reasons for pursuing them, and the conclusions drawn from the contrast of the two different approaches using essentially the same curriculum mapping system.
9D 1 Process-outcome interrelationship – need for a comprehensive approach

Jørgen Nystrup*, Hans Karle and Leif Christensen (World Federation for Medical Education (WFME), Raskilde County Psychiatric Hospital, Tofehus 2. sal, Smedegade 10-16, Copenhagen DK-4000, DENMARK)

Background: A worry is expressed about the taxonomy of learning in pure outcome-based medical education, in which student assessment can be a major determinant for the learning process, leaving the control of the medical curriculum to medical examiners. Moreover, curricula which favour reductionism by stating everything in terms of instrumental outcomes or competencies, do face a risk of lowering quality and do become a prey for political interference. Standards based on outcome alone raise unclarified problems in relation to licensure requirements of medical doctors. It is argued that the alleged dichotomy between process/content and outcome seems artificial, and that formulation of standards in medical education must follow a comprehensive line in curricular planning. Perceptions of outcome have always been an integrated element of curricular planning. The present debate underlines the need for stronger focus on learning objectives and outcome assessment in many medical schools around the world. The need to maintain an integrated approach of process/content and outcome is underlined in this paper.

9D 2 The development of a curriculum statement for genetics in primary care

Sarah Burke*, Anna Stone, Melissa Martyn, Catherine Bennett, Hywel Thomas and Peter Farndon (University of Birmingham, School of Education, CM99, Edgbaston, Birmingham B15 2TT, UK)

Aim: The importance of genetics in primary care is widely acknowledged. This project was conducted to develop a curriculum statement for genetics in primary care based on priority areas of genetics education for general practice (primary care) trainees.

Summary of work: The curriculum statement was developed using a modified Delphi survey involving geneticists, GP trainers and programme directors in the West Midlands region of the UK (N=60; response rates 63% and 67%). The results were reviewed by an expert group comprising geneticists, educationalists and a GP with Special Interest in Genetics.

Summary of results: The first Delphi questionnaire generated a list of knowledge, skills and attitudes. The second questionnaire identified the priority areas from this list. Respondents prioritised topics that are clearly relevant to clinical practice as well as basic areas of scientific knowledge. An expert group developed these results into a curriculum statement.

Conclusions: The inclusive approach adopted in the development of this curriculum statement has enabled the identification of learning outcomes which reflect educational needs in clinical practice. Reflecting the importance of integrating genetics into training, the statement was included in the curriculum submitted to the Postgraduate Medical Education and Training Board by the Royal College of General Practitioners.

9D 3 “Core competency scoring” change implementation criteria in developing clinical education from discipline-based to integrated clinical module based

Fulya Dikmer*, Suetet Arsan, Selim Karayalçın, Mehmet Gürel, Sabri Kemal Kılıç and Tuner Goproğolu (Ankara University School of Medicine, Department of Gynecology and Obstetrics, Kadın Hastalıkları ve Doğum A.D., Çebeçi Tip Fakültesi Hastanesi, Dikimer, Ankara, TURKEY)

Aim: To identify the importance of using “National Core Curriculum Content” and “Core Competency Scoring” while developing clinical education.

Summary of work: Setting criteria for integration of clinical modules was carried out by a working group representing four basic clinical departments; Internal Medicine, General Surgery, Pediatrics, Gynecology and Obstetrics. Eight clinical modules have been developed according to systems/age/sex and community based integration. By using National Core Curriculum content, each module’s learning objectives were listed as diseases, conditions and/or symptoms with their codes. Codes refer to the definition and competency level of each learning objective and clinical task. (A: Overcomes emergency conditions; B: Knows; K: Prevents; T: Differentiates and Refers; TT: Treats, Manages and Follows). After rating the codes from 1 to 3, the total score of each listed item was calculated according to its codes.

Conclusion: Core Competency Coding and Scoring technique helped us in designing each module’s instructional plan and estimation of clinical duration.

Take-home message: Integration and Curriculum change is a challenging process and requires effort to set the outlines of each step in detail. Harmonizing international, national and institutional consensus and setting core competencies, facilitates the in-depth understanding of revising the clinical teaching curriculum.

9D 4 The value of humanism in the ideal doctor concept from medical educators’, students’ and patients’ perspectives

A Pereira da Silva*, M Patrício, M Bicho and J Dulca Soares (Lisbon University Medical School, Genetics Laboratory & Metabolism and Endocrinology Centre, Av Prof Egas Moniz, Lisboa 1649-028, PORTUGAL)

Background: Medical education goal is to produce the “Ideal-Doctor”, the concept remaining ambiguous. The objective of the study was to look if consensus exists among patients, medical students and respective teachers on the “Ideal-Doctor”. Gender differences were also explored.

Summary of work: A semi structured questionnaire based on 72 preliminary interviews was completed by 102 patients, 74 teachers and 124 students (from 3rd pre-clinical and 6th clinical year), focusing on the following factors: doctor competency, professional career, humanism, image, ethics and technology. Summary of results: Significant differences were found among the 3 groups: Patients highly rated Humanism (p<0,001), followed by Image (p<0,001), and Technology (p<0,001) when compared with teachers and students. Moreover the women valued Humanism more than men (p<0,012).

On the contrary teachers and 6th year students value Competency and Professional Career as the most important factors.

Conclusions: It appears that the aspects more valued by patients differ from the ones selected by students and teachers. This lack of consensus may explain some unfulfillment of patients’ expectations regarding their doctors, which in turn may affect doctor-patient relationship.

Take home messages: Medical Curricula should emphasise aspects linked to Humanization in order to prepare future doctors to cope with the increasing demands of the patient-doctor relationship, namely with vulnerable populations.
9D 5 National consensus of the vision of the ‘Saudi Future Doctor’
R Zaini*, P Stark and N Bax (The University of Sheffield, Academic Unit of Medical Education, 85 Wilkinson Street, Sheffield S10 2GJ, UK)

Background: With the increasing number of Medicine Colleges in Saudi Arabia and the absence of analysis of the relevance and effectiveness of medical programmes, the autonomy of Saudi medical schools is being questioned.

Summary of work: This study aims to develop a national consensus of the “Saudi Future Doctor” through the identification of competencies and learning outcomes that must be addressed by all medical programmes to build competent doctors. This vision is based on doctors’ duties and obligations towards the patient, practice, community and professionalism.

Summary of results: Two rounds of a Delphi study have been undertaken to identify agreed competencies and Learning Outcomes of different groups of stakeholders (deans, medical faculty, interns, and medical educators).

The “Saudi Future Doctor” survey has identified most of the international and regional recommendations and accreditation standards, but with the advantage of Saudi ownership, a holistic view, and national consensus.

Take-home message: While complying with international trends and accreditation standards in medical education, each country must set its standards. National or professional bodies can catalyse the movement but in the absence of such organisations, the opportunity to develop a national agreement about the desirable learning outcomes is a step forward.

9D 6 Outcomes and indicators for general physicians’ CME programs in the field of “rational prescribing” in Iran – a Delphi study
Hamideh M Esmaeili*, Reza Vahidi, Abolghasem Amini, Mohammad Hossein Zarrintan and Rolf Wahlstrom (Karolinska Institutet, Division of International Health (IHCAR), Department of Public Health Sciences, Nobels Vag 8, Stockholm 171 77, SWEDEN)

Aims: To obtain experts’ consensus about appropriate educational outcomes of rational prescribing for General Physicians (GPs) in Continuing Medical Education (CME). Determining content and developing guidelines for outcome-based education.

Summary of work: The study consisted of two steps: First step conducted via two-round Delphi consensus process to identify outcome-based educational indicators for GPs’ CME in the field of rational prescribing; in second step agreed results submitted to panel of experts to determine content and develop guidelines for CME programs.

Summary of results: Learning outcomes were identified for GPs’ CME program on rational prescribing with respect of the three-circle outcome model described by Harden et al. About 80% of designed outcomes and existing indicators showed high rate of consensus in the first and second round of the Delphi process. Other indicators were added during the Delphi process. During panel discussion the content of a CME program was listed and educational guidelines for program trainers were developed.

Take home messages: A Delphi process combined with panel discussion generated appropriate outcomes for CME program on rational prescribing for GPs.

Results of this study will be used in a planned intervention study on the effects of outcome-based CME programs for GPs in Iran.

9D 7 Developing competences in an undergraduate medical curriculum: a transversal programme
Miguel Castelo Branco*, Isabel Neto, Luiza Granadeiro, Luis Taborda Barata and Jose Manuel Calheiros (University of Beira Interior, Faculty of Health Sciences, Rua Marques d’Avila e Bolama, Covilha 6200-001, PORTUGAL)

Background: During their training period, future doctors have to acquire a core of clinical skills, attitudes and knowledge that prepare them to be competent professionals. Although the medicine undergraduate curriculum almost universally includes clinical skills, demonstrable acquisition is very heterogeneous.

Summary of work: Trying to overcome this problem in the medical course in the Faculty of Health Sciences at the University of Beira Interior, we developed an objective and structured “Attitudes, skills and competences programme" which is transversal to all years of the curriculum.

Specific objectives are integrated in almost every module of the course, both in basic and in clinical settings, starting with the simplest skills in the first years and with the most complex in the last years. For each skill we have check-lists which also include the attitudes related to it. These check-lists are used both for learning and for assessment. Before they complete the last year of the curriculum, students must successfully do the entire programme.

Conclusions: We think this integrated way permits better contextualization of the learning process and prepares more competent doctors.

9D 8 One step in matching competencies to daily work: an exploratory study into tasks and activities of postgraduate trainees
J Pols*, A R Yedema and P M Boendermaker (University Medical Center Groningen, Wenekebacht Huis, PO Box 11.119, Groningen 9700 CC, NETHERLANDS)

Background: Worldwide, the focus in postgraduate specialty training has shifted to competencies. In daily practice clinical teachers struggle with the question: “How do I match the defined competencies to trainees’ daily tasks and activities?” Part of their problem is the absence of research into trainees’ daily tasks and activities. To remedy this we conducted an exploratory study.

Summary of work: Our work was guided by a model of professional competencies widely used in vocational training in the Netherlands. An initial list of tasks and activities was based on observation of and interviews with trainees. The resulting list was validated by an email questionnaire survey among 615 trainees in all but one of the specialties with training programmes in the Netherlands.

Summary of results: The initial list comprised 59 tasks and activities. The questionnaire had an overall response of 34%. Seven of the initial tasks were modified, 52 remained unaltered and five new ones were added, yielding a final list of 64 tasks and activities.

Conclusion: Despite some limitations, the final list appears to be valid and adequately detailed.

Take home message: An important step has been taken towards effectively linking competencies to tasks and activities in postgraduate specialist training.
Continuing Professional Development 1: A spectrum of CPD methods

9E 1 Reaching quality of care improvement using best practice in continuing medical education: a randomized-control trial
R Laprice*, R L Thivierge*, M Bajas-Bojanovic, S Vandal, G Gosselin, D Paquet, M Luneau, P Julien, S Gauze, J Desaulniers and P Moltais (Université de Montréal, 721 Hartland Avenue, Montréal, Québec H2V 2XS, CANADA)

Background: Whereas numerous studies have demonstrated that treating high-risk cardiovascular patients improves outcomes, others reveal that only 20% to 61% are treated according to clinical practice guidelines (CPGs). We report on the results of CIME, a randomized-control trial of the effectiveness of a strategy developed to improve GPs’ performance using CME best practices: disseminate, enable and reinforce.

Summary of work: In this study, we recruited 132 GPs in Quebec (Canada). After attending a 2h interactive workshop (CPG dissemination), half were randomly assigned to the intervention group. This group was provided with a nurse who: 1) reviewed 140 charts of patients aged 55 and over with an upcoming visit from February to August 2005; 2) labelled charts of potentially under-treated patients (reinforcement); and 3) encoded a chart summary and treatment algorithm (enabling tools). Control physicians also received the algorithm but practiced as usual during this period. Change of performance in both groups during the intervention period was assessed retrospectively using chart audit for consenting patients.

Conclusion: In this presentation, we demonstrate that for CME providers to improve knowledge translation, they must go beyond CPG dissemination. Here, a nurse-led collaborative workplace intervention has been implemented to support and increase the likelihood of practice change.

9E 2 Three years of RCPCH CPD audit: waning not waxing?
A P J Thomson*, A Emerson and RCPCH CPD Department (RCPCH - Royal College of Paediatrics and Child Health, c/o 2 The Avenue, Alsager, Stake-on-Trent ST7 2AN, UK)

Background: The RCPCH CPD scheme was audited annually from 2002-2004.

Summary of work: Each year, 5% of randomly selected scheme participants’ records were checked for: CPD match with credits claimed; Personal Development Plan (PDP); evidence of external CPD.

Summary of results: (2002, 2003, 2004). 171 (5.9%), 180 (6.1%) and 187 (6.4%) of scheme participants were recruited; 139, 142, 145 records audited (4.6%, 5.0%, 5.0% of participants, 81%, 81%, 78% of requested). 18, 35, 35 records (13%, 24%, 3.5% of returns) arrived after more than 6 months. Standards not met in 3 (2.2%), 21 (14.4%), 22 (14%) (p < 0.05). Claims of 25 external CPD points with insufficient evidence were 0 (0%), 1 (0.7%), 3 (2% of returned records). Claims of less than 25 credits were 1 (1% of returned records), 16 (11.3%) then 9 (6%). Respondents with full evidence of claimed external CPD fell (71%, 34%, 21%). In 2004, 11 paediatricians, all hospital-trust based, returned no PDP.

Conclusion: Documentary evidence of external CPD declined over 3 years. Stringent attention to CPD is needed at appraisal. Revalidation reliance on CPD evidence may pose difficulties.

9E 3 Evaluation of the effectiveness of an Opinion Leader programme
L Tomalty* and C McAiney (Queen’s University, Continuing Professional Development, Faculty of Health Sciences, 82 Barrie Street, Kingston, Ontario K7L 3N6, CANADA)

Aim: To evaluate an Opinion Leader initiative on Alzheimer Disease and related dementia (ADRD).

Summary of work: As part of a comprehensive educational strategy for physicians on ADRD, an Opinion Leader (O/L) program was designed. O/Ls were general practitioners in the community who received enhanced training in ADRD. They then acted as educational resources to their peers in the community. The effectiveness of the O/L program was assessed through several mechanisms including repeated knowledge and satisfaction surveys. To enhance this standard evaluation method, O/Ls were asked to identify physicians who they felt that they had influenced. Those physicians were then contacted and asked if they had been influenced by the O/L, how they were influenced and if their interactions with the O/L led to any changes in their practice.

Summary of results: 87% of ‘those influenced’ reported that their understanding of ADRD was enhanced by their O/L. 70% of those influenced reported that they had changed the way they provide care to individuals with ADRD as a result of their interactions with the O/Ls.

Conclusion: This study provides strong evidence on the effectiveness of O/L programs as a means of educating practicing physicians.

9E 4 Outcomes Based CME/CPD – Validation of needs and measurement of impact using case vignettes and case/control comparisons
Lawrence Sherman (Physicians Academy for Clinical and Management Excellence, 42 Currier Avenue, Melville, New York 11747, USA)

Aim: To review the benefits of outcomes-based continuing medical education (CME) in measuring educational impact.

Summary of work: Throughout 2005, a series of CME activities were presented to primary care physicians and psychiatrists throughout the US. The content was delivered via live, print, online, and handheld (PDA) methods. The curriculum used a combination of didactic presentations and case-based teaching. At the end of the activity, all participants (n>13,000) were provided with a series of case-based questions. A matched group of control physicians were provided with the same case-based questions. The participants’ results were compared with the control groups’ responses.

Summary of results: An interim analysis showed that participants in the educational activities, regardless of medium, were more likely to manage the cases presented more appropriately based on current standards of care. More detailed analyses comparing the value of each medium in the combined group of participants as well as comparing each medium within each subgroup (primary care and psychiatry) are currently being performed.

Conclusion: CME is a key component to the life-long learning needed by all physicians. This study clearly demonstrated that participants in CME activities are more likely to treat patients appropriately according to current standards of care.

9E 5 Lecture based CPD is effective in changing practice among healthcare professionals
A P Choules (Queen’s Hospital, c/o Rose Cottage, Knightsfield Road, Hanbury, Burton-upon-Trent DE13 8TH, UK)

Aim: Lecture based CPD (continuing professional development) has taken a lot of criticism in the past few years, yet many CPD activities continue to use this format. There is limited information available regarding the impact of such activities on clinical practice (Kirkpatrick Level 3). This study investigates the effectiveness of lecture based CPD.
a lecture-based CPD event in changing professional practice.

Summary of work: A lecture based multi-professional CPD day covering 4 common topics in paediatrics was studied using questionnaires sent to all delegates (n=68) approximately one year after the event. Delegates were asked to report whether attending the day had led to a change in clinical practice.

Summary of results: Questionnaires were returned by 36 (53%) of delegates. Overall 64% of respondents reported a change in their practice based on the CPD day.

Conclusions/Take home messages: Lecture based CPD is effective in changing clinical practice up to one year after the event. The lecture based format for CPD should not be abandoned. It is effective, has a relatively low faculty cost and is relatively easy deliver.

9E 6 Is there a need for elearning in veterinary continuing education?

J P Ehlers*, Begit Wittenberg, K Fehrloge and S Neumann (eLearning Beratung Stiftung Tierärztliche Hochschule Hannover, Bischofsholer Damm 15, Hannover 30173, GERMANY)

Summary of work: The Authors decided to establish cooperation for the use of eLearning in veterinary continuing education. A survey was carried out to learn about the veterinarians’ use of computers and need for eLearning. About 2000 veterinarians in Lower Saxony were informed about the survey by the German veterinary journal. They could complete the questionnaire online, per fax or per mail and 212 veterinarians responded.

Summary of results: A Non-Response-Bias-Test showed no significant differences between early and late respondents. The major ways of training were journals (92.45%), congresses (81.13%) and the internet (52.83%). The number of continuing education activities veterinarians are involved in per year varies (one or less 14.62%, two 27.83%, three 23.11%, more than three 29.25%). Reasons for not attending an interesting event are: too expensive fees (72.17%) or travel costs (53.77%), too long journeys (41.51%), too little time for the family (35.38%) or the need for a practice stand-in (21.23%). An alternative could be the use of eLearning: 42.45% would prefer to learn like this, 34.91% would like to try it and only 10.85% do not want to use it at all. So far only 26.42% have used eLearning.

Conclusions: The results of the survey show the advantages and use of eLearning in veterinary continuing education. The next step of the cooperation will be the creation of an eLearning-platform in Germany.

9E 7 Activation of CME-course participants through group learning and online cases: a modified team-based approach

L Eversmann, Th Eversmann, B Saller and M R Fischer* (University of Munich, Klinikum der Universität München, Medizinische Klinikum Innenstadt, Ziemssenstr. 1, Munich 80336, GERMANY)

Summary of work: A 15-hour postgraduate seminar on endocrinology and diabetes care for internists and general practitioners. Each of the six dates comprised five hours of teaching. After a short introduction by a content expert, participants were divided into small groups and had to make joint decisions on a number of paper cases. All groups then reported and discussed their results in the plenum in a structured way. Finally, an evidence-based summary was presented. Course evaluation was done through questionnaires and by a pre/post-knowledge test using an electronic voting system. Additionally, online cases for all key learning objectives were offered three months later to let the participants apply and retet their knowledge.

Summary of results: Participants rated highly the activated form of group learning and online cases with special respect to the case work in teams. Knowledge in the post-test improved significantly (Mean 28%, p<0.05).

Conclusions: The activation of CME course participants leads to a high level of acceptance and promotes learning. It remains unclear whether professional decisions are improved.

9E 8 Interactive education CD-ROM in the work environment

Johanne Blais*, Claude Garceau, Francine Borduas, Michel Rouleau and Marie-Hélène Gauthier (Université Laval, 10 de l’Espérance, Québec G1L 3L5, CANADA)

Aim: The purpose of this program is to enable interaction between GPs and specialists in their workplace through an educative CD-ROM (CPD of family physicians in their work site), by discussion between family physicians and specialists, facilitated by an interactive program on CD-ROM.

Summary of work: Between August and December 2005, 87 activities have been offered to over 150 family physicians, in different regions of the province of Quebec. Primary care practitioners met in their workplace for one hour, mostly at lunch time. Case studies on CD-ROM were introduced to physicians and they were able to discuss the cases. For the last 15 minutes of the session, they had the opportunity to call the expert and clarify with him some burning points.

Summary of results: The innovation of the method, the high level of interaction in real time and in the work environment, without the GPs or the experts having to travel, the quality of the enduring material, the program’s flexibility and the low tech equipment needed (computer and phone) are the positive endpoints reported by the participants.

Conclusion: This educational program in the work environment allowed interaction among peers and specialists, in real time, and using an accessible technology.
9F 2 Strengths and weaknesses of medical education research: reflections from leaders in the field
Mathieu Albert* (University of Toronto, Wilson Centre for Research In Education, Toronto General Hospital, 200 Elizabeth Street, 1 Eaton S Room 565, Toronto, Ontario M5G 2C4, CANADA)

Background: Despite significant progress over the past two decades, many researchers feel that medical education research (MER) remains of insufficient quality. Several articles in major journals have raised concerns about the direction of MER and its growth as a scientific field.

Summary of work: 23 interviews were conducted with leaders in the field of MER (journal editors, directors of research units, and directors of regulatory bodies in medicine). Interviews focused on the strengths and weaknesses of MER and strategies to ameliorate the quality of the work in this field.

Summary of results: Three areas of weakness were identified: 1) studies are often redundant, 2) studies are opportunistic, and 3) researchers have limited understanding of the theories and methods of the social sciences. These factors were identified to explain these weaknesses: the dual role of researchers as knowledge-producers and service providers to medical schools; the limited funding available for research in medical education; and the dominant conception of scientific research in medicine.

Take home messages: To raise standards for research in medical education, leaders in the field advocate intensifying the collaborations between PhD researchers and clinicians and diversifying the perspectives brought to bear on research in medical education.

P.E. Jones*, R.S. Haake and K.E. Multitalo (University of Texas Southwestern Medical Center, Department of Physician Assistant Studies, 5323 Harry Hines Blvd, Suite V4.114, Dallas, Texas 75390-9090, USA)

Aim: To identify trends and variables associated with differing response rates in surveys conducted by physician assistant (PA) educational researchers.

Summary of work: A retrospective review of surveys reported in Perspective on Physician Assistant Education between 1992 and 2005 was conducted.

Summary of results: Fifty-five studies were evaluated. Response rates ranged from 16.9 to 100%, with a mean response rate of 60.8%. The highest response rate (100%) was obtained via telephone surveys, and the lowest was obtained via the Internet (54.3%). The mail-based response rate was 59%.

Conclusions/Take home messages: Deficiencies in the methodology and reporting of survey research were noted in the study. The N of subjects was missing in three studies; the subjects were mixed responder categories in two surveys. Eighteen percent of studies failed to identify survey methodology, and 10.9% failed to identify target subjects, suggesting a need for improved manuscript peer review prior to publication. No survey data have been published in this journal on international PA programs or graduates. Given the recent increase in the interest in international PA training programs this area call for further inquiry.

9F 4 The value of self-assessment
M T van Lohuizen*, J Schönrock-Adema and J Cohens-Schatanus (University Medical Center Groningen, CIONO, Antonius Deusinglaan 1, Groningen 9713 AV, NETHERLANDS)

Background: In this study the usefulness of self-assessment in educational research is demonstrated. This contradicts the general opinion that self-assessments are unreliable and inaccurate. Recent literature, however, has cast doubt on the methodology underlying the studies that support this opinion. This study used an alternative methodology to explore the value of self-assessments.

Summary of work: 294 graduates from two cohorts graded themselves on eight aspects of general competence. The rating scale used and the background of the cohorts lead to the formulation of ten hypotheses regarding the structure and meaning of the data. To have any value, the self-assessments should support these hypotheses. Structure was assessed by calculating mean, range and standard-deviation both within variables and within individuals. Skewness of the variables was also calculated. Meaning was assessed first by looking for interpretable differences between the two cohorts. Secondly, a factor analysis should reveal between one and three interpretable underlying constructs.

Summary of results: Graduates used a broad range of grades. Means and standard-deviations were acceptable both within variables and within individuals. Skewness of the variables was as expected. Differences between the cohorts and the solution of the factor analysis were interpretable.

Conclusion: Self-assessments seem to be useful in educational research.

9F 5 Standard setting as a way of evaluating an educational innovation
P Remmelts*, P M Booijendamker and K Kuizenga (University Medical Centre Groningen, Wenckebach Instituut Brug 5.042, Postbus 11.119, Groningen 9700 CC, NETHERLANDS)

Aim: In evaluating educational innovations, much energy is spent on developing questionnaires to investigate opinions of faculty and trainees involved. However, those opinions may not offer a sound basis for decisions about effectiveness. We investigated the potential additional value of standard setting by educational experts when making recommendations for implementation of an educational innovation.

Summary of work: (1) A new assessment tool was piloted in specialist training in anaesthesiology at University Medical Centre Groningen; (2) A questionnaire was developed to evaluate experiences and effects on feedback climate and trainees' learning processes; (3) Six medical education experts set standards stating which questionnaire results indicated success of the pilot; (4) Staff and trainees completed the questionnaire at the end of the pilot period.

Summary of results: According to staff, 86% of questionnaire items indicated success of the pilot. According to the standard, 57% did so. For trainees the results are 64% and 43%. The stricter expert standards resulted in additional recommendations.

Conclusion/take home messages: Standard setting by educational experts is a useful tool in evaluating medical educational interventions, resulting in more focused directions for further action.

9F 6 What influences learning in clinical settings and can theory help us understand it?
Sue Kilminster* (University of Leeds, Medical Education Unit, Worsley Building, Level 7, School of Medicine, Clarendon Way, Leeds LS2 9NL, UK)

Background: Theoretical understandings about learning can help inform research questions, design and analysis. This study draws on previous work which has identified the importance of directed learning, supervision and feedback in clinical settings at all stages of medical education.

formula, we explain in which testing contexts we can use and interpret alpha. Based on several examples from the literature, the general misuse of reliability estimates will be explored.

Conclusions: Medical education researchers are cautioned against the misuse of Cronbach's alpha to determine the reliability of certain types of tests. Creating a higher alpha based purely on an increased number of test items says little about the validity of the instrument. Alternative measures can be employed to determine the repeatability of data.
9F 7 Views of Ethics Committee members on how educational research should be reviewed

N J Shaw*, J Ryland, J C Howard and J Brown (Mersy Deeley, Regatta Place, Brunswick Business Park, Summers Road, Liverpool L3 4BL, UK)

Summary of work: The purpose of this study was to investigate factors which influence student learning and performance in clinical settings using theoretical understandings about work based learning. In medical education research learning is usually investigated using individualistic psychological understandings and explanations in which learning is understood more as a process of acquisition. Other education research is predicated on socio-cultural theories of learning in which learning is understood as a process of participation. In this critical incident study respondents were asked to identify three situations; one where they were able to complete a task; one where they had difficulty or needed help to complete a task and one where they were unable to complete a task. Respondents were then encouraged to explore the contributing factors. The findings of this study will be presented and will be used to highlight the importance of analysing learning as both a process of participation and acquisition and to contribute towards understanding the mediating role of supervision in clinical education.

9G Clinical Teaching: What is good clinical teaching?

9G 1 Learning in clinical settings: what counts in evaluations made by students?

M W Gerbase*, M Germond, G Pini and N V Vu (University of Geneva, Unit of Development and Research In Medical Education, School of Medicine, 1 rue Michel-Servent, Genève 1211, SWITZERLAND)

Background: Comprehensive assessment of learning activities in clinical settings is multi-faceted. Our clerkships are designed to combine case-problem and patient-based learning.

Summary of work: 2450 undergraduate students evaluated clinical learning between 1997 and 2004 using a 21-item instrument with questions related to the general organisation of clerkships (GOC), clinical activities (CA), vignettes (V) and a global evaluation through a 5-point Likert-type scale. This study aimed to: 1) compare results between global and itemised evaluations, and 2) determine which items influence students' evaluations.

Data were analysed by Cronbach-alpha coefficients, Pearson correlation and Varimax factor analysis of items (loading ≥0.7).

Summary of results: Reliability of overall items and domains GOC, CA and V was shown by alpha coefficients varying from 0.86-0.96. Correlation between global rating and mean rates of the items addressed by the questionnaire was 0.86 (p<0.0001). Two main independent factors stand out of students' evaluation of clerkships: the first emphasise structured and supervised learning of clinical skills, and the second focus on the quality of selected case-problem and tutors.

Conclusion: In conclusion, our item-based questionnaire shows good reliability and strong correlation with the global evaluation of clerkships. Furthermore, the appraised quality of clerkships is highly connected with organised opportunities to integrate theoretical into practical learning under effective supervision.

9G 2 Using Cultural Consensus Analysis to address recurrent problems in Teaching Clinic

C S Smith*, I Francovitch, M Morris, W Hill, J McMullin and L Chavez (University of Washington, c/o VAMC, 500 W Fort Street, Boise, Idaho 83702, USA)

Background: Recurrent operational problems in teaching clinic may be caused by the different medical preferences of patients, residents, faculty, and administrators. These preference differences can be identified by Cultural Consensus Analysis (CCA), a standard anthropological tool.

Summary of work: We have developed a CCA preference sorting task, in which individuals sort sixteen laminated cards, each printed with one statement about things that might happen in clinic. This CCA tool was able to detect the major operational problems at five teaching clinics. It has also been validated in these same clinics against system-wide performance measures (standardized patient assessment of overall quality).

Conclusions: There is tremendous need to find tools to bridge the gap between system-wide quality measures and organizational change, on the one hand, and local context and barriers to implementation, on the other. CCA may be just such a tool.

Take home messages: (1) CCA is a powerful tool for identifying significant between-group preference differences in how teaching clinic should operate. (2) These preference differences are associated with recurrent problems and barriers to organizational change. (3) This information may allow an intervention targeted to the specific context to be more effective.

9G 3 Clinical education of graduates of European medical schools

Danette W McKinley*, John J Nocini and M Brownell Anderson (Evaluative Commission for Foreign Medical Graduates (ECFMG)/FAIMER, 3624 Market Street, 4th Floor, Philadelphia PA 19104, USA)

Aim: To describe clinical training experiences of graduates of European medical schools who applied to ECFMG for certification.

Summary of work: When international medical graduates (IMGs) apply for certification by the Educational Commission for Foreign Medical Graduates (ECFMG®) they provide information about their clinical clerkships. Data were extracted for 1459 applicants who reported at least 4 clerkships and were 1999 through 2006 graduates.
Data were available for the clerkship discipline and duration by European region (North, South, East, West).

Summary of results: The ten most common clerkships were Surgery, Pediatrics, Obstetrics & Gynecology, Neurology/Neurosurgery, Psychiatry, Medicine, Dermatology, Cardiology, Ophthalmology, and Epidemiology/Infectious Disease. More than half the applicants (61%) reported experience in three or more of the disciplines required in the U.S. (Family Medicine, Internal Medicine, Obstetrics/Gynecology, Pediatrics, Psychiatry, and Surgery). There was little difference in length of clerkship for Surgery, Pediatrics, Medicine, and Obstetrics/Gynecology by region of medical school but for other disciplines the average clerkship length varied by as much as two weeks.

Conclusions: The information provided by applicants indicates that there is variation in clinical training amongst medical schools in Europe. Investigation of similarities and differences will facilitate efforts to ensure comparability in international medical education.

9G 4 An outcome-based clinical rotation in neurology
David Lee Gordon* (University of Miami, Center for Research in Medical Education, PO Box 016960 (D-41), Miami, Florida, USA)

Aim: To determine the feasibility and effectiveness of a comprehensive, standardized, outcome-based clinical rotation in neurology for medical students.

Summary of work: In 2001, we revamped the 4-week neurology rotation (rated worst rotation in the school the two previous years), supplementing traditional patient-centered experiences with standardized student-centered activities that emphasize core competencies, curricular alignment, and blended learning, and account for only 28% of student time.

Summary of results: In 2002-2003, 138 students took the rotation. Computerized test scores improved from 61.6% to 90.6% postcourse, p<0.001, and neurologic examination OSCEs improved from 48.4% to 93.4%, p<0.001. Ninety-five percent of the students agreed the rotation was a positive experience. Students performed better in neurology at the end-of-year school-wide OSCE than at any other station with the highest mean and minimum scores (87.0%, 55.1%). In the first year of the new curriculum, students chose neurology as the best rotation in the school.

Conclusions/Take home messages: It is feasible to implement a comprehensive, standardized, outcome-based clinical rotation for medical students that enables measurement of gains in student knowledge and skills, is well liked by learners, and compliments traditional ward teaching without significantly diminishing time for clinical experience.

9G 5 Using the day surgery unit to develop an ambulatory care teaching programme in orthopaedic surgery
John Dent (University of Dundee, Centre for Medical Education, Tay Park House, 404 Perth Road, Dundee DD2 1LR, UK)

Background: Common surgical conditions previously managed on an in-patient basis are now being treated in day surgery units (DSUs). It is important that undergraduate medical teaching follows patients to these new venues.

Summary of work: A structured ambulatory care teaching programme was designed for fourth year students studying the musculoskeletal system. It focused student learning on the 12 outcomes of the Scottish Doctor. Day 1 – Practice basic scrub technique and gowning; Use a computer-assisted learning programme to practice simple suturing on plastic models; Attend a teaching clinic with selected patients with common conditions suitable for DSU treatment. Day 2 – Take part in a pre-operative assessment at the DSU; Assist at surgery including suturing under supervision; Observe anaesthesia, participate in multidisciplinary post-operative care; Observe patient discharge and follow-up procedures. Day 3 – Review post-operative patients in the follow-up clinic.

Conclusions: Students found the DSU programme helped to: increase their understanding of the continuity of patient care; increase their skills in practical procedure; encourage self-directed learning; focus learning on the curriculum outcomes.

Take home messages: Twelve tips for the development of a clinical teaching programme in the DSU are suggested. Staff development material has been produced to help clinicians unfamiliar with this teaching style and venue.

9G 6 The relationship between students’ knowledge and their perceived readiness for clinical practice
E van Hei* and J Cohen-Schotanus (University Medical Center Groningen, CIOMO, Antonius Deusinglaan 1, Groningen 9713 AV, NETHERLANDS)

Aim: Students experience a gap between pre-clinical and clinical training. The students mention several transition-related problems and a deficiency in knowledge is one of them. This study assesses whether the amount of knowledge students possess has a relationship with their perceived readiness for clinical practice.

Summary of work: During the first two weeks of their clerkship 75 students filled out a questionnaire in order to measure their perceived preparation for clinical practice. This questionnaire consists of 77 statements divided into eight categories of transition-related problems: transition (13), professional socialisation (6), workload (6), patient contact (8), knowledge (11), skills (9), learning (13) and education (11). Students’ knowledge was measured twice by means of a progress test.

Summary of results: When correlated with the mean progress test score, only the knowledge category results in a significant correlation (p<.01). No relationship was found between students’ knowledge and the other categories of transition related problems. Consequently there seems to be no relationship between students’ knowledge and their general readiness for clinical practice.

Take-home message: Students’ knowledge only plays a minor role in their perceived readiness for clinical practice.
Accreditation of medical education in Central Asia

K A Conaboy*, P Wallace, A DeBaklo, Z Nugmanova, S Yegeubaeva, E Fedullo, L Christensen, J Norcini, R F Jones, M L Standish, M B Anderson, S O'Dougherty and P Campbell (University of South Florida Health Sciences Center, 6351 Meadow Crest Circle, Reno NV 89509, USA)

Aim: Explain progress and challenges in adopting international standards and processes for accreditation of medical education in Central Asia.

Summary of work: Multi-year discussions have culminated with regional meetings of essential stakeholder groups - ministries of health and education, medical academies and post-graduate institutes, and students - who agreed about the need for and goals of a regional accreditation system. Developing such a system requires: adapting international models; analysis of existing country systems; collection of supporting data; and development of infrastructure. In addition, the strong sense of sovereignty of the five nations and limitations to political will must be addressed.

Summary of results: Facilitated regionally by donor agencies, detailed work is underway on the country level, including: (1) adaptation of the WFME’s templates for “Standards for Basic Medical Education” and “Guidelines for Accreditation”; (2) continued development of the regional database to collect quality assurance data; (3) analysis of the legal framework of existing systems and options for establishing regional cooperation.

Conclusion: Collaboration between the ministries who control legal, regulatory and policy issues and the medical education experts who administer programs and interact with students is imperative to the formulation and long-term success of an accreditation system.

Opportunities for international medical education for students, residents and faculty

M Brownell Anderson* and John J Norcini (Association of American Medical Colleges (AAMC), 2450 N Street NW, Washington DC 20037-1126, USA)

Background: Many U.S. medical schools encourage international educational experiences for their students, residents and faculty but the resource for sharing information about these opportunities is out of date.

Summary of work: Sixty of 125 U.S. medical schools completed an online survey responding to questions about the nature of the opportunities available to students and faculty (i.e. sabbaticals, clinical experiences, research).

Summary of results: Opportunities exist in all regions of the world with 60% in East Asia/Pacific region; 50% in Sub-Saharan Africa and 48% in South America. 91% offer clinical experiences for their students and 56% offer clinical experiences to students from abroad and these placements occur predominantly in Sub-Saharan Africa (74%), Central America/Caribbean (70%) and East Asia/Pacific (67%). 60% offer international clinical opportunities for residents. Funding sources include individual donors (50%) and the Dean’s office (56%). Research and medical education are the most common experiences for faculty from other countries (54% and 50% respectively). These data will be made available on a website and updated on a regular basis.

Conclusions: There is increasing interest in learning about global medical issues. Medical schools worldwide are participating in the exchange of students, residents, and faculty in educational and research activities.
9I Time to rethink admissions tests

9I 1 Time to rethink admissions tests
Michele Groves*, Jill Gordon and Greg Ryan (Griffith University, School of Medicine, PMB 50, Gold Coast Mail Centre, Queensland 9726, AUSTRALIA)

Aim: To examine the effectiveness of cognitive admissions tests in predicting clinical reasoning skill throughout undergraduate medical training.

Summary of work: Students enrolled in two Australian graduate-entry schools completed two validated measures of clinical reasoning, the Diagnostic Thinking Inventory and a set of 10 clinical reasoning problems. Scores on these measures, plus students’ Year 2 examination results, were correlated with pre-admission interview score and scores on the Graduate Australian Medical Schools Admission Test (GAMSAT), a modified version of which is in use in UK graduate-entry schools.

Summary of results: Although GAMSAT is designed to test reasoning in both the social and biological sciences, no relationship was found between it and clinical reasoning skill in medical school. There was a weak correlation between GAMSAT and examination results. There was no association between interview scores and either clinical reasoning or examination results.

Conclusion: The administration of admissions tests is time-consuming and expensive. Given the tenuous link with undergraduate performance identified in our study, we recommend further detailed investigation of their validity in other settings. Medical schools should be clear about the purpose of medical school admissions tests and able to defend the validity and reliability of the instruments they use.

9I 2 Selection Centres: Initial description of a collaborative pilot project
Jane Kidd* (Warwick Medical School), Jon Fuller (Barts and the London, Queen Mary’s School of Medicine and Dentistry), Fiona Patterson (City University) and Yvonne Carter (University of Warwick, Warwick Medical School, Medical Teaching Centre, Gibbet Hill Campus, Coventry CV4 7AL, UK)

Aim: To describe a collaborative pilot project to introduce a selection centre process for the selection of applicants to graduate entry programmes at two UK medical schools.

Summary of work: Pilot work conducted by the Council of the Heads of Medical Schools, the Department of Health, City University and the Work Psychology Partnership resulted in Warwick Medical School and Barts and the London, Queen Mary’s School of Medicine and Dentistry agreeing to run a joint Selection Centre Process to select applicants for medical school.

Summary of results: Both Schools ran training sessions for assessors. Four hundred applicants attended one of 13 half day sessions co-ordinated over the two sites. Each applicant spent four and a half hours at the Selection Centre. Applicants applying to both medical schools only had to attend on one occasion.
Each applicant was rated by three assessors on seven criteria while completing three 45 minute tasks. The data were analysed independently by each medical school and offers made to those candidates who were most suited to each medical school.

Conclusions: While requiring a higher level of organisation and co-ordination than a traditional interview process the benefit is that three independent assessors score each candidate in an objective manner.

91.3 Graduate selection: searching for the best measures
Eleanor Flynn*, Agnes Dodds and Geoffrey McColl (The University of Melbourne, Faculty Education Unit, Faculty of Medicine, Dentistry & Health Sciences, Level 7, Medical Building, Victoria 3010, AUSTRALIA)

Background: As the community's expectations of its doctors rise, selection into medical courses becomes an ever higher-stakes activity. Faculties must demonstrate not only that the most appropriate candidates are chosen, but that the decisions are legally defensible. The University of Melbourne selects thirty-three per cent of its local student intake as graduates, using a combination of Grade Point Average (GPA), Graduate Australian Medical School Aptitudes Test (GAMSAT) scores and a structured behaviourally-oriented interview covering five domains.

Summary of work: We report the analysis of selection data for the five years since the inception of the graduate course. We focus on the relationship between the three selection measures and the contribution of each measure to the selection decision. The measures are statistically independent and contribute different attributes to the selection criteria. Once selected, graduates performed significantly better than their school-leaver peers in the earlier, science-oriented years of the course, but at the same level in the clinically-oriented years. We will discuss the value of using multiple measures in selection and the benefits and disadvantages of different combinations of test and interview scores.

91.4 Contribution of medical students to admission interviews
John Rees*, Togay Koc and Cornelius Katona (King's College School of Medicine, Sherman Education Centre, 4th Floor, Thomas Guy House, Guy's Hospital, St Thomas Street, London SE1 9RT, UK)

Summary of work: Many medical schools interview as part of their admission process. 17 Year 3 students acted as interviewers for a 4 year graduate programme as part of a module involving interview training, tutorials, participation in at least one interviewing session and production of an analytical and reflective account. The 30 minute semi-structured interviews covered five areas. Each interviewer scored candidates independently for each area and communication skills.

Summary of results: In 133 interviews there were no differences between student interviewers' overall scores and those of other interviewers. However, when top grades (those accepted for the graduate programme), were examined separately, there were significant differences in overall scores and a number of individual items. In every case students gave lower marks. Although interviewers were asked to decide on a single integer, 20% of scores had a range of numbers and students were more likely to be indecisive (p<0.01).

Conclusions: Afterwards all students were strongly supportive of the importance of the interview in selection. This study shows that students can be integrated effectively into the interview process. They value the experience, especially when combined with a review of the literature related to selection. However, they tend to be less decisive than more experienced interviewers.

91.5 First use of the multiple mini-interview (MMI) system in a UK veterinary school
Carol Gray* and Nena Blackburn (University of Liverpool, Veterinary Teaching Hospital, Leahurst, Chester High Road, Cheshire CH64 7TE, UK)

Summary of work: A new system for interviewing potential veterinary undergraduates was developed at Liverpool for 2006, based on the multiple mini-interview system reported by Eva and colleagues in 2004. A circuit of 9 stations, with 5 minutes per station, allowed 340 potential candidates to be interviewed over 6.5 days. Each candidate received 35 minutes of contact time. Individual stations had different themes, to test criteria which were deemed "desirable" in veterinary applicants. The inclusion of 2 rest stations meant that 7 interviewers were required for each session, a combination of academic members of staff and external members of the profession, and all received training prior to taking part. The reasons for changing from the traditional panel interview system, the planning, preparation and operation of the MMI set-up, the results from individual stations and individual interviewers, and feedback from interviewees will be discussed. Future work will include comparison of a traditionally selected cohort with one selected by the new method, both at undergraduate and postgraduate stages of their careers. Analysis of scores from each station will allow refinement of stations for subsequent years.

Both candidates and interviewers felt that this is a very fair system for interview.

91.6 High school GPAX is not a good selection tool in the medical school entrance process in Thailand
Preyanuj Yamwong* and Chutatip Nongpan (Mahidol University, Faculty of Medicine, Siriraj Hospital, 2 Prannok Road, Bangkoknoi, Bangkok 10700, THAILAND)

Background: The Ministry of Education has a policy to use high school GPAX in the selection process of universities in Thailand. However, there is still questions about the reliability and discrimination ability of GPAX in a highly competitive situation.

Aim: The objective of this study is to determine the value of GPAX in students' selection in the Faculty of Medicine, Siriraj Hospital, Mahidol University which had a selection system based on the national entrance examination marks and its own tests for learning abilities and skills.

Summary of work: The selection result was compared to high school GPAXs of 2,256 students who applied for 227 seats in year 2004.

Summary of results: Average GPAX of the students who were selected was 3.9±0.49 (grade 0-4 basis). The success rate of students with GPAXs of 4, 3.90-3.99, 3.80-3.89, 3.70-3.79, 3.60-3.69, and below 3.60 were 32, 21, 11.5, 5.7, 4.3, and below 2.5% respectively.

Conclusion: Although the success rate of the students correlated well with the GPAX, the discrimination ability of GPAX is poor in this study. GPAX may not be a good tool in university entrance selection in a highly competitive situation.

91.7 Do students 'soft skills' correlate with academic achievements?
Julia Kampatscher*, Johannes Schulze and Hans Georg Kraft (Medical University of Innsbruck, Institute for Medical Biology & Human Genetics, Schoepfstr.41, Innsbruck A-6020, AUSTRIA)

Summary of work: Soft skills have been proposed as admission criteria to medical studies. In October 2005 the students of the first year of medical study (N = 550) in the Medical University of Innsbruck were confronted with a questionnaire in order to examine their "soft skills" in five different categories: professional medical precognitions, academic efforts in other studies, extra curricular activities (e.g. music), social engagement and sports. The aim of this study was to find out whether these "soft skills" show any correlation with academic achievements in their first year of study.
Critical Thinking: A key element in the medical curriculum

Short Communications

9J1 'From symptom to diagnosis': clinical reasoning sessions
Sabet Kemah*, Ozden Puluoglu, Meral Demiren and Guzin Gökçe-Kavas (Ankara University, Departments of Medical Education & Pediatrics, Faculty of Medicine, Morfoloji (Dekanlık) Binası, Sihhiye, Ankara 06100, TURKEY)

Background: The new curriculum at Ankara University Faculty of Medicine is a student-centred, problem-based hybrid one. One of the major aims of the new curriculum is to foster students to develop clinical reasoning skills. The 3rd year’s main theme is disorders of structure and function, i.e. mechanisms of disease. Some sessions have been devoted to clinical reasoning, called “from symptoms to diagnosis”.

Summary of work: A set of short cases (4-6 cases) with the same major symptom but with different diagnoses are given. The students are asked to work in groups of 4, reach the diagnosis of each case and present with the rationale for it. After the presentation and discussion, the tutors wrap-up the session. The assessment of clinical reasoning skills is carried out by clinical objective reasoning and script concordance type exams. 19 such sessions have been carried out in year 3.

Conclusions: This format has been found to foster clinical reasoning skills and self-confidence of students. Furthermore, it is a powerful tool to wrap up and complete the module activities. Student feedback supported these views.

Take home messages: Short clinical vignettes for discussion of pathophysiological mechanisms can be used to complement PBL and other learning activities.

9J2 The feasibility, reliability and validity of the CIP (Clinical Integrative Puzzle) for assessing clinical reasoning skill
S J Durning*, N Avila, D Vallejo, L Fajre and S Mirkin (University of Tucuman, School of Medicine, Laprida 888 9° C, Tucuman 4000, ARGENTINA)

Background: The Admission Test (AT) to our School of Medicine identifies the best-skilled students in high school to match the school profile in order to guarantee adequate academic performance.

Summary of results: Data on this new tool for teaching and assessing clinical reasoning sessions and CIP for assessing reasoning sessions can be evaluated. After the presentation and discussion, the tutors reach the diagnosis of each case and present with the rationale for it. At the meeting in Genova the potential correlation with results of the summative exam at the end of the second semester (June 2006) will be presented in addition.

9J3 Teaching novices to diagnose ECGs: should clinical teachers promote pattern recognition?
Kevin W Eva* and Lee R Brooks (McMaster University, 1200 Main Street West, MDCL 3522, Hamilton, Ontario L8S 4N5, CANADA)

Background: Over the last 3 decades a variety of research teams have explored diverging aspects of the clinical reasoning process. The end goal for each group has been to determine the most effective way to characterize diagnostic expertise in a manner that enables novice clinicians to gain their own expertise both efficiently and effectively. Recently we have turned our attention to the notion that many of the identified diagnostic strategies are not mutually exclusive of one another and may, in fact, be complementary.

Summary of work: In a series of studies absolute novices diagnosticians were trained to diagnose electrocardiograms (ECGs). Instruction regarding how to reason through the test cases was varied, some trainees as history, exam findings, laboratory tests, histologic and radiographic data. Students complete a grid, matching domain findings with one or more related diagnoses.

Summary of work: Two year prospective, randomized crossover trial. Students completed CIPs in a monitored setting over a one-hour period. Feasibility was assessed through time to complete a CIP and student comments regarding the tool. Reliability was assessed through standard measurements; construct validity by congruence with reasoning theory and content validity by student comments and comparing CIP content with course and NBME exam objectives.

Summary of results: 49 second year medical students participated. CIP topics included abdominal pain, pediatric growth disorders and headache. Average time for completion of a CIP=30 minutes (range 8-45 min). Odd-even reliability ranged from .4-.73. Students reported high satisfaction with this tool that uniquely reflected reasoning concepts. Construct validity was supported by reasoning theory. Content reflected course and NBME shelf exam objectives.

Conclusions: The CIP appears to be a feasible, reliable tool for assessing clinical reasoning. Content validity was supported by student comments and correlation with content seen on course examinations and the NBME shelf examination.

Aims: (1) To analyze AT Reliability (r). (2) To apply psychometric indicators to assess AT quality according to the complex cognitive skills (CCS) required.

Summary of work: The analysis includes AT Reliability (r), Difficulty Level (p), and Discrimination Index (pabis) on the basis of the CCS involved. Also, we have considered the objectivity of the obtained marks and how they reflect the stated goals chosen in the development of the AT. The test includes all 2005 applicants (n=978).

Summary of results: Data analysis suggests that (AT) are highly reliable (r=0.93) in assessing the CCAs required selection (analysis and synthesis; problem-solving; reading-comprehension; association of physical, biochemical, and biological phenomena involved in human body functions. The mean Difficulty Level is p=0.60 and the Discrimination Index rate is pabis=0.43, both acceptable.

Conclusion: The AT is a valid and reliable tool for the selection of medical applicants since it ensures the entrance of those whose CCSs match the profile required in our School of Medicine.
being told to simply trust any sense of familiarity they might feel in response to a new case, others being told to be very careful to consider all of the features present before arriving at a diagnosis, others being given both sets of instructions, and others still being given no explicit instructions regarding how to approach the task of ECG diagnosis.

Summary of results: In all studies those who were given the combined set of instructions revealed a diagnostic advantage relative to those who were given no instructions or those who were told to use a single approach to diagnostic reasoning. The benefit of explicit instruction to use multiple strategies was particularly marked when the test cases were made difficult by biasing participants towards an incorrect diagnosis.

Conclusions: The results emphasize the importance of explicitly empowering students to utilize multiple diagnostic strategies, including non-analytic approaches like pattern recognition.

9J6 Evidence-based medicine curriculum: impact on medical students in a resource limited setting
Christy Okoromah*, Adegboyega Adenuga, Fokuso Lesi, Bosede Molabi, Modupe Odelola, Christopher Es佐bor, Olufemi Serrano, A Begwam and Charles Okwunodu (College of Medicine of University of Lagos, Department of Paediatrics, PMB 12002, Ibadan, Lagos, NIGERIA)

Aim: In sub-Saharan Africa, the teaching of evidence based medicine (EBM), an efficient strategy for providing self-directed biomedical information management, is rarely part of the training programmes. We explored the feasibility of a course aimed to improve students’ EBM competencies and their learning at the College of Medicine, University of Lagos, Nigeria.

Summary of work: Clinical and library faculty developed and taught a voluntary, non-credit EBM course that ran concurrently with a three-month paediatrics clerkship, during which 71 (90%) fifth year students (of a 6 year curriculum) enrolled. A validated knowledge, skills and attitude EBM self-assessment questionnaire was used to determine changes in students’ competencies and learning styles before and after, using appropriate statistical tests.

Summary of results: Students’ self-reported knowledge, skills and attitudes regarding EBM increased significantly. Mean scores for their understanding of EBM concepts increased from 2.20 ± 0.85 to 3.17 ± 0.80 on a four point rating scale (P<0.001). Scores for knowledge about effective literature search in EBM practice were similar and high before and after (3.24 ± 0.71 and 3.33 ± 0.89 respectively). Textbooks remained students’ major information resource, but their use of alternative resources increased significantly: Internet (P=0.0003), Cochrane database (P=0.0001) and secondary EBM resources (P=0.045). Reported limitations to EBM practice included lack of training (77.8%) and role models among their teachers (60.9%). Perceived course benefits included enhanced learning style (74.1%) and lifelong learning skills (90.7%). The majority (90.7%) supported the inclusion of EBM course in their undergraduate curriculum.

Conclusion/Take home messages: An EBM course, even with resource constraints, is a feasible, beneficial and desirable educational program associated with significant benefits among medical students.
Summary of results: The results showed that most of the students weren’t able to think critically. There was no significant difference between male and female students. There was no difference between basic and clinical students (p<0.05).

The study shows that during 7 years of medical school education, students didn’t improve their critical thinking skills. It seems necessary to educate our students more about this important skill.

Workshop 9K/10K: Bridging OASES – (Open Standards for Medical eLearning Content Authoring, Management, Sharing & Delivery)

Fabrizio Cardinali, Giunti Labs, Abbazia dell’Annunziata, Sestri Levante, Italy, David Davies, IVIMEDS UK and colleagues

Background: For years, e-learning systems have focused primarily on delivering functionality, leading to many systems that are each like an oasis in the desert where learning goes on in isolated, yet healthy ecosystems. But today’s learning environments should not be thought of as isolated oases. Today’s learners and educators must draw on worldwide sources of education content and tools in pursuit of rich educational experiences.

Content and structure: Through a combination of theoretical introduction and demonstrations, participants will learn how decisions based on a strategy of interoperability lead to improved return on investment and quality in education content creation, management and delivery. The demonstration will showcase all IMS and SCORM and OKI OSIDs content specifications as well as medically focussed developments (eg IVIMEDS and MedBiquitous) to achieve full and open content interoperability and migration.

Intended audience: Technology managers and decision makers engaged in medical e-learning content production seeking a theoretical overview and practical live demonstration of new generation e-learning content authoring, management and delivery solutions and technical standards to date.

Level of workshop: All levels

Workshop 9L: An Introduction to the Case Method

Martin Stjernquist and Elizabeth Crang-Svalenius (Medical Faculty, University of Lund, Lund, Sweden)

Background to the topic: Problem solving skills are necessary within the health profession. The Case Method is a student activating method that primarily hones these skills and is therefore especially useful at the clinical level of training. The Case method is used at the Faculty of Medicine, University of Lund in both undergraduate and graduate programmes.

Workshop content and structure: After a short introduction to the method, we conduct a case, involving the workshop participants as students. Finally we discuss practical and pedagogical aspects concerning the Case Method, i.e. how to write and conduct a case. Applicability to different educational levels will be addressed.

Intended outcomes: The participants will achieve a basic understanding of the Case Method so that they can consider it as a method in their own curriculum. The participants should also have some basic understanding of how a case should be constructed. The workshop is however only an elementary introduction to the method.

Intended audience: Educators within the health professions.

Level of workshop: No prior knowledge needed.

Workshop 9M: The Change Process in Medical Education: strategies and principles

Stewart Mennin and Regina Petroni Mennin (University of New Mexico School of Medicine, Universidade Federal do Sao Paulo, Brazil) and Sören Huwendiek (University Children’s Hospital Heidelberg, INF 153, 69120 Heidelberg, Germany)

Background: Change in the health professions is a constant. Understanding its dynamics and context provides a basis for the formulation of strategies and activities to facilitate movement in a desired direction. There are several different perspectives on change that can inform the choices and styles of change agents. Participants will analyze a case study and strategies to promote change. The workshop will be interactive and participatory.

Objectives: Participants will be able to: (1) Describe different concepts of change in the context of medical education; (2) Analyze the context and conditions for and against change; (3) Discuss general and specific strategies for change in a curriculum.

Intended audience: Faculty involved in curriculum or course changes.

Level of workshop: Intermediate
9N 1 Positive faculty attitudes to e-learning depend on perceived usefulness and ease of use

Humam M. Alviar (University of the Philippines Manila Campus, National Teacher Training Center for the Health Professions, Pedro Gil Street, Ermita, Manila 1000, PHILIPPINES)

Identifying the operative mechanisms that motivate teachers to use e-learning is necessary to maximize the beneficial outcomes of this innovation. This study aims to determine teacher attitudes to e-learning and the variables related to these attitudes. Sixty-eight teachers completed a questionnaire that explored attitudes to computers, attitudes to e-learning, demographic characteristics, and computer use. Tests of association were performed at a 0.05 level of significance to determine the relationships among the variables. Respondents expressed positive attitudes to e-learning (in terms of perceived usefulness and ease of use) and these were significantly associated with a greater intent to use e-learning. These positive attitudes also significantly associated with positive attitudes towards computers, exposure to computer use training courses, and a longer history of computer use. There was no relationship between age and attitudes to e-learning, although younger teachers tend to express greater intent to use e-learning. There was no difference in attitudes to e-learning among computer-owning faculty and non-owners. Augmenting computer access and computer skills training, and providing for the inbuilt ease of use and innate usefulness of e-learning objects would promote more positive faculty attitudes to e-learning.

9N 2 Evaluating e-learning projects in medical education - a feasible 10 step approach

Peter Frey* and Sissel Guttormsen (Institute of Medical Education IMEL, Education and Media Unit AUM, Innsbruck 38, Bern CH-3010, SWITZERLAND)

E-learning is widespread as an instructional method. Development of good e-learning scenarios is a complex multifactorial process. This process demands new methods for holistic evaluation. There are many sophisticated methods for the evaluation of e-learning projects but they are often not feasible for the daily business within a university where often small teams are responsible for many e-learning projects. Many evaluation methods are intended and constituted as small "research projects", they are time and cost intensive. Further, these sophisticated evaluations demand the cooperation with evaluation experts. Based on the four levels of evaluation from Kirkpatrick and other literature we developed a short checklist to evaluate e-learning projects. The checklist consists of seven levels (concept, e-learning product, learner reaction, learning outcome, transfer and results) with 10 steps.

9N 3 Imatest – an original software for training in medical imaging: effectiveness in postgraduate training

Sorin M. Duda*, Carolina Botor-Jid, George Judus and Radu Badea (University Med Pharm Cluj, Clincilor 1-3, Cluj-Napoca 3400, ROMANIA)

Aim: To introduce an original software product aimed at training in medical imaging and assess its effectiveness in postgraduate training.

Summary of work: Original software, specifically designed for training in medical imaging, was designed. It allows for intranet or Internet broadcasting of courses, tailored according to three difficulty and expertise levels and online self-testing and testing. The effectiveness of the product was assessed on two groups of postgraduate trainees (52 without and 67 with exposure to the software) enrolled in ultrasound training courses, by assessing overall progress through pre-and post training tests.

Summary of results: The user interface of the software allows the study of defined chapters, according to the course contents, self-testing and participation at a course graduation test. The administrator interface is used to control categories and articles, link images to text, generate seven different type of questions for testing, design and post tests, analyze test results and even produce CDs with courses. Trainees exposed to the software showed 18.6% better results that the control group (p<0.05).

Conclusions: The use of the software product improves the outcome of the teaching process. The modular design of the software allows for its use in other domains, besides medical imaging.

9N 4 Effects of interactivity in distance learning programs on the Internet

Michele Labrecque, Marie-Eve Roberge, Stéphane Guavin, Francine Bondieu, Johanne Blais and Michel Rouleau* (Université Laval, Centre de Développement Professionnel Contintu, Faculté de Médecine, Pavillon Fernand Vandy, Local 3316, Quebec G1N 7P4, CANADA)

To better address healthcare professionals' needs in a distance learning program on the Internet, we tested the participants' attitudes and behaviour towards a vivid synchronous compared to an asynchronous continuing professional development program on the Internet. We created a vivid synchronous environment by webcasting an expert to whom participants could send requests via a common chat space. We contrast this setup to a more traditional collaborative environment in which health care professionals exchange with the expert in a shared asynchronous forum space. A total of 37 family physicians were randomly assigned to 4 experimental conditions (2 levels of interaction x 2 types of educational material). Online surveys, telephone debriefing and behavioural measures were taken. There were no significant differences between participants allocated to the vivid synchronous program (n=18) compared to the asynchronous program (n=19) regarding knowledge, satisfaction, perceived usefulness, ease of use and intention to use a similar program. However, a larger proportion of the participants involved in the vivid synchronous condition volunteered for a sequel to a similar program compared to the asynchronous discussion forum (64% vs 29%, p= .34). Vivid synchronicity may enhance MDs' participation in distance learning programs. Further research is needed to confirm this trend.

9N 5 Introduction of multimedia teaching material in Chinese Medicine prescriptions

J P Chen* (University of Hong Kong, School of Chinese Medicine, 10 Sassoon Road, Pokfulam, Hong Kong, CHINA)

It is becoming easy to learn Chinese Medicine prescriptions. Chinese Medicine prescriptions is one of the most important basic courses in the studies of traditional Chinese Medicine. Because of the large amount of materials that needs to be remembered, so the teaching methods can affect the efficiency of studies. This multimedia teaching material consists of many multimedia techniques which widens the investigations of teaching material of Chinese Medicine Prescriptions. Under the traditional teaching methods, many tables are used by applying multimedia techniques. It makes the contents of Chinese Medicine Prescriptions become more three-dimensional, visual and easier to imagine and remember. Also, some related exercises are applied to make a reference for different readers. The efficiency of teaching of Chinese Medicine Prescriptions can thus be increased. This implies that the teaching of traditional Chinese Medicine can be done by modern methods. (Reference website:www.fangjimult.com)
9N 6 Using an MLE in medical education: problems and principles
Mary Hayes (WSS Deanery, Education Department, Printworks House, 7 Bermondsey Street, London SE1 2DD, UK)
This work tried to reconcile the structures of ICT, with its origins in behaviourism, with the philosophy of a Deanery that developed its activities through the application of constructivist principles. A Managed Learning Environment (MLE) was used to try to create participative action in an existing community of practice. Issues and new processes arose from a clash and resolution of ideologies. The Deanery’s philosophy is a participative, principled, and progressive approach to involving doctors as teachers. Four types of MLE access were developed for different purposes and groups, with the overall intention of promoting openness and involvement in decision-making. Participants were also geographically remote, and could potentially share knowledge and experiences for communal advantage.

The ideology clash was most evident in language, so attempts were made to fit the appearance of the software to Deanery philosophy. Individuals expressed anxieties about communication, relating to issues of power and inadequacies exposed in information system structures. Examine the language used; How does it relate to your philosophies? Decide what principles you support. How can they be expressed in an MLE? What uses of ICT will benefit the users? Plan, estimate and organise realistically. Take care with levels of responsibility.

9N 7 Role of medical informatics in Medical Colleges in Pakistan
M Faiyal Rahim*, Fawad Kaiser, Mujtaba Quadri and Muhammad Ali (Shifa College of Medicine, SCI, Lab C-4, Pitrus Bukhari Road, H-8-4, Islamabad, PAKISTAN)
This poster is to show the current use of Medical Informatics in medical colleges of Pakistan specifically Shifa College of Medicine and how these futuristic technologies can help to facilitate the educational and research strategies in medical education in the medical colleges. The poster is a concept chart of current activities of Medical informatics specially at Shifa College of Medicine and what solution we can provide for the future. We have shown all activities in pictures and graphics along with real time examples of each component. We will demonstrate what can we offer to medical education in the field of medical informatics.

9N 8 Learning behaviour during collaborative elearning
Alan J Salomons* and Maria L Gonzalez (Cardiff University Wales College of Medicine, Department of Dermatology, PO Box 27, Heath Park, Cardiff CF14 4XH, UK)
Aim: To elucidate the collaborative learning behaviours of postgraduate doctors during e-learning exercises.

Summary of work: A group of eleven general practitioners and one tutor working on a collaborative exercise in dermatology made 417 messages during the Med-e-Conference, an online tool containing 10 tasks run over 3 weeks using asynchronous communication. Using content analysis, messages were categorised using Curtis and Lawson's description of collaborative behaviours. The students made 567 themes and these were summarised.

Summary of results: Compared to the non-collaborative exercises, the collaborative exercise showed more themes overall, and more: feedback seeking, feedback giving, initiating activities, resource exchanging, challenges, help giving, and reflection on the medium. The non-collaborative exercises showed a greater proportion of sharing knowledge and explaining/elaborating than the collaborative exercise.

Conclusions: Collaborative exercises introduce a greater dynamic to interaction between students than non-collaborative group-based exercises. It can be argued that the nature of the task constrains the behaviours (for example, initiating activities are needed to coordinate work), but others may be unconstrained (like feedback giving). In conclusion, collaborative exercises show different behaviours to non-collaborative group-based exercises and this informs the development of collaborative online educational tools.

9N 9 Using a virtual clinic to supplement clinical experiences in the third-year of medical school: a pilot study
L Dyrbye*, M Thomas and N Natt (Mayo Clinic, 200 First Street SW, Rochester MN 55905, USA)
Computer simulation in medical education is gaining popularity. We investigated whether simulated experience would enhance clinical competence as assessed by a performance-based examination. Third-year students were assigned in blocks to complete or not complete a computer simulated (CS) case on chest pain during their Medicine Clerkship. Two-sample t-tests were used to compare USMLE Step I scores, NBME Medicine Shelf Examination percentile scores (Med Shelf), and performance on the end-of-third-year clinical skills examination (CSE) chest pain station between groups. Logbooks were analyzed for documentation of clinical encounters with patients who had chest pain (CP Exp.). The Institutional Review Board considered the study exempt. Fourteen of 38 students completed the CS and took the CSE. There were no differences in USMLE Step I scores, NBME Med Shelf scores, or CP Exp. between groups. Although there were no differences in CSE check-list score or pass-rate between the students who had or had not completed the CS, differences became apparent when CP Exp. was taken into account. Among students without CP Exp., those who had completed the CS were more likely at a trend level to pass the CSE than peers who did not complete the CS (100% vs. 67%, p=0.06). In contrast, students with CP Exp. were equally as likely to pass the CSE regardless of whether or not they had completed the CS. Our pilot study suggests that computer simulations may have utility in filling gaps in clinical experience while they may have little value for problems encountered in the clinical realm.

9N 10 Development of biochemical education based on digital tools and technologies in medical school
Sachie Oda-Tama*, Akiko Hirose-Kumagai and Fumihide Ishoashi (St Marianna University, School of Medicine, 2-16-1, Sugao, Miyamae-ku, Kawasaki, Kanagawa, JAPAN)
Modern biochemistry cannot be taught without introducing novel experimental methods. Successful experiments depend on innovative tools and technologies. The challenge facing education in this digital culture is to use technology, especially multimedia technology, to enhance the content of the curriculum. We have developed a novel learning system for biochemical education in medical school. This learning system consists of 60 notebook computers for 120 medical students in a practical training area together with an audio-visual education system. These computers are connected to a file server, laboratory apparatus, and educators, if computers are in the biochemistry laboratory, run the school’s network infrastructure, and provide internet environment. The instructor administers the learning system with security control under interactive data management. Students can use the learning system for collecting and analyzing data and publishing results. We evaluated the effect of the learning system on medical students. Employing these digital tools and technologies helped us to teach, and the students to learn. We are planning to integrate desktop movies into the curriculum for motivating medical students.
9N 11 Making elearning work in advanced nursing education: lessons learned from Thailand
Hurna Payamyang Sethaboupha* and Sombat Sukphlan (Chiangmai University, Faculty of Nursing, Chiang Mai 50200, THAILAND)
The Internet plays a significant and crucial role in higher education namely E learning. E learning, the new educational strategy developed for the 21st century, has been introduced into the teaching process of advanced psychiatric and mental health nursing graduate programs in the Faculty of Nursing, Chiang Mai University, Thailand. Five Graduate students attended the Advanced Psychopathology course and the teaching materials were developed using A-tutor software through E Learning. A-Tutor, an Open Source Web-based Learning Content Management System (LCMS) designed with accessibility and adaptability in mind, was used. After successfully completing the course, five themes emerged as lessons learned from educator perspectives. The themes were: Reliable Management, Anytime Anywhere, Challenging, Relaxed environment, and Commitment. The lessons learned will contribute to the field of advanced nursing education by providing insights on an approach other than the traditional classroom delivery.

9N 12 Qualitative evaluation and further development of a novel web-based package to improve clinical attachments at a district hospital
Richard Ayres* (Peninsula Medical School, Peninsula Postgraduate Health Institute, The John Bull Building, Research Way, Plymouth PL6 8BU, UK)
Aim: To present an evaluation of a web-based package (described in a short communication at AMEE 2003) that can match learning needs with resources in order to improve quality of clinical attachments. Further developments and uses will be described.

Summary of work: Questionnaires and structured interviews were used to evaluate a novel web-based programme that enabled prospective students to view all learning opportunities available in both primary and secondary care in and around a District Hospital. Students could construct all or part of their own timetable for the attachment.

Summary of results: The package proved popular with students and staff and versatile enough to be used in a variety of applications.

Conclusions: This package can enhance adult learning, broaden the teaching base and help integration across primary and secondary care. It could have a wide number of other applications.

9N 13 Analysis of models, contexts and learning needs to plan an elearning course in veterinary public health and animal health
O Pediconi*, R Ragioni, U Malini, B Alessandrini, S Del Papa, M Turini, M Moretti, F Debandi, F Giovannini and F Marsilio (Instituto Zooprofilattico Sperimentale d’Italia (IZS), Florence, Italy)
IZS&AM, SCIENTER, GIUNTI Interactive Labs and the Faculty of Veterinary Medicine of Teramo are running a research project funded by the Italian Ministry of Education, University and Research, entitled "Innovative eLearning system for the agricultural sector in the Mediterranean countries: detection, diagnosis, control and prevention of Arthropod-borne diseases". It aims at developing a research process functional to the innovation of learning systems of the Mediterranean area and at running an eLearning course for experts and practitioners in Veterinary Public Health and Animal Health. In the framework of the starting work packages, three different activities have been carried out in order to evaluate the training needs: (1) analysis of the eLearning models and solutions adopted in VPH and AH training courses; (2) analysis focused both on the institutional, cultural, technological, pedagogical, economic contexts and on the features of the users (i.e. psychological, cultural aspects) of the eLearning system; (3) analysis to collect information and data about the contexts, characteristics and learning needs of the eLearning model beneficiaries. Three different questionnaires were sent to eLearning organisations worldwide, to collect information on these areas. Critical dimensions and strong points were analysed and used for guidelines to implement the eLearning course, and as a basis for the future research development.

9N 14 Experiences with a blended computer based learning program
C A Tipker-Vos*, M van de Weerd, M Mulder, R Sijtemaars and M Maas (Academic Medical Centre, Department of Radiology, Room C1-210.b, PO Box 20660, Amsterdam 1100 DD, NETHERLANDS)
Aim: Has a blended CBL (Computer Based Learning) program more to offer than a CBL program on one topic? What is the effect when the CBL's score is included in a student's final result?

Summary of work: We created a CBL program on the subject 'motion' that blended the topics: anatomy, physiology, molecular biology, orthopedics and radiology. Students were not obliged to do the program, but they knew that they could obtain a bonus grade. Groups of 32 students did the program within three weeks. The program was evaluated digitally (using a Likert-scale). If a student scored 70%, the CBL score was to be included for 10% in the student's final result.

Summary of results: 292 of 315 students attended the CBL program. 71% thought that a blended program was more informative than a non-blended one. Students who attended the program later had better results. This trend was taken into account, when providing the extra points.

Conclusion: The students liked the CBL program and found it more instructive than a program on a single topic. They were highly motivated to do the program, since their scores were incorporated in the subject's final score.

9N 15 ELWIS-MED – elearning knowledge transfer in medicine: online course development based on students’ and teachers’ requirements, represented by the interdisciplinary examination course
Claudia Hahn*, Tina Fix, Manfred Gross and Ulrich Schwantes (Charité, Universitätsmedizin Berlin, ELWIS-MED and Institut für Allgemeinmedizin, Schumannstr 20/21, Berlin 10117, GERMANY)
Aim: We would like to present one procedure of implementing eLearning at the Charité Medical School. Represented by the interdisciplinary examination course, which requires almost 200 educators on four campuses to be coordinated.

Summary of work: ELWIS-MED is a government supported project in Charité University to implement eLearning effectively among the faculty. Every term, around 300 3rd year students practice physical and communication skills in small groups (7-9 students). Those skills are necessary for every physician. Every week 40 groups must be coordinated. Every group has the same educator teaching communication skills while educators are rotated for physical examinations. That explains the large number of educators. Based on the course's complexity and its sensitive coordination, the aim was to enable the immediate transfer of course information among all course participants and educators. An online information board and e-mail correspondence were used to inform students, lead them through the course and distribute course material. Even though the online-course was voluntary and not assessment driven, almost 60% of the students registered and used course content and information.

Conclusion: Implementation of online courses based on prior requirement analysis has a good chance of acceptance even if used voluntarily and not assessment driven.
Features of a virtual learning community in a blended course of clinical methodology

S Basili*, F Dl Moto, M Curione, M Paoletti, M Proietti, A Catania, P Santini and A Lenzi (University ‘La Sapienza’ of Rome, Dip Clinica e Terapia Medica Applicata, V. E. del Policlinico 135, Roma 00161, ITALY)

For three years, the course of Clinical Methodology for medical students in the third year is being delivered based upon a blend of formal lessons, tutorials and online activities. Besides the availability of resources and self-evaluation tools, the online component of the course encompasses sessions of both synchronous and asynchronous discussion on easy simulations of clinical conditions and basic laboratory or EKG findings. We reviewed the transcripts of the discussion forums to look for the generic features of the virtual communities created during the course and to assess the presence of possible special characteristics of a virtual community of junior medical students. We observed the usual indicators of "social presence" like humor, interactive responses and expressions of mood and noted that social interaction was stronger about organisational topics. On the other hand, focussing on clinical topics produced a high rate of participation but with a lower interaction (i.e. shorter threads). Interaction however, when present, often assumed the traits of "peer support" and of cooperative construction of meaning.

A mechanism that proved to strongly enhance responsiveness was to avoid giving the whole clinical information at the beginning of the simulation but to split it in bits and gradually provide further elements and hints.

Acknowledgement: This study was supported by MIUR PRIN 2004067293_002 grant.

Small group teaching delivered electronically: teaching undergraduate obstetrics and gynaecology

David J Cahill**, Alex J Wilson, P Jane Williams and Julian H Cook (University of Bristol, Academic Unit of Obstetrics and Gynaecology, Level D, St Michael's Hospital, Southwell Street, Bristol BS2 8EG, UK)

Aim: In an ongoing and sustainable manner, we present an incorporation of online and traditional tutorial techniques to accommodate the demands of an increase in student numbers while still wanting to provide the excitement and intimacy of small group teaching.

Summary of work: Students were allocated into groups of 8. One cohort was facilitated face-to-face, a second used a chatroom tool to question a distant facilitator of 8. One cohort was facilitated face-to-face, a second and a third cohort used a pre-programmed commercial tool to question a distant facilitator of 8. One cohort was facilitated face-to-face, a second and a third cohort used a pre-programmed commercial tool to question a distant facilitator and a videoconferencing system to question a distant facilitator. The AA evaluates the role of multimedia-hypertext in medicine and surgery distance learning also. Multimedia-hypertext can support present didactic traditional methodologies by structuring a bidirectional communication/information system. Finally, a videoconferencing system can support telementoring/Telemedicine. Telementoring is an additional methodology to traditional didactics for Clinicians and Surgeons. It allows personal virtual training using computers and telecommunication systems. A cooperative partnership between government, health service and education departments, medical specialists, informatics and multimedia industry may represent a significant starting point in the assessment of efficacy and quality of distance learning.

Clinical videos online: who uses it and what for?

Chara Balasubramaniam*, Arnold Semusundaram and Terry Poulton (St George’s University of London, Centre for Medical & Healthcare Education, Educational Technology Unit, Hunter Wing Level 1, Crammer Terrace, London SW17 0RE, UK)

Aim: The St George’s led project, Clinical Skills Online, developed a series of open-access videos demonstrating core procedural skills. The aim of this presentation is to report on the use of these video resources, by a host of disciplines and in different educational contexts.

Summary of work: Initially, an analysis exploring different user groups was conducted. An online evaluation study was also undertaken to gather data on how the videos were being used. We are currently analysing the differences in student and staff perception of these resources.

Summary of results: The user group analysis (n=8,896 respondents) illustrated that the majority of users were medical students (50%), followed by faculty staff (12%), and nursing students (13%). The results of the online study (n=122 respondents) indicated that 50% of students used the videos as a revision aid, and 34% used it as a familiarisation tool. Teaching staff made up the other 16%, reusing it as a teaching resource. We are already gathering data showing interesting comparisons between student and staff perception of these resources.

Conclusions: This study shows that these types of reusable resources are both highly valued and used by students and staff alike (http://www.etu.sgu.ac.uk/cs).

A web portal for residents: new training methodologies for the resident physician in Andalusian healthcare institutions

Teresa Campos-Garcia* and David Riley (Consejería de Salud, Avenida de la Innovación s/n, Edificio Arena 1, Sevilla 41020, SPAIN)

The Andalusian Regional Ministry of Health (Spain) has been working since 2002 on the development and deployment of a common complementary training program aimed at all specialists that are in training during their residency in Andalusian Healthcare Institutions. The aim of this program is to reach all resident doctors in the eight Andalusian provinces, coupled with the added necessity of combining their normal healthcare activity with a demanding and time-consuming training program. These circumstances imply the necessary use of new training methodologies as well as the improvement of information and communication systems among the participants on the project: resident doctors, tutors, training managers, etc. The lavante Foundation, created University and scientific and technological research and Telecom Italia, a Masters in distance learning and telemedicine is now starting in 11 Italian Universities under coordination of the second Faculty of Medicine of the University of Rome "La Sapienza". Thanks to the help of medicine and surgery teachers, informatics, telecommunication engineers, pedagogists, lawyers, and health economists this Masters is a first step to form and to license medical specialist experts in distance learning and videoconferencing telemedicine. The AA evaluates the role of multimedia-hypertext in medicine and surgery distance learning also. Multimedia-hypertext can support present didactic traditional methodologies by structuring a bidirectional communication/information system. Finally, a videoconferencing system can support telementoring. Telementoring is an additional methodology to traditional didactics for Clinicians and Surgeons. It allows personal virtual training using computers and telecommunication systems. A cooperative partnership between government, health service and education departments, medical specialists, informatics and multimedia industry may represent a significant starting point in the assessment of efficacy and quality of distance learning.

The assessment of efficacy and quality of computer-assisted learning is today under evaluation. The AA propose to use distance learning in medical and surgical knowledge teaching. In Italy, thanks to the Ministry of
by the Andalusian Regional Ministry of Health, whose mission is to manage knowledge within the healthcare sector, has developed a web portal for resident doctors as the key communication tool for this project which aims to promote excellence in training and communication. In order to achieve this they have: (1) Designed a web portal for resident specialist doctors; (2) Adapted the training modules of Evidence Based Medicine, Research Methodology and Advanced Life Support to a teletraining methodology with the use of e-learning tools as essential elements.

9N 21 Duration of computer self-study, but not performance on formative questions correlates with grades achieved in various courses
Kari I Franson*, Elene A Dubois, Marielle de Kam and Adam F Cohen (Leiden University Medical Center (LUMC), Centre for Human Drug Research, Zernikeplein 10, Leiden 2333 CL, NETHERLANDS)
Background: Pharmacology at Leiden University Medical Center is primarily taught by a self-study computer program called the TRC Pharmacology database (http://coo.lumc.nl/TRA). The TRC provides information using schematic graphics, explanation texts, and practice questions with feedback. Nearly every course of the curriculum has a chapter in the TRC database. Since using the TRC is not compulsory, the question remains whether students benefit from using it.

Summary of work: We compared various parameters such as log-in attempts, study time, and success on practice questions, to students’ final exam grades. We minimized confounding variables (strong versus weak performing students or the rewarding examination bias) by assessing an individual’s performance across multiple courses and separating results of examination authors.

Summary of results: Students increasingly used the program throughout the curriculum (with over 80,000 hits in an academic year). Interestingly, increased TRC study time by an individual student led to an (small) increase in grade, but course grades did not correlate with performance on the practice questions. As expected for a non-compulsory activity, better students (higher average exam scores) used the TRC more frequently than poorer students, but this resulted in a smaller gain.

Conclusions: We are beginning to demonstrate that the students are learning from our intervention.

9N 22 A patient pathway model for clinical learning in treatment centres and other ‘managed care’ environments
Sharon Buckley*, Sarah Burke, John Coaperthwaite, Sharon Jones, Martin Kendall and David Morley (The University of Birmingham and The Birmingham and Black Country Strategic Health Authority, Medical Education Unit, The Medical School, Vincent Drive, Edgbaston, Birmingham B15 2TJ, UK)
Within the UK NHS, less seriously ill patients are increasingly cared for in treatment centres, rather than traditional, in-patient settings. Given increasing numbers of numbers, and the likelihood that many future clinicians will work in such centres, it is essential to exploit to the full the educational opportunities they offer. We describe a model for clinical learning that uses the ‘patient pathway’ to help students understand the treatment centre approach to patient care, from initial recognition of symptoms by the patient, through to discharge.

During a one week attachment, students undertake an interactive on-line simulation, attend treatment centre clinics and complete follow up work. The simulation follows a virtual patient through their ‘journey’, includes activities that mirror those of qualified clinicians, provides formative assessment and feedback; and encourages students to reflect on the patient’s experience. Evaluation suggests that students value both the on-line simulation and clinical attachment, allows identification of areas of best practice in the provision of clinical placements within treatment centres and suggests that the model has potential for extension into the inter-professional learning setting. The work is supported by The Birmingham and Black Country Strategic Health Authority Centre for Innovation and Training Project.

9N 23 Integration of web-based continuing pharmacy education modules into an undergraduate pharmacy therapeutics course
Cheryl A Wiens, Theresa J Schindel*, Stanley Varnhagen, Margaret Ackman, Kirsten George-Phillips and Ross Tusqaki (University of Alberta, Faculty of Pharmacy and Pharmaceutical Sciences, Room 3127 Dent/Pharmacy Centre, Edmonton, Alberta T6G 2N8, CANADA)
Aim: This presentation will describe the integration and evaluation of web-based modules developed for continuing professional development modules for practicing pharmacists into a senior year, undergraduate pharmacy therapeutics course over a six-year period.

Summary of results: Each year there were between 99-121 students enrolled in the course. The students were on average in their early to mid-20s, with the majority of each class being female. The overall impression of the program was consistently positive. The majority of students reported an improvement in their attitude toward web-based learning and increased confidence in making drug therapy decisions. Themes arising from the qualitative data analysis revealed that students felt a lack of interaction with the instructor, and expressed a desire for printed materials. Processes for integration of a web-based module in an undergraduate course were identified.

Conclusion: This evaluation indicates that a web-based module can be successfully incorporated into an undergraduate pharmacy course. Students have positive views of the technology, and the majority of students felt more confident in their knowledge and skills. Challenges for faculty members include instructional design for integration, and developing and maintaining the program.

9N 24 E-learning sheds light on informal learning in medical education
M Masoni*, M R Guelfi, A Conti and G F Gesnisi (University of Florence, Faculty of Medicine, Viale Morgagni 85, Firenze 50134, ITALY)
Background: Medical education begins in a formal way with undergraduate and post-graduate education and it continues in an informal way throughout the professional working life. Informal learning predominantly happens in the workplace and particularly when clinicians exchange their experiences and communicate with each other. Notwithstanding the importance of the topic, there is a lack of studies about communication processes in the clinical setting. Generally formal e-learning comprehends a structured learning environment delivered through the network with a beginning and an end; informal e-learning takes place in a network and through a network between individuals connected by common interests. Combining information management and sharing with group interaction, information and communication technologies can capture and amplify interpersonal communication between the members of a professional community.

Aim: Hospitals can be considered as a set of communities of practice connected with each other. The creation of a virtual communication space allows not only to share information, knowledge and best practice, but also to understand the mental reasoning that leads the physician to action and to bridge the “know-do” gap. All these topics will be taken into account in this communication.

Take home message: E-learning can shed light on the communication processes and the knowledge transfer/sharing within a medical professional community.
9N 25 Impact of a web-based interactive self-directed learning system on student outcomes and study style
James Ware*, Carol Tse, Shekhar M Kunta and Jack Y Cheng (Chinese University of Hong Kong, Teaching and Learning Resource Centre, R/103, F/1, Block A, Prince of Wales Hospital, Shatin NT, HONG KONG)

Interactive web-based formative assessment case scenarios (FACS) have been evaluated for their impact on two final year surgical clerkship outcomes and student learning strategies. Twelve groups of surgical clerks (n=150) were randomised to control and intervention groups. Every group was given pre- and post-tests composed of a knowledge based MCQ exam (recall items, K1 and reasoning, K2), two FACS cases (testing clinical reasoning) and a survey to determine student study resource preferences. No impact was found in the general surgical clerkship. The ENT intervention groups showed a 20% improved post-test FACS case performance, P<0.05. A difference of 9% pre-test K1 and K2 achievement was found, p<0.01, that disappeared at the end of the general surgical clerkship. Post-test FACS case scores were highly correlated with the knowledge based tests, p<0.005, but not end of clerkship clinical assessments. FACS was rated low using ranked scaling based on the law of comparative judgments. It appears that FACS may be a learning resource to support minor/short clerkships (e.g., ENT), but not the most efficient learning strategy for large clinical disciplines. Student feedback is necessary and important for evaluation.

9N 29 The efficacy of a structured self-study model for a web-based situated learning environment in pediatric intensive care
Ronald Gottesman*, Farhan Bhanji, Adam Finkelstein and Laura Winer (McGill University Health Centre, Montreal Children’s Hospital, 2300 Tupper, C-808, Montréal, Quebec H3H 1P3, CANADA)

We developed a situated web-based learning environment to circumvent house officers’ frequent inability to participate in classroom and bedside learning opportunities. Collaboration of experts in instructional design, medical content and multimedia author created an outcomes-based prototype module of post-operative cardiac care – junctional ectopic tachycardia (JET). Learners (n=18) self-rated on a 5 point Likert scale using a ‘retrospective pre-post’ evaluation. Results revealed significant subjective improvement (p<0.01) in the understanding of JET; the interpretation of atrial EKGs; the significant subjective improvement (p<0.01) in the understanding of JET; the interpretation of atrial EKGs; the initial investigation of JET and the stepwise therapeutic management of JET. The overall comfort level with post-operative cardiac patients tended towards increased comfort. The instructional method was easy to use (mean 4.14 +/- 0.57 s.d.), realistic (mean 5.0) and much better than text-based learning (mean 4.61 +/- 0.49 s.d.). The time needed to complete the module was 14 – 25 minutes (mean 17.8 +/- 2.95 s.d.) We also evaluated learning using a curriculum content-based objective short answer questionnaire (mean score of 8.6/10 (s.d. 0.7).

9N 26 Virtual simulations in nurse practice settings
Verina Waights* and Ann Mitchell** (The Open University, Faculty of Health and Social Care, Walton Hall, Milton Keynes MK7 6AA, UK)

One of the challenges facing nurse educators is how to enable students to develop skills that equip them to work professionally and competently in their practice setting. This learning occurs primarily through placements, and students studying at conventional universities often develop these skills further through skills laboratories. The aim of this presentation is to demonstrate the effectiveness of using virtual environments in experiential learning at the Open University. Students on the pre-registration nursing programme are health care assistants who develop many of their skills through practice-based placements. The ENT intervention groups showed a 20% improved post-test FACS case performance, P<0.05. A difference of 9% pre-test K1 and K2 achievement was found, p<0.01, that disappeared at the end of the general surgical clerkship. Post-test FACS case scores were highly correlated with the knowledge based tests, p<0.005, but not end of clerkship clinical assessments. FACS was rated low using ranked scaling based on the law of comparative judgments. It appears that FACS may be a learning resource to support minor/short clerkships (e.g., ENT), but not the most efficient learning strategy for large clinical disciplines. Student feedback is necessary and important for evaluation.

9N 28 Web-based anatomical tutorials of surgical cases reinforce undergraduate learning
Sum Sum Lo, Susie Whitten, Roberta Sthary, Robin Ford, Neil Hamilton, Julie Struthers and Keith Buchan* (22 Edgellihg Terrace, Aberdeen AB15 9HA, UK)

Aim: The medical students in our curriculum have the opportunity to reinforce anatomy knowledge derived from lectures and dissection classes by using CAL tutorials. With the reduced hours of anatomy lectures in the new curriculum, this approach helps to supplement anatomical teaching.

Summary of work: CAL tutorials were designed to illustrate the application of anatomical knowledge to clinical cases encountered by a Cardiothoracic Surgeon. Relevant histories, physical examination findings, results of clinical investigations and operative photographs are incorporated into the content of these cases. Interactive self-assessment questions with informative feedback are built in to each tutorial to engage students’ learning. Three have been published to date and two more are in preparation.

Summary of results: These tutorials add to students’ three dimensional understanding of anatomy and give views of living tissue. Integrating other basic science subjects may make these cases more valuable than subject-based textbooks. Therefore, the consistency of their presence throughout the curriculum is important. Because of the way our curriculum is presented, these tutorials can be signposted conveniently for the students. Evaluation results from the students will be discussed.

Conclusion/take home messages: Living cases bring reality to anatomy learning. Despite being resource intensive, the staff evaluation has proven its value. Tutorials can be updated as clinical anatomy develops.
The combined evaluation results strongly support the gain in knowledge regarding the causes, diagnosis and treatment of JET. We demonstrated the ease, acceptance by the learners and practicality of this platform. This highlights the potential benefit of adjunctive web-based learning during busy clinical rotations.

9N 30 Web-based learning
Shaheen Muddah (Semnan University of Medical Sciences, Vice Chancellor for Medical Education Office of Continuing Medical Education, Blvd. Barej, Semnan, IRAN)

We all use the Internet as a source of information. Creating and facilitating a web-based module for gathering information is fast becoming an expected part of an academic staff member’s and researcher’s daily activities. In the process of teaching we can use the web as a extra tool to facilitate traditional learning and also as a means to provide educational programs. To implement a web-based learning module there are several approaches. These approaches are seen as a spectrum. At one end of this spectrum is distance learning in which all data is transferred over the internet. At the other end there is a network of intranet-organization which contains written subjects for instruction and exposure to vast quantities of information. Web based learning creates a great opportunity for instruction and exposure to vast quantities of information. The fact that learning environments meet the demands of students and assures their effective preparation is the main concern and priority. On the other hand, we should never choose web based learning as a preferred method of teaching, because problems such as inadequate equipment could easily interfere with the process of learning.

At the end, we would like to draw attention to the fact that the choice of technology should be based upon the needs and the working environment of the learner and not according to its innovative type.

9N 31 Human and cultural factors influencing medical students’ attitude towards e-learning
A Scarno*, A Vesti, M Rames, G Giovannone, V Raparelli, E Ferranti, M Proietti and A Lenzi (University “La Sapienza” of Rome, Dip. Clinica e Terapia Medica Applicata Vian del Policlinico 155 00163 Roma, Italy)

Since tailoring teaching methods on the students’ needs and attitudes is a key factor for success, we explored some possible factors influencing and predicting students’ compliance with distance education. Based on an extended interpretation of the “Empirical Model of Student Success and Persistence” by Powell et al. (J.Dist.Educ. 1990 S-S), we developed a questionnaire to investigate - personal data, previous school career and level of Information Communication Technology (ICT) literacy - personal attributes related to a self-directed, cooperative approach to learning - believes and attitude about the nature of knowledge The questionnaire was submitted to a whole classroom (66 students of the third year). The results showed an overall high level of technological and educational readiness to a profitable use of e-learning: more than 70% rate of Internet access from home, with 3 out of 4 by broad band connection, almost 50% rate of ICT previous training in high school. The items exploring attitude denoted two distinct trends: towards a more traditional point of view (strongly structured, hierarchical knowledge) and an greater interest in methodological knowledge. Many students showed a blend of the two traits, but students with a prevalent “traditional” trait are at risk of failure in distant learning. Acknowledgement: This study was supported by MIUR PRIN 2004067293_002 grant.
Summary of results: Sixty-five of 84 students returned their questionnaires (77.38%). Satisfaction on the services of MEC administration is good, especially the promptness of the services. Satisfaction on the quality of the classroom is in the range of good to very good. Boarding gets normal to good satisfaction level and the library receives good to very good rating.

Conclusion: Students' satisfaction on Saraburi MEC office service is of a high level. Such a service is an important educational support that helps student learning.

9OA 3 Assessment of medical and dental students’ attitudes towards anatomy
D Overbeck-Zubrzycki, D Hamilton, A Krishnan, S Kaufman, S R Kowsalski, D Shanahan, G Stanley and R F Searle* (Newcastle University, Anatomy and Clinical Skills, School of Medical Education Development, Framlington Place, Newcastle upon Tyne NE2 4HH, UK)
Medical and dental education in the UK has undergone significant change in response to GMC and GDC recommendations to integrate basic and clinical sciences. This has impacted upon anatomical education and led to the view that anatomy is diminishing in its importance in the undergraduate curriculum.

This study assessed medical and dental students' attitudes to the importance of the anatomy learning experience in clinical practice. Using an anonymous questionnaire with 26 statements we recorded medical and dental students' attitudes to the anatomy learning experience and future clinical practice. Using a 5 point Likert scale 204 first year, 184 second year and 24 first year graduate entry medical students and 65 first year dental students were surveyed in 2005/06. Chi-test was used for analysis. Graduate entry medical students as a cohort strongly recognised that anatomy will be useful for future practising doctors (p<0.01) and is relevant to clinical practice (p<0.01) while dental students were less sure that anatomy improves their confidence to deal with future patients (p=0.01) and tended to view anatomy as not relevant to clinical practice (p<0.01). Different cohorts of medical and dental students have different attitudes to the value of the anatomy course in future clinical practice.

9OA 4 Assessment of students' satisfaction with medical disciplines and faculty teaching skills
R Carvo-Leite Domingues*, A M R Zefertino, S M R R Passeri and G M B Ambrosano (Unicamp, Rua Luciano Venere Decourt, 858, Cidade Universitária, Campinas - Sao Paulo 13083-740, BRAZIL)

Aim: Correlate 5th year medical students’ satisfaction with medical disciplines to faculty teaching skills.

Summary of work: This cross sectional study was conducted in State University of Campinas/Brazil. All 97 YS students rated their level of satisfaction with the disciplines they had completed (1 totally unsatisfied to 10 totally satisfied). 187 faculty members were assessed in six attributes (knowledge of discipline, teaching skills, availability/accessibility, ability to encourage clinical thinking, interpersonal relationship with learners, professional ethics, commitment to students' persona/professional development, personal organizational/punctuality) on a Likert scale (1 bad to 5 excellent). Correlations between students' satisfaction and faculty skills was measured (Spearman coefficient). Kruskal-Wallis and Dunn tests were performed.

Summary of results: Students’ satisfaction mean rate was high (8.2 + 1.8). Among all attributes, faculty was rated highest (p<0.05) in knowledge of discipline (4.6 + 0.68) and lowest in commitment to students' personal/professional development and personal organization/punctuality (4.5 + 0.87). Correlation coefficient was 0.12<r<0.18 (p<0.001).

Conclusions: As all teaching skills studied were associated to learners’ satisfaction with medical disciplines, faculty developmental strategies should be incorporated. Students can do much to enhance the learning environment by assessing faculty performance. Faculty self-assessment will be applied. Replication with Y6 students will be done.

9OA 5 Students’ opinions within the context of programme evaluation studies at Dokuz Eylul University School of Medicine: a focus group study
Berna Mosal, Sema Özcan, Serap Veyselsoyoglu, Sevgi Kanadere and Yucel Gurses* (Dokuz Eylul University, School of Medicine, Cemal Gurses Caddesi 462, Gurses Apt 1, Izmir 35540, TURKEY)

Since the beginning of Dokuz Eylul University School of Medicine’s PBL programme in 1997, student and trainer feedback, several assessment methods, educational committee reports and original research were used for programme evaluation. In 2005, the programme evaluation studies were converted into a project. The present study presents focus group studies to determine students’ opinions and suggestions on the educational programme. Following a pilot study implemented with a Year II student group, focus group studies were carried out with randomly selected Year I, II, and III student groups from the existing PBL groups. All interviews were carried out in a confidential and communicative environment. The study’s aim and method were explained to students, the interviews implemented on a voluntary basis and recorded on tape with students’ consent, lasted approximately two hours. The students gave detailed answers on the educational programme, the trainers, the programme’s strong and weak points, the School’s educational support and facilities and curricular items to be revised, preserved or improved. PBL, practicals, socio-cultural facilities, the assessment system’s positive and negative aspects were intensely emphasised.

Focus group studies provide the opportunity to detect students’ detailed opinions and thoughts difficult to obtain with quantitative methods, and valuable clues for programme evaluation.

9OA 6 ‘Teaching matters’: Strengthening the role of teachers’ assessment in the development of a classical medical school
Anabela Mota Pinto*, Maria Filomena Gaspar, Hugo Camilo F. da Conceição and José António P da Silva (Universidade de Coimbra, Departamento de Educação Médica, Faculdade de Medicina, Rua Larga, Coimbra 3000, PORTUGAL)

“Poor teaching performance is tolerated, whereas poor quality in research or substandard patient care is not. It is time to professionalize teaching and education” (Mennin, 2005). The Faculty of Medicine in the University of Coimbra, Portugal, is a traditional medical school with no tradition in the evaluation of teaching, and a considerable resistance to introduction of quality audit mechanisms. In an attempt to overcome these difficulties, its newly formed Department of Medical Education (DME) applied a pilot questionnaire to a second year discipline (Pathophysiology). This was designed to cover all dimensions relevant for the assessment of teaching quality (Fincher et al., 2000): objectives; content; materials; teaching methods; assessment measures; presentation and preparation. Students were asked to answer the questionnaire at the end of each lecture and each small-group teaching session. A total of 2,401 questionnaires were completed (lectures = 1,210; small group sessions = 1,191). The results demonstrated a high internal consistency and allowed the clear identification of some key problem areas in the discipline, underlining the ability of students to assess teaching and play a critical role in the School’s quest for quality. This poster presents the psychometric properties of the questionnaire and the strategies used to present its results, explore its relevance as an instrument for teachers and promote its use within the faculty. Results are discussed in terms of its implications for staff development, policies in the school and for the promotion of teaching quality, as a contribution towards establishing an institutional climate that encourages educational leadership, innovation and excellence.
9OA 7 Evaluation of Phase III integrated medical curriculum
B Warachit*, P Ratanachai, K Rajboriruk, P Boonluksiri, A Khaimook, L Haura and R Chinkarnvissan (Hatayai Hospital, Hatayai Medical Education Centre, 182 Rotakan Road, Hatayai, Songkla 90110, THAILAND)

Background: The traditional medical curriculum which is mainly discipline-based was changed to both vertical and horizontal integration in phase I and II. Rotation in clinical departments in phase II was changed into integration of many disciplines which requires good coordination and planning by the course committee and understanding of medical staff and students.

Summary of work: In the phase II curriculum which is clinical year 4 and 5, evaluation from medical students was carried out including opinions on how good the integration is, learning content, teaching and learning, organization of the course and prompt solving of relevant problems. Eleven subjects were evaluated and there were 47 responses in the fourth year curriculum and 28 from the fifth year curriculum.

Conclusion: Using a Likert scale and Anova test to evaluate the result of integration, there was statistical significant difference in how good integration is in each subject (p<0.0049), adequate knowledge gain (p<0.0015) and prompt solving of relevant problems (p<0.0000).

Take home message: Integrated teaching offers many advantages and may be a key factor in the delivery of an effective educational programme. However understanding, communication, organization and joint planning in learning content and activities between teachers in each discipline remain the key point for effectiveness.

9OA 8 The impact of response scale formats on students’ evaluation of courses: an experimental study
P Vivekananda-Schmidt, D Bee* and N D S Box (University of Sheffield, Academic Unit of Medical Education, 85 Wilkinson Street, Sheffield S10 2GJ, UK)

Background and hypothesis: It is unknown whether the format of response scales used in evaluation of teaching influences the results. Hypothesis: The interpretation of the responses of students to questions about the quality of teaching is unrelated to the method used to obtain their evaluation.

Summary of work: A questionnaire using seven items from the UK National Student Survey (NSS) questionnaire was completed by 235 year 1 medical students. Four response scale formats were used (5 point Verbal rating scale - VRS-5; 101-point numerical rating scale – NRS101; 11-point numerical rating scale – NRS-11; and the Visual analogue scale – VAS). The number of students completing each format was 99, 53, 60 and 55 respectively. The VRS-5 and NRS were transformed to a 0-100 scale for analysis. Differences between formats were examined (Kruskall-Wallis).

Summary of results: There were significant differences (p<0.005) between the different formats for each of the seven items but no pattern to these differences. The median differences for the different formats ranged between 5-20%.

Conclusions: Different response formats resulted in different results. This has implications for curricular evaluation.

9OA 9 Feedback by residents on teaching competence of faculty: a tool for teaching quality monitoring
P Remmelts, P M Boendermaker*, F K L Spijkervet and L G M de Bont (Groningen Centre for Medical Education, University Medical Centre Groningen, Wenekeachb Instituut, PO Box 30.001, Groningen 9700 RB, NETHERLANDS)

Aim: In undergraduate medical education, quality of teaching has received much attention. Nowadays, there is growing recognition for evaluating quality of teaching in postgraduate and residency programmes. In this study a teaching quality monitoring instrument was implemented alongside a competency based curriculum for specialist training and evaluated.

Summary of work: The undergraduate teaching quality inventory of Maastricht University was adapted for residency training programme evaluation. This 16 item quality monitoring instrument was validated and implemented in the Department of Oral and Maxillofacial Surgery of the University Medical Center Groningen. The focus was on team scores, reflecting departmental teaching quality, and individual teachers’ scores as an indicator for personal improvement. Nine trainees returned 81 inventories evaluating nine faculty teachers.

Summary of results: Mean team scores were mostly satisfactory: all items but three scored >4 on a five-point scale. Individual scores varied considerably, however, ranging from 1 to 5, indicating opportunities for improvement of individual teaching performance. The instrument needs further evaluation and development for successful use as a feedback tool for both teams and individual teachers in a specialist residency programme.

Conclusions/take home messages: Even with satisfactory team performance, monitoring of individual teaching quality can identify individual opportunities for improvement. This instrument will be incorporated into the established annual reviews, to ensure continuous attention for teaching competence of faculty in specialist training.

9OA 10 Trainee psychiatrists’ views about their supervisors and supervision
Anna Chur-Hansen* (University of Adelaide, Department of Psychiatry, Royal Adelaide Hospital, Adelaide 5005, AUSTRALIA)

Background: Supervision is fundamental to the trainee experience in psychiatry, but few researchers have considered this in a systematic way. In this paper trainees’ perceptions of the supervisor-trainee relationship and the supervision process were explored.

Summary of work: Fifteen trainee psychiatrists working in Adelaide, South Australia, were interviewed and the resultant data subjected to qualitative analysis.

Summary of results: Trainees described the characteristics of a ‘good’ supervisor, as well as what they considered to be evident in a ‘poor’ supervisor. “Good” supervisor characteristics included being a teacher, a role model, giving clear explanations, being clinically up to date, and providing regular and constructive feedback. A “poor” supervisor, by contrast, gives little guidance, places too much responsibility on the trainee too early, loses their temper and rarely observes the trainee on the ward. Trainees considered the importance of the role, and how they might be best prepared to assume that role themselves. They also identified problems related to complaining about supervisors or the supervision process.

Conclusions/take home messages: The characteristics identified as pertinent to ‘good’ as opposed to ‘poor’ supervision are useful data for designing training programs for both experienced and novice supervisors. Future research is needed to evaluate the efficacy of such training programs, as currently very little investigation into postgraduate clinical supervision has been undertaken.

9OA 11 Evaluation of academic staff performance from the university students’ viewpoint
S Hajighajehi Meamar*, R Ghartani, M Kohali and M R Ghaffari (Semnan University of Medical Sciences, Medical Educational Development Center (MEDC), Bassij Blvd., Semnan 351989957, IRAN)

Background: There are several methods to evaluate teachers’ performance. One of the most valid and common methods used is students’ view points. The aim
of this research is to evaluate academic staff performance in Semnan University of Medical Sciences.

Summary of work: In this descriptive study, using standard questionnaires (Likert), the opinion of 534 students about teaching skills and performance of 148 academic staff in colleges were collected. During this study, each teacher had 1-5 courses; 1-10 units. Questionnaires in the last two weeks of the semester were distributed and then collected after one hour. 4223 questionnaires were analyzed. Rating scale was: 5-4 as excellent, 4-3 as good, 3-2 as intermediate, 2-1 as poor, and 1-0 as very poor scores.

Summary of results: Findings showed that the academic staff in nursing school had the highest score, but the lowest score belonged to the rehabilitation college. The results also indicated that teaching skills of academic staff in medical nursing and health schools were judged Excellent by students, except for rehabilitation college which was intermediate. Among students of schools, radiology trainees gave the highest performance score to their instructors and the lowest score belonged to the physiotherapy major.

Conclusion: The most important goal of evaluation was to reflect on the feedback to the teachers to know more about their performance, because it plays an important role in learning and teaching quality.

9OA 12 A survey on validity and reliability of student evaluation of teaching

M.H. Sarmast*, A. Shahrina, H. Elhammour and M. Ghaffourian
Baroujerdian (Jundi-Shapour University of Medical Sciences, Central Office Medical University, Golestan Blvd, Ahvaz, IRAN)

Introduction: Student evaluation of teaching (SET) as an effective strategic procedure in improvement of educational quality has always faced many problems. One of the usual questions is that with interference of many factors upon SET, is the procedure valid and reliable? Seeking the validity and reliability of student evaluation of teaching, this study has been carried out.

Summary of work: In a cross-sectional descriptive study 1472 score of teacher evaluation (faculty rating) of Ahvaz Medical University within a period of ten years were studied. The results of SET (score of teacher evaluation) were collected and then analyzed by SPSS software and Pearson correlation.

Summary of results: The correlation matrix has indicated a considerable relationship between the faculty rating in different years (Coefficient index=0.22 to 0.68) which is the highest correlation between the faculty rating in recent years. Pearson correlation index between the first 15 questions and the 16th which evaluated the teacher overall from the students points of view, was 96% and was significant (p=0.01).

Conclusion: Research findings show that SET has reasonable validity and reliability and can assist in decision-making.

9OA 13 Internal evaluation of management and policymaking area in a postgraduate nursing program (MSc)

Soad Mahlaaazpour (Shaheed Behesht Medical Sciences & Health Services University, School of Public Health, Shahid Chamran Highway, Evin Avenue, Tabnak Avenue, Tehran, IRAN)

Background: Evaluation is an accurate assessment of excellence and value of structure, process, outcome and results of interventions and organizations which intend to play an active role in practical situations in future (Hanson 2005).

Summary of work: This internal evaluation of postgraduate nursing academic program was conducted to evaluate the current situation in nine diverse areas of education, research, physical environment, and management & policy making at school of nursing & midwifery. Determining the objectives and criteria in each area, the optimum situation was also defined by expert consensus considering the standards and available resources. Thirty nursing master students; twenty faculties who were involved in the masters program; and management and administrative personnel from different departments; were selected by census method. The data collection instruments consisted of questionnaires, checklists and existing records and documents, completed by research units, observation, and interviews. In management and policymaking area, five objectives and eighteen criteria were confirmed, and the optimum situation for each criterion was defined.

Summary of results: According to the findings of the study, the weaknesses in this area were as follows: specification and documentation of the managerial procedures including the selection of managers for different departments was not clear, delegation of authority to nursing schools, and managers’ participation in determining and suggesting programmed budgeting was not taken into consideration.

Conclusion: Managerial and academic support from the top level managers, organizing, monitoring and successful leadership of the nursing schools is of great importance, and could improve the current situation.

9OA 14 Roles of the professor in the health sciences area

(FMRP-USP, Hospital das Clínicas - Fonoaudiologia 12 andar - Campus USP 14048-900 Ribeirão Preto – SP, Brazil)

The objective of the study was to identify the importance of different attributes of Health Sciences professors in the opinion of the students of the two courses of FMRP-USP. Medical (28) and Speech/Language Therapy (27) students responded to a questionnaire containing 13 questions about the roles of the professor. The highest scores were attributed to skill in the area of performance and providing information for clinical practice by both groups, a result compatible with the academic stage of the students, i.e., when they both started the specific clinical cycle (4th year of Medical School and 3rd year of Speech/Language Therapy). The results differed significantly regarding the ability to obtain material resources for the institution and the production of teaching material, to which the Speech/Language Therapy students attributed greater importance than the Medical students, possibly due to the fact that the Speech/Language Therapy Course is in the process of implantation and reflects the wishes that normally accompany this time. The opinions of the students of the two Courses did not differ regarding the role of the professor in the Health Sciences area, with more importance attributed to skill and knowledge in clinical practice.
9OB 1 Do the outcomes of medical education correspond to what doctors need in their everyday work?

Goran Thöme*, Anna Arstam and Stefan Lindgren (Lund University, Centre for Teaching and Learning, Faculty of Medicine, PO Box 117, Lund SE 221 00, SWEDEN)

Background/rationale: Former students who have practised medicine for a couple of years can give valuable information about the undergraduate curriculum through alumni surveys.

Summary of work: Several hundred doctors have filled in a questionnaire reflecting their views on how well they have been prepared for their present job by their training in medical school. The questions related frequent and demanding tasks in the present work of the doctors to the level of training for the same tasks in medical school. Questionnaires have been sent out to doctors three and seven years after graduation. High response rates have been achieved.

Summary of results: Positive results on tasks such as obtain a medical history and judge somatic status, which rate high both in job demands and in training, can be achieved. Seven years after graduation. High response rates have been achieved.

Conclusions/take home message: Former students are an important source of information about the relevance of the curriculum. Results from surveys can be used both to identify areas for change and development and for endorsement of the present curriculum.

9OB 2 One faculty’s experience from Turkey in curriculum evaluation during curriculum change

Yesim Sena*, Kemal Alimoglu, Erol Gürpinar, Mehmet Aktekin (Akdeniz University Faculty of Medicine, Department of Medical Education, Campus Antalya, Antalya 07070, TURKEY)

Background: Akdeniz University Faculty of Medicine has changed its curriculum in the 2001 educational year. This changing process included: interdisciplinary courses instead of department based courses in clerkship years. Problem based learning was added into the first two years' curriculum at a rate of 10%. Additionally, new approaches to student assessment methods were incorporated into the curriculum. Our aim was to describe the methods used in evaluation of the changing curriculum.

Summary of work: Quantitative and qualitative methods have been used for the evaluation process. The quantitative measures included close-ended survey questions for students, faculty and graduates, test scores and library records.

The qualitative measures included written and oral responses to open-ended questions by students and faculty.

Summary of results: Sixty-seven percent of the students were satisfied with the curriculum changes.

Conclusions/take home message: Experience illustrates that curriculum evaluation is an essential component of effective curricular revision. The quantitative and qualitative data have been most helpful in identifying major problems and in formulating solutions to them.

9OB 3 Looking back from a practice point of view – systematic retrospective evaluation of a medical reform curriculum at the private Witten/Herdecke University, Germany

C Schlicht*, H Doll, J Dahmen, O Polacsek, K Ganderik, G Federkeil and M Butzlaff (Witten/Herdecke University, Medical Deanship, Alfred-Herhausen-Str 50, Witten 58448, GERMANY)

Background: The curriculum was designed to link theory and practice, shift focus on problem based learning strategies and to integrate ethical and personality strengthening aspects. Since 1989 physicians graduated at Witten/Herdecke University (UWH) and have up to 16 years of work experience.

Summary of work: The UWH generated a questionnaire, containing baseline data, a comprehensive qualitative and quantitative section and the present workplace descriptions of alumni. Overall, 35 items were rated on a 6-point Likert-scale (1="very good", 6="very bad"). Results from UWH (38% return rate, n=264) were compared with national data from 34 state-administered medical faculties (13% return rate, n=5,140).

Summary of results: Results at UWH show that their curriculum had strengths in (mean, Likert-scale): (1) fulfilling the skill demand for the job (2.03, national: 3.5); (2) practice-orientation (1.43; national: 4.19); (3) interdisciplinary aspects (1.99; national: 3.80); and weaknesses in (1) medical knowledge (2.55; national: 2.31); (2) research competence (4.45; national: 3.90); (3) business competence (4.95; national: 5.65).

Conclusions/take home message: From a practice point of view the UWH graduated physicians with a high level in practical skills. The curriculum had deficiencies in research and business competence.

9OB 4 The strategies of mixed method in curriculum evaluation

Ayse Hilar Bati (Ege University, Department of Medical Education, Faculty of Medicine, Bornova, Izmir 35100, TURKEY)

Background: Curriculum evaluation helps programme developers to ask some critical questions and answer them. It also ensures information for the people and a continuously developed programme. Results are used to carry on and support the programme.

Summary of work: There is no ideal approach in curriculum evaluation. Thus it is best to use an approach suitable to the researcher’s aim. In this report, the strategies of mixed method in curriculum evaluation have been explained. Methodological triangulation is necessary for the adequacy and quality of educational studies. Therefore both qualitative and quantitative methods must be used systematically. There are some criteria in the use of mixed method:

Implementation: sequentially or concurrently; Priority: greater priority or equality of qualitative and quantitative methods; Integration: in the stages of data collection, data analysis, interpretation or combination; Theoretical perspective: explicit or implicit.

Summary of results: With the help of these criteria six basic mixed method strategies are identified. A: Sequential strategies; (1) Sequential Exploratory Design a; (2) Sequential Exploratory Design b; (3) Sequential Transformative Design. B. Concurrent strategies; (1) Concurrent Triangulation Strategy; (2) Concurrent Nested Strategy; (3) Concurrent Transformative Strategy.

Conclusions/take home messages: Using qualitative and quantitative data in accordance with the strategies suitable to the aim helps to explain the subject in detail. Moreover, it encourages gathering of information at different levels.
9OB 5 The state analysis of dental faculties in Turkey
Hulya Kapralı*, Bilinli Bulutcu, Ebru Ozsezer, Umar Sakallıoğlu and Kursat Demiryurek (Dokuz Eylül Üniversitesi, Dishekimalık Fakültesi Karupelit, Samsun 55139, TÜRKİYE)

Aim: This descriptive study assesses the educational and conditional situation of Dental Faculties in Turkey. Since each faculty may have different approaches for education and training, we aimed to highlight any similarities or differences among them.

Summary of work: All faculties answered the questionnaire according to several categories: (i) establishment year of the faculty, (ii) staff and student numbers, (iii) curriculum status, (iv) examination methods of courses, (v) evaluation of the educational programs, and (vi) faculty physical condition.

Conclusion: Our results suggest that there are some differences among the faculties by means of their educational, training and substructural characteristics. This may be of importance in re-establishing the Dental Faculties in Turkey according to their real requirements, and to discuss the necessity of further Dental Faculties in Turkey.

9OB 6 A programme evaluation project in undergraduate medical education
Benna Musa*, Cahit Taskiran, Yucel Gurse, Sema Ozan, Sergy Kanademir and Serip Velipasaliloglu (Dokuz Eylul University School of Medicine, Department of Medical Education, Inciralti, Izmir 35340, TÜRKİYE)

A PBL programme for preclinical years in 1997 and a TBL programme for clinical years in 2000 were initiated in Dokuz Eylul University School of Medicine. Student performance levels, students’ and trainers’ oral and written feedback, and findings of educational research studies are evaluated within the scope of programme evaluation studies and the reports are presented to the related educational committees for programme revisions.

As of June 2005, the programme evaluation studies were converted into a project by the Department of Medical Education. With the approval and support of the Deanery, the systematic and multidimensional evaluation of the programme was initiated in a manner to cover different levels of evaluation. Different evaluation models and examples in the literature were reviewed to determine the programme evaluation model. The goal of programme evaluation, the stakeholders, the evaluation model, the needed information, the origin, methods, techniques and frequency of data collection, the evaluators and the needed resources were determined. In accordance with a timetable, the collection, analysis and interpretation of data is implemented in a planned manner. Except for the longer than planned duration of some activities no problem was experienced during the implementation of the project. The accomplished activities are presented in a report format to educational committees and are used in programme improvement. The systematic implementation of programme evaluation studies with quantitative and qualitative methods in a manner to comprise different components of the educational programme and using the obtained data for programme revision is important.

9OB 7 The evaluation of the Bachelor of Nursing Science curriculum, Faculty of Nursing, Chiangmai University, Thailand
Areewan Klunklin* (Chiangmai University, Faculty of Nursing, Chiangmai 50200, THAILAND)

The evaluation of a curriculum is important in order to improve and update the curriculum in line with advancements and changes in society. This study aimed to survey the opinion of nursing graduates on the Bachelor of Nursing Science Curriculum, four year program. The aspects covered in the survey were: curricula, applying and comparing competencies of nursing graduates, applying theory to practice in the workplace, and they were evaluated by their supervisors and also through self evaluation. The subjects consisted of 168 graduates and 158 supervisors. The instruments used to collect data were questionnaires developed by the researcher and were tested for reliability using Cronbach’s alpha coefficient. The results of the study were as follows: the majority of graduates from the four year program are working as nurses in the workplace (96.89%). The graduate nurses reported that they could apply knowledge learned from their education and professional courses into practice at a moderate level. The opinion in relation to the appropriateness of educational management was at a high level. The nursing graduates reported that they had a high level of professional competencies, while their supervisors reported a moderate level.

9OB 8 A model for curriculum evaluation of Yonsei University Medical College in Seoul, Korea
Eunbae Yang*, Seunjoo Na, Seunjung Kim and Hyunseung Kwak (Yonsei University, Department of Medical Education, College of Medicine, 134 Shinchon-Dong, Seodaemun-Gu, Seoul 120-752, KOREA)

Background: The advent of new trends in medical education makes it necessary for medical schools to evaluate their curricula. There are, however, lots of difficulties that impede the initiation of curriculum evaluation. The purpose of this study is to develop a model of curriculum evaluation.

Summary of work: I reviewed texts on curriculum evaluation and articles related to curriculum evaluation, and I discussed curriculum evaluation with advisors. I then designed a model of curriculum evaluation according to the process suggested by Johns Hopkins University. But there were some ideas that needed more consideration. First, the stakeholders who have responsibility for curriculum management, such as the dean, administrators, may expect that the results of the evaluation are positive. Second, it can be difficult to translate the information obtained from the evaluation into value judgments about the worth of the curriculum. Finally, during the evaluation, new issues and questions may emerge.

Conclusions/take home messages: Curriculum evaluation provides information that can be used to guide individuals and the curriculum in cycles of ongoing improvement. But during the curriculum evaluation it is important that we try to remain flexible, allowing modifications and additions to the evaluation plan when these seem justified.

9OB 9 How many hours do students actually do?
S H Drewery*, S R Whittle and D G Murdoch Eaton (University of Leeds, School of Medicine, Medical Education Unit, Clarendon Way, Leeds LS2 9NL, UK)

Student projects aim to provide opportunities outside the core medical curriculum and offer a diverse range of experiences to students. Students selected from 20 different projects over a 3 year period (>1500 students overall). Project content varied, some involving more self directed study, others more contact time. Design of such projects stipulates a minimum 45 hours study time. Course evaluation highlighted concern from students regarding apparent disparity of workload between projects. To address this, students were asked to document the total time spent on their project comprising both taught and self-directed study. Analysis of results showed that 50% of projects fell below the faculty-expected workload of 45 hours; in each case supervisors were contacted and instructed to increase content. Where intervention took place, 8 projects subsequently met workload targets and 2 remained below. Where intervention did not occur, 5 remained acceptable and 5 actually decreased reported
workload in the subsequent year. After intervention 65% of modules were compliant with the minimum number of hours. It is important in course evaluation to monitor the student experience, and effect of changes in course delivery. The reported method of workload analysis provides a valuable addition to course evaluation procedures.

9OB 10 Comprehensive course review: beyond student evaluations
Linnea S Haugé* and Susan K Jacob (Rush University Medical Center, Department of General Surgery, 1653 W. Congress Parkway, Chicago IL 60612, USA)

Our institution identified a need to enhance existing curriculum development and curriculum evaluation processes. This need resulted in a new curriculum committee structure and a revised course review process. Our newly implemented course review process is comprised of the following components: (1) Student evaluation of experience; (2) Review of course objectives and materials; (3) Review of course administration via a structured interview with course director; (4) Review of evaluation and grading processes. Course reviews are conducted by teams of 3-4 faculty members. The product of their team-based review is a Course Review Team Report. This report includes prioritized recommendations related to each of the sections above. Faculty development efforts ensued to enhance faculty skill in the new course evaluation process. Materials were developed to facilitate faculty participation in the review process, and include guidelines for the course review process, a checklist for evaluating course materials, a checklist for reviewing course evaluation and grading, and an exam item review guide. The new data-driven review process has provided opportunities to address accreditation requirements, faculty development needs, and facilitate course enhancement.

9OB 11 Internal Evaluation in groups of educational basic & clinical sciences in Tehran University of Medical Sciences
F Forzianpour*, M Rezaian, A Rabbani, M Hajjollahdibagh, M Zaraban, Z Parsa Yekta, N Elaïlahi, A Mirepasghi, M Ansari, Sh Hosseini and S Gh Hosseini (Tehran University of Medical Sciences, School of Public Health, Shahrak-e-Apadana, Voroasi 3, Block 36, Tabaghey J Sharghi Hosseini, Tehran 13918, IRAN)

Introduction: Evaluation is a systematic process for collecting, analyzing and interpretation of the obtained information for the purpose of investigating how many of the objectives in mind can be achieved.

Summary of work: In this study 10 groups in basic and clinical sciences in Tehran University of Medical Sciences evaluated their system of education in 2004 using a cross sectional, descriptive and analytical approach. Factors evaluated were faculty board members, management and organizational capability, students, manpower and logistic affairs, educational environments research work centers, health and therapeutic sections, educational equipment, research equipment, laboratory and diagnosis centers, educational courses and programs, teaching and learning process as well as satisfaction expressed by students.

Summary of results: The general average based on the SWOT model were respectively 83.9% (Medical parasitology & mycology department), 75.3% (Pediatrics department), 56.9% (Communicable diseases department), 58.0% (Endodontics department), 80.4% (nursing department), 81.5% (Midwifery department), 82.1% (PhD nursing), 69.2% (Laboratory Sciences department), 68.8% (Environment health department) and 58.0% (Biochemistry department).

Conclusion: Educational evaluation is the best indicator of what is needed to achieve the desired aims.

9OB 12 The analysis of educational status of Mazandaran University of Medical Sciences Graduates from 1988 to 2003
Mamsoor Ramjub*, Mitra Mahmoudi, Kourosh Yarahmadi and Mahoued Bazorgi (Mazandaran University of Medical Sciences, Educational development Center, Vahid-Azar Boulevard, Sari, Mazandaran, IRAN)

Background: This research has been done to analyse the educational status of Mazandaran University of Medical Sciences graduates and to recognize the effective factors on educational trends in the past few years.

Summary of work: During the years 1988 – 2003, the semester average and the total grade point average has been extracted from the educational file of every student and was analyzed by an expert panel. The grade point average relationship with other factors such as student duration of stay, status of entry, marital status, the study major, and gender were tested by the t, chi-square and the ANOVA.

Summary of results: The grade point average did not have a significant relation with an entering semester (fall or spring), whether native or not and the place of stay. The grade point average did have a significant relation with status of entry, the study major, gender and marital status. The grade point average has had a growth trend since 1999. The students had a lower grade point average in comparison to later years and there were fewer students on probation in the later years. Student performance was significantly improved as they were more familiar with the college environment.

Conclusion: Educational planning and organizing should be done regularly and must meet the needs of students.

9OB 13 Comparison of awareness, attitude and professional function of nurses from the viewpoints of the nurse, colleagues, instructors and patients
H Ranae Dakhshian*, F Azizi, Y Methali, F Martazvi and N Saud (Shaheed Beheshti University of Medical Sciences and Health Services, 8 Soheil Alley, Third Cosar, Sattarkhan Street, Tehran 14576-56463, IRAN)

Aim: To investigate awareness, attitude, and professional function of nurses from the viewpoints of the person him/ herself, colleagues, instructors and service consumers (patients).

Summary of work: This research is a cross-sectional study carried out to compare the awareness, attitude, and function in employed nurses and senior nursing students. The tools for collecting data were 4 questionnaires on the degree of awareness, attitude, professional functioning, and the viewpoints of patients, supervisors, and instructors.

Summary of results: Mean score of awareness for the nurses and students was 63.7 ± 3.2 and 45.3 ± 2.1 respectively (P<0.005). Regarding internal and surgical care and updates of nursing, the score of the nurses has been higher generally (P<0.005). Persons studied had a positive attitude toward nursing and 46% of them were indifferent. From the patient's point of view all the nurses and students was 63.7 ± 3.2 and 45.3 ± 2.1 respectively (P<0.005).

Conclusion: Employed nurses and students of nursing in Shaheed Beheshti University of Medical Sciences had a good level of awareness and mostly a positive attitude toward nursing. Patients had favourable opinions about services given and the behaviour of nurses and students.
Background: Evaluation of educational program quality is feedback of how the educational process performed at various stages. In addition, evaluation is the most effective means for improving the quality of education, and determines weak and strong points of the education process.

Summary of work: This study has been designed as an internal evaluation project through cooperation of the Pediatric Group and the Education and Development Center of Jahrom Medical School. Factors evaluated include specific objectives, management of educational planning trainees (external and internal students), faculty members, educational facilities and equipment, teaching and learning process. Data were obtained by three questionnaires, checklist, observation and interview with medical students, pediatric faculty members, and pediatric ward personnel. The collected data were analyzed by descriptive statistics.

Summary of results: 63% of the clinical students are satisfied with the educational process in the pediatric ward, and 50% of students indicated clinical teaching in the outpatient department center as good. 66% of students stated that morning report was desirable and journal club was moderate.

Conclusion: The pediatric ward was rated good to moderate with regard to various criteria, and to improve this situation, a new program should be designed to respond to weak and strong points.

9O8 14 The evaluation of educational quality of pediatric group (Jahrom Medical School)
Sedigheh Najafiipoor*, Fatemeh Emam Gharashi, Mogharab Vahid, Deire Esam and Zekavat Omid (Jahrom Medical School, Education Development Center, Jahrom, IRAN)

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9O8 15 A survey of graduates' views (Anesthesia technicians) about quality of education in Kashan University of Medical Sciences
M Mahdian*, H Seyyedi, F Mirhosseini and S Yadollahi (Kashan University of Medical Sciences, EDC, Kashan 87139-85171, IRAN)

Identification of self perceived learner needs is important in继续ing educational programs. This study shows attitudes of graduates to the quality of their educational program in Kashan University of medical sciences.

Summary of work: In a descriptive study by means of a questionnaire (16 closed and 1 open question), attitudes of 46 graduates in the anesthesia technician course were collected. Descriptive statistics were used for analyzing the results.

Summary of results: 84.1% graduates believed that the teaching process in the faculty may meet their needs well or very well. More than 90% of them believed that they can do their tasks (i.e., patient and drug preparation, airway management, venepuncture, monitoring) as an anesthesia technician. Compared to graduates from other universities, 47.7% believed that they are more skilled and 45.5% believed that they are as skilled as graduates from other universities.

Conclusion: Graduates of our university were satisfied with their education. With better supervision in practical areas achievement of objectives will be facilitated and graduates' satisfaction will increase.

9P 1 Risk management workshops – towards a safer future
Kate Reuben*, Richard Fuller and Margaret Ward (Leeds General Infirmary, Clinical Skills Centre, Undergraduate Office, Gilbert Scott Building, Great George St, Leeds LS1 3EX, UK)

Background: The Trust introduced Risk Management Workshops in the Foundation Year 1 (FY1) shadowing programme in 2004. Their success now provides a significant contribution to teaching patient safety in the undergraduate curriculum.

Summary of work: Originally developed for the 80 FY1 trainees appointed by the Trust, the workshops’ early successes led to the School of Medicine extending these sessions to all 230 final year students. These small group workshops cover teaching and revision in key areas of good medical practice including record keeping, blood transfusion, safe prescribing, infection control and medical devices management. Workshops are evaluated using the Likert Scale questionnaires, and continue to be highly rated by students and facilitators.

Conclusions: These workshops have successfully implemented the Trust’s Quality Strategy in areas of clinical effectiveness, allowing expansion to encompass other key disciplines.

Take home message: The Trust and School of Medicine see expanding teaching of patient safety at this stage in the trainees’ careers as important and formative. Introducing Professional Development Programme in the FY1 Curriculum presents a key opportunity for the shadowing programme to consolidate and develop the knowledge and skills required of the FY1 Trainee. Our Risk Management workshops act as an excellent example of practice for others to consider adopting.
9P 3 Evaluation of F2 pilots in the North Western Deanery
Jon Miles*, Steve Agius, Paul Baker and Steve Southworth (North Western Deanery, 4th Floor, Barlow House, Minshull Street, Manchester M1 3DZ, UK)

Our aim was to explore the effectiveness of pilot Foundation training programmes (FY2) in two Trusts in North West England. Data were collected in 2005 from 35 participants: trainees, educational supervisors and postgraduate managers.

Quantitative data collected via pre- and post-questionnaires measured self-reported confidence in parameters matched to good clinical practice. Qualitative data collected via focus groups and interviews explored programme perceptions. Qualitative data were analysed using NVivo and quantitative data were analysed using SPSS. Valid questionnaires were completed by 15 participants and in 14 of the 15 cases self-reported confidence had improved, particularly in acute patient management. Qualitative data revealed that the principal benefit of participation for Trusts was the feeling of preparedness for the launch of foundation training proper. The level of engagement by the consultant body was perceived as high and the profile of foundation training was enhanced. Whilst the trainees expressed concerns that they were "guinea pigs" in unchartered waters they valued the diversity of experience afforded by the pilots. Educational supervision varied widely and depended on individual consultants. Access to people to perform assessments varied, as did career advice. Overall the majority of trainees were glad they had participated in the programme.

9P 4 Evaluation of teaching programme for F2 pilot doctors in Clinical Decisions Unit (CDU)
Subir Mukherjee* (KSS Deanery, 7 Bermondsey Street, London SE1 2DD, UK)

Aim: Evaluation of teaching programme for F2 pilot doctors in Clinical decisions unit (CDU) – Trainees' perspective from a district general hospital in UK.

Summary of work: Foundation pilot (F2) posts were appointed in 2005-2006 to evaluate the second year of the foundation programme. There is an identified curriculum to address the training needs. Duties of the doctors in CDU (receiving all adult acute medical admissions) identify 6 areas of clinical skills and 4 areas of generic skills as essential for safe service delivery. Analysis of the teaching topics from the curriculum from August–Feb 2006 was carried out. Four trainees rotating through CDU were interviewed regarding their views on curriculum teaching.

Summary of results: 33 teaching topics were delivered from the curriculum (13 in Generic skills and 17 in Clinical skills). Trainees found: Very helpful - 16 clinical topics; Very helpful - 7 generic skills topics (clinical vignettes used); Least helpful - 6 generic skills topics; Of doubtful value – 1 clinical topic.

Conclusions/take home message: Trainees did not find generic skills topics teaching very helpful in their clinical work. Teaching of generic skills using clinical vignettes were found to be more valuable to the trainees. Learning generic skills such as good communications, working in teams and breaking bad news are essential for safe patient care. Trainers should use clinical vignettes in generic skills teaching to meet trainee expectations.

9P 5 How well prepared are newly-qualified doctors for Foundation Training?
Catherine Hyde*, Stevie Agius, Jaime Shacklady, Tim Dorman and Jon Miles (North Western Deanery, GMSHA, 3rd Floor, Barlow House, Minshull Street, Manchester M1 3DZ, UK)

Our aim was to investigate how newly-qualified doctors perceived their preparedness for the "Foundation Programme" that, since August 2005, has started UK postgraduate education. Data were collected from 49 trainees undertaking their initial training post (FY1) in three Trusts in North West England using focus groups and questionnaires to permit triangulation of results. They were asked about their transition from medical student to doctor and early experiences of Foundation Training. Qualitative data were subjected to thematic analysis using NVivo software and quantitative data were analysed using SPSS.

Three constructs emerged from their responses: (1) Trainees' capability to apply their skills and knowledge in the clinical environment; (2) Trainees' confidence in dealing with stressful situations and the factors which helped them be confident or hindered them; (3) The importance of guidance from senior colleagues in enabling and enhancing the preparedness of trainees for their role.

Conclusion: Trainees' concerns with their clinical skills and knowledge highlight ways in which they could be better prepared for their early workplace experiences. They would have benefited from more regular guidance from senior clinicians on their capabilities. Early measures to increase their confidence in dealing with stressful situations would have helped their transition into workplace learning.

9P 6 Training the educators and researchers of the future: clinical academic posts in the Foundation programme
Richard Higgins*, Sue Cavendish and Derek Gallow (LNR Healthcare Workforce Deanery, Lakeside House, 4 Smith Way, Grove Park, Enderby, Leicester LE19 1SS, UK)

In the UK, clinical academic staff enhance patient care through involvement in medical research and provision of education for our future doctors. However, the number of clinicians pursuing an academic career is in decline (CHMS & CHDDS, 2005). Concern about this has been highlighted in various reports (e.g. DoH, 2002). The LNR Deanery seized on changes to medical training (DoH, 2003) as an opportunity to pilot clinical academic programmes. 8 posts at Foundation Year 2 level (in 3 specialties) were developed. An in-depth, qualitative approach to programme evaluation involved documentary analysis and semi-structured interviews with trainees and their supervisors. Initial findings suggested: (1) No evidence that the programmes will address the deficit of clinical academics in the short-term. Most trainees expressed an interest in clinical academia as a future role, but immediate concerns prioritised clinical training and pursuit of a career in their chosen specialty; (2) Trainees' prior research experience impacted on how they managed academic demands; (3) Trainees were able to acquire foundation competencies but confinement to a single specialty made this problematic for some. Implications of our findings will be discussed in relation to the recommendations of the 'Walport' report (UKCRC, 2005) and the proposed Academic Training Programmes.

9P 7 Learning conditions for Pre-Registration House Officers – what do they tell us?
Carsten Hering Hvisser* and Peder Charles (University of Aarhus, Centre for Postgraduate Medical Education (CPEM), Victor Albeck Building, Building 267, Room 3.19, Universitetsparken - Vennelyst Boulevard, Aarhus C 8000, DENMARK)

Background: Project BLITS (Better Learning in InternShips) surveyed all first year Pre-Registration House Officers in clinical training at the hospitals of a Danish County, after the recent reform of the Danish Medical Specialist Training Act.

Aim: The purpose was to investigate which aspects and variables were most important in answering two questions: (1) Would you recommend the department as a place for postgraduate training? (2) How do you rate the quality of the department’s educational efforts?

Summary of work: A questionnaire survey was conducted with 88.0% response rate (N=96). This was followed up by five focus group interviews.
Summary of results: The aspects of recommending the department were not surprisingly of a more social or interpersonal kind, like respect, relations to peers or senior doctors, acceptance etc. Quality related aspects of the department emphasized mainly organization and leadership issues, like whether education and staff matters were of priority. Also senior colleagues urging younger doctors to learn was of significance. The feedback aspect was lesser rated than expected.

Conclusions/Take home message: Mutual respect and the integration of educational goals into the scheduling of everyday work are the two most important aspects for quality or recommendation of clinical departments.

9P 8 An innovative method to standardize Evidence-Based Neurology (EBN) instruction among multiple independent residency programs

Dean Wingerdchuk*, Bart Damerauark, Brian Grum, Dave Capobianco and Devon Rubin (Mayo Clinic, 13400 E Shea Boulevard, Scottsdale, AZ 85259, USA)

Aim: To describe the integration of a novel, interactive EBN curriculum among three distinct, geographically separate neurology residency programs.

Summary of work: To standardize instruction and efficiently meet requirements for competence in practice-based learning, we adapted the Mayo MERIT EBN curriculum for distance learning using satellite videoconferencing. Trainees, clinical epidemiologists, and clinicians at each site have rotating responsibility for leading a bi-monthly case-based EBN conference. Trainees develop a clinical question, conduct a literature search, appraise evidence, and present it to peers; each step is mentored by clinical epidemiologists. Videoteleconferencing allows trainees and faculty at all three sites to participate in real-time; discussion is supplemented by clinical content experts. Conference proceedings are used to develop electronic enduring materials in the form of a critically appraised topic.

Summary of results: We have conducted 12 videoconferences. Participants report increased awareness of the EBN process and literature searching efficiency. Program faculty members report satisfaction with efficient use of teaching resources and cooperative program development.

Conclusions: Standardized EBN teaching among independent postgraduate training programs is feasible with satellite videoconferencing. This method facilitates efficient allocation of EBN teaching resources and may assist remote continuing medical education and evaluation of educational outcomes.

9P 9 The Macy LIFE Curriculum: addressing resident fatigue and impairment: Learning to address impairment and fatigue to enhance patient safety

Kathryn M Andolsek*, Robert C Cefalo, Joseph Kertesz, John Weinerth and Devon Rubin (Mayo Clinic, 13400 E Shea Boulevard, Scottsdale, AZ 85259, USA)

Background: The goal of this project is to collaboratively develop a curriculum designed to help residency (GME) directors implement ACGME requirements on fatigue and impairment education; to provide to all users “at no or low cost”; to be generalizable to all specialties, other health professions students, practicing clinicians.

Summary of work: Identified partners (Duke, UNC, NC AHEC, NC PHP, SMA; Secured Grant funding (Josiah Macy, Jr. Foundation); Recruited representative advisory board using modified Delphi method; Conducted needs assessment, literature review; Identified national faculty “experts”; Developed Case Based Curriculum around prototypical situations – Fatigue, Stress/depression, Disruptive behaviours, Impairment, Burnout/career angst, Substance abuse, Boundary violations, Generational issues, Recruiting for success, Legal pitfalls, Keeping in proper educational “roles”, Instructive performance feedback; Developed multimodal dissemination strategies – Workshops, CD ROMs, web site, downloadable materials; Provide CME; Evaluate.

Summary of results: 1,500 participants attended workshops with statically significant improved confidence in preventing, identifying, and managing these situations; Over 5,000 CD ROM/teachers guide sets distributed; web site with over 20,000 unique hits te www.lifecurriculum. info

Conclusions/take home messages: The collaboration created useful tools to increase confidence and skills.

9P 10 Opportunities for improvement of residency in Latvia

J Livdane* (Riga Stradins University, 16 Diricama Street, Riga LV-1006, LATVIA)

Background: Financial resources, allocated by the state to residency in doctors’ specialties are distributed among hospitals on a competitive basis. Part of them entrust organisation of residency to a university which has the educational programme “Residency in medicine”, accredited by the state.

Summary of work: Comparison was made between the organization and course of residency at Riga Stradins University (RSU) and the hospital that itself, independently, carries out training in residency.

Conclusions: (1) RSU residents are ensured with all-round acquisition of theoretical knowledge, whereas at the hospital, due to lack of qualified academic personnel, it is not available; (2) The RSU ensures practical training of residents, selecting the most appropriate hospital for mastering a certain rotation subject; (3) Research work is a compulsory part of the study programme in residency at RSU; (4) Recording of the results of activities and knowledge assessment in the Resident’s Record Book allows summarization of the resident’s performance at the end of each year and to keep this information for the future; (5) Legislation in Latvia does not ensure responsibility for implementation of the educational programme in residency.

Take home messages: State financial sources for residency should be under the control of universities, and universities need their own hospitals.

9P 11 Problem-based learning style induction

Fiona M Crosfil and David Burch (Royal Lancaster Infirmary, 28 Morewood Drive, Burton-in-Kendal, Carnforth, Lancs LA6 1NE, UK)

Background: Induction of new staff is essential but usually a boring and unproductive day for both inductors and inducted. We attempted to make the SHO induction day in our obstetrics and gynaecology unit a thought provoking and memorable experience by introducing three typical clinical problems that the doctors would encounter and using these to discuss practical aspects of the work.

Summary of work: The three tutors each had a short clinical scenario to present. The pack included relevant investigation results as appropriate. Consent forms and prescription charts were included and one scenario included pelvic examination using a model simulation. Issues such as prescribing, consent for common procedures, arranging theatre, emergency bleep systems and liaising with other departments were covered as they came up within the scenarios. There was opportunity for practical skills teaching, role play (in obtaining consent) and discussion.

Summary of results: Feedback from the SHOs was very positive. They felt that this method of induction was relevant and helpful. Feedback from the ward staff indicated that this group of new starters appeared better prepared than previous groups.

Conclusions/take home message: Induction does not have to be routine – it is an excellent opportunity to educate and enthuse new doctors in your specialty.
A survey of opinion on performance of CPIRD medical interns graduated from Saraburi Regional Hospital, Thailand

Panida Mukdeeprom* and Prayad Ungsachol (Saraburi Regional Hospital, Department of Radiology, Medical Education Centre, 18 Tedsaban 4 Road, Saraburi 18000, THAILAND)

Background: Saraburi Regional Hospital is a service and teaching hospital involved in “Collaborative Project to increase Production of Rural Doctors - CPIRD.” The project is a collaboration between the Ministry of Public Health, Ministry of University Affairs and Regional hospitals in Thailand. The first cohort of graduates from Saraburi Regional Hospital was in 2003. We have produced 7 graduates in 2003, 10 in 2004 and 20 in 2005. Annual evaluation of graduates was done by site visits, questionnaires and focus group interview to identify the users’ opinion on the quality of graduates.

Aim: To survey the users’ opinion on the performance of CPIRD medical interns graduated from Saraburi Regional Hospital.

Summary of work: The survey was done at the end of internship. 4-point rating scale questionnaires designed by Thai Medical Council were distributed to the users, each graduate required to make at least 4 responses. A focus group interview was performed during a site visit of the graduate’s workplace. Data from two succeeding years in 2004 and 2005 were collected and analyzed for percentage, mean, standard deviation and performance comparison by Student T-test.

Summary of results: The users’ opinions on CPIRD medical interns graduated from Saraburi Regional Hospital are at high level of satisfaction for both cohorts. From a focus groups interview, they feel that there is no difference of performance between the two cohorts nor difference from the graduates of other institutes. Performance comparison shows that the first cohort has better ethical consideration while the second cohort has better clinical skills. However, there is no statistically significant difference in overall performance between the two cohorts.

The influence of residency-training environment on physicians’ perception of competence and preparedness for practice

Jamia O Busari*, Eduard E Verhagen and Fred D Muskiet (Atrium Medical Center, Department of Paediatrics, Henri Dunantstraat 5, Heelen 6401 CK, NETHERLANDS)

Aim: To investigate and compare the influence of learning environment on SpRs’ perceived level of preparedness for practice (PLP). The clinical settings under investigation were located in Europe and the Caribbean.

Summary of work: An electronic questionnaire was sent to 89 practicing paediatricians in the Netherlands. 43 paediatricians had undergone part of their residency training in the Caribbean, (Curacao), and the other half in teaching hospitals in Europe (the Netherlands). 30 items were used to measure the level of preparedness of the respondents in the 7 physician competencies as defined by CanMEDS 2000 using a five-point Likert-scale (1-5 = totally disagree–totally agree).

Summary of results: Although the response rate was low (47%), the distribution of participants in both groups was comparable. Post-hoc compromise power analysis was acceptable (0.76). Overall PLP for the Caribbean group was significantly higher 2.93 (SD=0.47), compared to the European group 2.86 (SD=0.72). The difference was not significant. The European group felt less prepared in the competency as manager 1.81 (SD=1.06) compared to their Caribbean counterparts 2.72 (SD=0.66). This difference was significant (p=0.006). The best predictor of professional competency in both groups was as medical expert.

Conclusions: Training in the different learning environments was adequate and comparable in effect. The learning environment influences the physicians’ PLP in different competencies and for clinical practice.

The educational value of out of hours work: the junior doctor perspective

Clare Oonya*, David Wall and Helen M Goodyear (Birmingham Children’s Hospital NHS Trust, Birmingham, UK)

Aims: To examine paediatric senior house officers’ (SHOs’) opinions of the training value of out of hours work.

Summary of work: A questionnaire survey of 90 SHOs in September 2005. Opinions on the value of out of hours work for training and experience gained were investigated. Items were rated on a Likert scale from 1 (disagree) to 6 (agree). Mean scores were calculated. Demographic data were analysed for differences in mean scores for questionnaire items.

Summary of results: Out of hours work was rated as important for training (mean score 5.6). Opportunities to manage critically ill children and make decisions were good (mean scores 4.8 and 4.6). Deficiencies were found in feedback and informal teaching (mean scores 3.1 and 3.4). There was no significant difference in responses for gender, medical school or age. There was a strong correlation between the number of years qualified and medical school attended, with overseas graduates being qualified significantly longer than UK graduates (p<0.001).

Conclusions: Out of hours work was felt by SHOs to be important for training, although there were some shortcomings. In view of impending changes it is important to maximise the training value of out of hours work.

‘Three-hour meetings’ – a concept that focuses on postgraduate education from the perspective of junior doctors in training

Susanne Nøhr*, Merete Ipsen and Jens Kjaer-Rasmussen (Aalborg University Hospital, Aarhus University Hospital, Ferringmogens Hus, Sdr. Skovvej 15, Postbox 365, Aalborg DK-9100, DENMARK)

Background: This idea of involving junior doctors in innovations of the postgraduate educational environment
was founded in 2002 by the Postgraduate Committee at Aalborg Hospital, Denmark.

Summary of work: Since 2002, annual “Three-hour meetings” for trainee doctors have been undertaken at department level, where junior doctors systematically discuss the educational environment. Their evaluation focuses on three positive things and three things they would like to change in the educational environment, and suggest planned action. These include steps they could undertake themselves, issues that involve the Head of Department, and issues that need the attention of the Postgraduate Committee. Their considerations are reported to the Head of Department, who is asked to comment and commit to an action plan. Finally, all is reported to the Postgraduate Committee, and an annual report which focuses on the objectives that have been discussed is published. This ensures distribution and sharing of good ideas. The concept has become well established and a complete meeting programme and electronic report forms are now available.

Conclusions: The concept of “Three-hour meetings” is widely accepted with 26 (87%) of the clinical departments responding in 2005.

Take home messages: Trainee doctors contribute to the educational environment through structured dialogue.

9P 17 Conditions and perspectives of post diploma stomatologic education in Kyrgyz Republic
Parishta Inakova (Kyrgyz State Medical Academy, Department of Orthopedic Stomatology, 92, Akhunbaev Str, Bishkek 720020, KYRGYZSTAN)

Aim: To assess the Post diploma Stomatologic education program at Kyrgyz State Medical Academy (KSMA) to work out recommendations for improvement.

Summary of work: In Kyrgyz Republic stomatologists are physicians and they get medical training at KSMA, so in curriculum or introducing any new teaching methodology for them we must take into account this particularity. Till 1998 there were two Post diploma Stomatologic programs at KSMA: 1 year Internship, 2 years Clinical residency. Since 1998 the 1 year Internship was cancelled. Now the 2 year Clinical residency is entered by all. The teaching process is a rotation system at dental polyclinics and KSMA chairs. The program consists of professional training and electives (medical psychology, public health, medical insurance, medical ethics etc.).

Summary of results: The Post diploma Stomatologic education program does not develop integrated clinical thinking skills at the students. Reasons: too much practically oriented (ratio of theoretical:practical parts is 10% to 90%); poor individual teaching approach (ratio instructor:student is 1:6); poor, out of date equipment; clinical basis problems and others. Recommendations: to create a separate chair for Post diploma Stomatologic training and modern equipment; to reform of the curriculum and introduce a new module teaching technology; to bring the ratio instructor:student to 1:3, and others.

Conclusion: The Post diploma Stomatologic education program at KSMA urgently requires reforming according to revealed problems and recommendations, national needs and international standards.

9P 18 Patient safety education – lessons learned in designing and presenting a risk management seminar for clinicians and how this can improve patient safety
Poh-Sun Goh*, Sofia Ang and Swee-Chye Quek (National University of Singapore, Department of Diagnostic Radiology, 5 Lower Kent Ridge Road, Singapore 119074, SINGAPORE)

Aim: To share the lessons learned and key features of a risk management seminar we have been presenting to clinicians over the last 3 years.

Summary of work: Patient safety is one of our key responsibilities as clinicians and medical educators. Raising awareness and sharing the principles of patient safety through a series of biannual risk management seminars has been an integral part of our hospital’s risk management programme over the last 5 years.

Summary of results: 151 clinicians, including a cross-section of general practitioners and junior and senior hospital-based doctors, have participated in the interactive seminars where examples and case studies from both the literature and local setting are discussed. We also explore the design of safer patient care systems, and look at methods for analyzing and evaluating incidents and adverse events. Communication strategies are taught using audio-video aids to illustrate concepts. Teaching techniques include a combination of didactic presentation and small group discussion within a half-day seminar. The impact of our educational efforts on improving patient safety have resulted in positive feedback, and are reflected in the indicators to be shown.

Conclusions: Take home messages: Clinician education focusing on care processes, system design and communication strategies can improve patient safety and reduce risk.

9P 19 CTG-training programmes: are they evidence-based? A review of the literature
Andrea Caroline Peterson, Isis Amer-Wählöin and Jette Led Sørensen* (Rigshospitalet, Obstetric Department, 4221 Juliane Marie Centre for Women Children and Reproduction, Blegdamsvej 9, Copenhagen DK 2100, DENMARK)

Aim: To perform a literature-review about training concerning cardiotocography (CTG) interpretation and decision-making skills and to analyse the evaluation and impact of CTG training-programmes.

Summary of work: Databases were searched for papers concerning CTG-training programmes. Evaluations were analysed using Kirkpatrick’s four-level approach.

Summary of results: Nine papers were identified. CTG-training was associated with increased knowledge, higher levels of inter-observer agreement, changes in behaviour and increased quality of care. Most papers evaluated on Kirkpatrick level one and two.

Conclusion: There is evidence that training programmes can improve knowledge, inter-observer agreement and quality of care. Junior doctors need proper CTG-education, as they more frequently were involved in cases with failure to recognise and act on abnormal CTG-tracings. Better understanding of underlying physiologic events may lead to higher inter-observer agreement. Computer-assisted learning-programs might result in the same amount of knowledge gain in a shorter time. Further research on development and evaluation of CTG-training programmes is necessary. New training methods need to be developed and evaluated and compared to traditional teaching methods. Retention of knowledge after different training approaches ought to be investigated. When developing training programmes, needs assessment should be performed and target groups considered.

9P 20 Anaesthetic Trainees’ perceptions on how the European Working Time Directive (EWTD) has affected their training and quality of life
A Bowhay (Royal Liverpool Children’s Hospital/Mersey Deanery, Jackson Rees Department of Paediatric Anaesthesia, Alder Hey, Eaton Road, Liverpool L12 2AZ, UK)

Aims: The aims of the study were to investigate what the anaesthetic Specialist Registrars (SpRs) on the Mersey Deanery SpR rotation perceive to be training opportunities, and how the EWTD has affected their training and quality of life.
9P 21 Postgraduate training in the workplace: how does competence develop within a community of practice?

Summary of work: The project was a cross sectional survey, using a quantitative questionnaire with qualitative free text comments.

Summary of results: 117 SpRs were sent questionnaires in April 2005; 73 completed questionnaires were returned (response rate 62.4%). Hierarchies of training opportunities emerged with training by nurses not as highly valued as that by doctors. 72.8% of trainees believed the EWTD has had a deleterious effect on their training and experience and 74.3% thought that they will be less prepared for a consultant post. 69.9% considered that their quality of life outside work had deteriorated, with only 15% finding improvement. 38.6% felt that they were not functioning as well as doctors, only 14.3% noted an improvement. The trainees were still positive about anaesthesia and 73.3% would recommend this specialty to a student.

Conclusions: The majority of anaesthetic SpRs have not welcomed the changes brought by the EWTD to their training, experience and quality of life.

9P 22 The case method applied to resident training and examination

Stefan Sjöberg, Lars Klithström*, Jonas Nordquist and Sara Aldén (Karolinska University Hospital, Dept of Research and Development, 14:01, Stockholm SE 171 76, SWEDEN)

Aim: To better meet the core curricula requirements for each medical specialty, to ensure quality and to encourage continuous learning throughout the training period.

Summary of work: To adapt the CASE methodology to each physician specialty’s standards for educational goals in a structure that is in harmony with the required knowledge and skills in accordance with the National Board of Health and Welfare’s regulations.

Conclusions: Tutor directed and goal-related case seminars by ST physicians introducing the authentic patient-cases to ST staff is one method that could facilitate learning during training and thereby provide quality control within medical competencies. Participation of ST physicians and supervisors would thereby increase and an external quality review can be implemented for each seminar. The case method means that authentic patient cases become the focal point of the educational content and form the foundation and framework for in-depth learning. This method will result in improved knowledge exchange between specialty clinics, other ST physicians as well as ongoing development of general clinics’ ST staff.

9P 23 The views of F2s and educational supervisors on a Foundation Programme pilot

Mary O’Brien*, Jeremy Brown, Ida Ryland, Ben Shaw, Tom Chapman, Rob Gillies and David Graham (Mersey Deanery/Edge Hill College, Centre for Health Research & Evaluation, Faculty of Health, St Helen’s Road, Ormskirk L39 4QD, UK)

Background: In August 2004, the Mersey Deanery established two hundred and forty two second year Foundation Programme (F2) posts in a Deanery-wide Modernising Medical Careers (MMC) prototype.

Summary of work: A qualitative study was designed to explore teaching and learning opportunities during the MMC prototype. A total of twenty semi-structured interviews were undertaken with randomly selected F2s and their educational supervisors.

Summary of results: (1) F2s felt well supported but thought educational supervisors required additional training; (2) F2s experienced a greater range of learning opportunities than traditional SHOs; (3) The portfolio was viewed very positively as a record and a learning tool but thought to be too bureaucratic; (4) Trainees and educational supervisors expressed some concerns about the generic nature of some skills they were expected to acquire; (5) Trainees reported problems with the perception of the role of a F2; (6) Further understanding of the purpose and role of the F2 programme was required at Trust level.

Conclusions: Successful aspects of the Foundation Programme were highlighted, particularly the level of support and range of experiences provided. An invaluable insight into F2 learning experiences was obtained. Issues of concern to trainees and educational supervisors have been identified.

9P 24 Direct Observation of Practice assessment: Foundation doctors’ focus on the 15th skill

Malcolm Smith* and Alistair Thomson (14 Elder Close, Uttoxeter, Staffordshire ST14 8JR, UK)

Aim: Comparison of a Foundation Curriculum Clinical Skills Programme with learning needs of Foundation Year 1 (FY1) and Foundation Year 2 (FY2) doctors in a District General Hospital.

Summary of work: Mersey Deanery ran pilot FY2 programmes from August 2004. A Clinical Skills Programme for FY1 and FY2 doctors commenced August 2005 to cover the 14 specified and 1 unspecified key skills for the Direct Observation of Practice (DOPs) Assessments (Foundation Curriculum, www.mmc.nhs.uk/pages/assessment/dops). 30 doctors (FY1, 11 UK and 14 International Medical Graduates (IMGs)) and 15 pilot FY2 (2 UK and 13 IMGs) doctors completed a learning needs analysis questionnaire on their induction day. Doctors in 4 focus groups then identified desired clinical skills.

Summary of results: FY1 doctors identified 9 additional appropriate skills for DOPs assessment (suturing; lumbar puncture; pleural, peritoneal and joint aspirations; chest drain management; venous access device care; central venous catheter insertion) and FY2 5 more (arterial cannulation; chest drain insertion; criothyroidotomy; suprapubic catheterisation; endotracheal intubation). Five other skills suggested were not appropriate.
Conclusion/Take home message: Although DOPs assessments focus mainly on 14 core skills, DGH Foundation Placements offer opportunities for other appropriate skills to be taught and tested.

9P 25 Internal evaluation: a quality improvement tool for administrative decisions
M Agha*, M Noori Avazamani and R Ahranjani (Shaheed Beheshti University of Medical Sciences, Anesthesiology Department, Loubafinajad Hospital, Boosnan 10, Pardisan, Tehran 1666869414, IRAN)
Aim: In this study we have provided a definition of educational evaluation and an abstract of its history. We have also highlighted the problems of internal evaluation projects and the practical barriers for applying their results and have described how they could be extended to other institutions in the country.
Summary of work: Regarding “Internal Evaluation” as a continuous quality improvement process, we have discussed changes and modifications through the internal evaluation process, by emphasizing the necessity of internal evaluation implementation as an effective tool in achieving the quality improvement of educational programs.
Conclusions: We propose the processes of internal evaluation and problem solving methods which we have applied in the anesthesiology department to improve the quality of education and solve the discussed educational problems of the university and the Ministry of Health and Medical Education.

9P 26 Assessment of quality and access in subspecialty training in geriatric medicine
O Otaka*, E Felding, S McCracken, A Thomson, S Briggs, R B Grue and P Baker (Apartment 29, York Court, Burnage Avenue, Burnage, UK)
Aim: We aimed to assess training development needs for Geriatric Medicine specialist registrars (SpRs) in the North Western Deanery.
Summary of work: A previously described method had assessed training quality in core curriculum areas. Difficulties in gaining exposure to some (intermediate care, long-term care and continence) had been highlighted. This work aims to match that information with data on access to such training. Structured interviews assessed SpRs’ access to training in core curriculum topics. Emergency and general medical duties were excluded from the survey.
Summary of results: Quality - Most core topics were taught in good quality units. Exceptions to this were continence and tissue viability, where significant training was found in less favoured units. Access - 26% of time was each spent in general rehabilitation and stroke. Orthogeriatrics, movement disorder and falls accounted for 15%, 9% and 8% respectively. Other results included old age psychiatry (5%), intermediate care (3%), continence (3%), long-term care (3%) and tissue viability (<1%).
Conclusions: Evaluation of both training quality and access at clinical placements is important. Such activities highlight areas of deficiency and need for training development. There is evidence of potential neglect of 'Cinderella' areas of practice in SpR training.

9P 27 Bridging the gap between the secondary care consultants and family medicine trainees: The Kingdom of Bahrain’s experience
Adel Alberi* (Ministry of Health, Family Practice Residency Program, PO Box 42, BAHRAIN)
Background: In most countries there is big gap between the hospital consultants and family physician trainees in hospital. The consultants do not understand training needs of the trainees and treat them as second class doctors. This has affected their attitude toward training residents by ignoring their specific needs.
Summary of work: In order to bridge the gap the Family Practice Residency Program (FPRP) felt the need to adopt new strategies. These strategies were: (1) Writing hospital specific training objectives in coordination with consultants; (2) Identifying consultants who are interested in education and appointed as education coordinators; (3) Encouraging them to discuss the training objectives with trainees at the beginning of rotation of the specified discipline; (4) Inviting consultants in regular meeting with FPRP coordinators; (5) Requesting consultants to set a mid-term rotation formative assessment; (6) Involving consultants to participate in family medicine teaching activities and in administration of final summative evaluation.
Conclusion: Adopting the above approach for more than 10 years has led to improvement of quality of hospital training, and efficiency in communication between primary and secondary healthcare. Also, it has led to reduction of unnecessary referrals and improved the quality of healthcare provided by family physician trainees after their graduation.

9P 28 Implementing 'The New Doctor’ – Is the new pre-registration year getting it right?
Tim Van-Zwanenberg, Gelisse Bagnall*, Anne Hesketh, Jan Iliing, John Spencer (NHS Education for Scotland – West Region, 2 Central Quay, 89 Hydepark Street, Glasgow G3 8BW, UK)
Background: In 2005 the GMC updated its curriculum for pre-registration doctors in a new version of 'The New Doctor'. Following this, the GMC commissioned research to find out whether or not the recommendations set down in this document are the right and appropriate ones for the new Foundation Year One (F1).
Aim/Summary of work: To develop a set of valid and reliable questionnaires to examine the impact of 'The New Doctor' in the F1 year. Two questionnaires have been developed – one for F1 trainees and one for their clinical educators.
Questionnaires were first developed using information from a range of sources. These included a literature review, consultation with expert stakeholders and 12 discussion groups held with trainees and educators in Scotland, London and the Northern Deanery at Newcastle. This was followed by extensive pre-testing of both questionnaires. The resulting draft questionnaires will be formally piloted during May 2006 on a sample of over 1,000 F1 trainee doctors in the UK and their educational supervisors. The data from this study will be presented, addressing take home messages about how both trainees and trainers in UK hospital medicine perceive the appropriateness of the educational outcomes defined in 'The New Doctor'.

9P 29 How to produce UK foundation doctors who can make informed career decisions: implications for curriculum design and support
Caroline Elton* and Pam Shaw* (The Postgraduate Deanery for Kent, Surrey and Sussex, 7 Bermondsey Street, London SE1 2DD, UK)
Aim: To describe an approach to faculty support and curriculum development that enhances the ability of clinicians to assist foundation trainees with their career decision making.
Summary of work: (1) Working with experienced educationalists in the Kent Surrey and Sussex Postgraduate Deanery, clinicians established local faculty groups which were responsible for developing the foundation curriculum and quality assurance. (2) Utilising these groups, a structured curriculum for career support was embedded into the foundation curriculum. (3) The careers curriculum was based on the 4 stage model of career support used throughout higher education: self assessment; career exploration; decision-making and implementation. (4) Both clinicians and trainees received training in this approach.
Summary of results: (1) Establishment of local faculty groups enhanced the educational expertise of clinicians. (2) Shared understanding of the 4 stage approach between clinicians and trainees, plus embedding the careers training in the core curriculum, increased the confidence of clinicians in providing career support.

Conclusions: (1) High quality educational provision for foundation trainees is enhanced by the establishment of faculty groups at local level, supported by an experienced educationalist. (2) Career support for trainees needs to be embedded in the foundation curriculum. (3) A structured approach to career planning should be used and both providers and recipients of career support need training in this model.

Take home messages: (1) Educationalists and clinicians working in partnership can develop high quality curricula, at local level; (2) Career planning isn’t a peripheral activity to be delivered by specialist careers personnel – it is integral to the foundation curriculum.

**Workshop 9Q**

**Using Team Based Learning teaching methods to promote multiple professional competencies**

Dan Mayer (Albany Medical College, USA) and Scott Zimmerman (Southwest Missouri State University, USA)

Background: Medical education is being asked to incorporate active teaching strategies into curricula, changing large group teaching settings that are predominantly passive modes of teaching to small group venues that promote active learning. Team Based Learning (TBL) is a method of large-group teaching incorporating innovations that foster active learning, self-study, advance preparation, and team communication among students in the large group. In this workshop, participants will learn principles and skills of TBL that have been shown to enhance student engagement in large group settings, giving them the opportunity to acquire and practice competencies involving content knowledge, communications, and problem solving. Developed over the past 20 years in business schools, TBL is new to medical education but has wide appeal and interest to preclinical and clinical educators because of its inherent ability to foster active learning and team work in typically passive learning settings with large audiences. TBL transcends the simple presentation of facts to increase the learner’s interest in the education process by focusing on the application of knowledge to meaningfully enhance communication, clinical reasoning, and teamwork. The workshop will demonstrate a TBL lesson and explore how TBL can be used to focus on multiple competencies in one session, giving a hands-on and in-depth understanding of why, where, and, how to use TBL in the medical curriculum. We will explain the core principles and methods of TBL and indicate when and how to use Readiness Assurance Tests and Application Activities. The workshop will demonstrate TBL from the learners’ perspective using principles of EBM as a model and help participants increase their knowledge of TBL and ability to develop basic Readiness Assurance and Application Exercise questions for medical learners. The workshop leaders have directed and taught Evidence Based Health Care (EBM and the operations of the health care system) and Exercise Physiology using TBL.

Intended audience: Faculty, teaching across the curriculum (UME, GME, and CME) and interested in getting a hands-on and in-depth understanding of why, where, and, how to use TBL in the medical curriculum.

Objectives: At the conclusion of the workshop, participants will be able to: (1) Explain the core principles and methods of TBL; (2) Describe what TBL is like from the learners’ perspective (having had the opportunity to experience team learning in a simulated classroom); (3) Indicate when and how to use Readiness Assurance Tests (RATS) and Application Activities; (4) Describe specific formats in which TBL has been integrated into medical education courses at various medical schools; (5) Write basic Readiness Assurance Tests (RATs) questions and application activities; (6) Discuss how TBL can be used to simultaneously evaluate student performance in multiple competencies.

Level of workshop: Beginner/Intermediate

**Workshop 9R**

**Developing high-quality Multiple-Choice Items to assess application of knowledge using patient vignettes**

David B Swanson and Kathleen Z Holtzman (National Board of Medical Examiners, 3750 Market Street, Philadelphia, PA 19081, USA)

Workshop description: Writing high-quality multiple choice questions (MCQs) is a challenging task. Questions often contain technical flaws that provide advantage to “test-wise” examinees and focus on relatively unimportant content. Reflecting world-wide shifts toward integrative curricula, this workshop will focus on writing multiple-choice items that assess application of basic science and clinical knowledge in patient situations. The session will cover commonly occurring item flaws, as well as item content and format, emphasizing preparation of items that assess more than recall of isolated facts. Both item writing and item review will be addressed.

Format: Interactive, seminar format that includes item-writing practice and group review of test material. Attendees will receive a copy of Case & Swanson’s Constructing Written Test Questions for the Basic and Clinical Sciences.

Intended audience: Medical school faculty involved in writing exams, including course and clerkship directors, members of medical education departments, and others interested in achievement testing.

Level of workshop: Beginner through advanced - there are no prerequisites (other than interest in writing MCQs for exams in the health professions), and we think that participants are likely to get something out of the workshop regardless of previous item-writing experience.
Portfolios are widely used in medical education, not only to stimulate learners to reflect on their experiences and development, but also as a source of information for authentic assessment. At this moment many portfolio assessment procedures make use of strict criteria or structured content and do seriously damage the essence of portfolio assessment, i.e. flexibility, personal orientation and authenticity. The use of qualitative information in portfolios requires a more qualitative approach for portfolio assessment.

Workshop content and structure: In this workshop the audience will be introduced in the possibilities of portfolios for assessment purposes. After a short introduction participants will practice with the assessment of portfolios. Assessment criteria will be discussed and the usefulness of a more qualitative approach will be shown by describing a concrete portfolio assessment procedure.

Intended outcomes: Increased understanding of the use of portfolios for assessment purposes.

Intended audience: People interested in the possibilities of portfolio assessment.

Level of workshop: All levels.
10A Learning Theories in Medical Education

Chairperson: R Peter Nippert (Westfälische Wilhelms-Universität, Germany); Panel: Geoff Norman (McMaster University, Canada); Cognitive theory of learning; Janet Grant (Open University Centre for Education in Medicine, UK); Situated learning theory; Kirsti Lonka (University of Helsinki, Finland); Theories of progressive inquiry learning; Bill McGaghie (Northwestern University Medical School, USA); Mastery learning; John Sanders (University of Leeds, UK); Activity theory of learning; Dale Dauphiné (Medical Council of Canada); Assessment using a Donabedian-Miller hybrid.

Aim: The symposium will present recently developed and revitalised learning theories with the potential for a better understanding of the social process of learning in medical education and its implications.

Content: Theories of learning provide the framework for analysis, understanding and structured approaches to optimise the acquisition process of knowledge, skills, attitudes and values in society and its subsystems. Medical education with its highly structured role composition is an apt background to examine and discuss the possibilities of using specific theories of learning in the context of undergraduate and graduate medical education. By presenting the essence of actual learning theories and their application in special settings panel members will provide condensed input for discussion. Participants from all spheres of health education are invited to share their expertise and experience with respect to learning theory application in health care.


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Short Communications

10C e-Learning 5: e-Assessment

10C 1 Case-based exams using a web-based patient case simulation system (Web-SP)

N Zary*, N Gesundheit, P Dev, P Youngblood, P Brudtag and U Fors (Karolinska Institutet, The Department of Learning, Informatics, Management and Ethics (LIME), Berzeliusgarden 1, Stockholm SE-171 77, SWEDEN)

Background: During the last few decades there has been a significant shift of teaching methods in medical education, from focusing upon facts towards a focus on problem solving and a deeper understanding of clinical reasoning principles. Examination methods have not developed correspondingly, which sends contradictory signals to students and could be devastating for learning outcomes. In medicine, Web-based cases have been used successfully for learning. These simulated cases may be more efficient and standardized than other case-based methodologies in that every interaction can be tracked, proposed illness history questions can be evaluated, the use and interpretation of different physical examination and laboratory tests can be assessed. The virtual patient system Web-SP is implemented in many countries and languages and has shown a great potential for learning and self-evaluation in many medical and healthcare disciplines. It has therefore been suggested that Web-SP be further developed for examination and self-assessment.

Summary of work: During 2005 and 2006, a number of pilot studies have been carried out, at Karolinska Institutet and Stanford University, to assess Web-SP as an examination tool in medicine and nursing. Web-SP has shown a good potential as an examination tool, but more studies are suggested to investigate validity, reliability, security and integrity issues.

10C 2 PathologE crosswords: making histopathology self-assessment less puzzling

Neil Nixdorff**, Tara Sheets, Almas Kherani, Nicolas Zias and Maryann Fitzmaurice (Case Western Reserve University, Department of Epidemiology and Biostatistics, 10900 Euclid Avenue, Cleveland, Ohio 44106, USA)

Background: Medical students at Case School of Medicine have limited resources for pathology self-assessment. Will electronic crossword puzzles posted on the medical school eCurriculum web site be an effective and popular student tool for pathology learning?

Aim: Present the theory-based development and evaluation of electronic crossword puzzles that enable students to self-assess their mastery of the pathology curriculum learning objectives, specifically their ability to: define key pathology terms in topic areas; identify pathologic processes by their gross and microscopic appearance; and correlate pathology gross and microscopic findings to the underlying pathogenic mechanisms.

Summary of work: We developed and piloted crossword puzzles for the various subject areas in the current curriculum, tested them with 2nd year medical students, and surveyed student reactions to the puzzles as self-assessment tools in terms of interest, format, and level of difficulty. 69 first year medical students completed and returned the first administration. Survey results and analysis of a second and third iteration are forthcoming.

Conclusions: Current pathology self-assessment tools are inadequate. Medical students are eager for alternative methods of self-assessment, and future development based on their feedback can more effectively target learning strategies.

10C 3 Assessment of medical students in the basic sciences: an online question bank or the design and development of MCQ items, setting minimum performance levels and evaluating item performance

Tyrone Donnon*, Kris Fraser, Martha Ainslie and Jean-Gaston DesCôteaux (University of Calgary, Medical Education and Research Unit, Health Sciences Centre, 3330 Hospital Drive NW, Calgary, Alberta T2N 4N1, CANADA)

Background: With a focus on enhancing the evaluation/e-learning environment of the medical school, a unique online question bank was development specifically for the University of Calgary’s Undergraduate Medical Education (UME) program.
Summary of work: Initially piloted with the Respiratory course, the process of writing/ modifying one-best answer and extended matching multiple choice questions (MCQs) has been expedited greatly. Security protected access allows for UME Faculty to work remotely on their respective question bank items. Online blueprints depict the number of items available by units/clinical presentations across basic science, clinical, and other domains (communications, ethics, professionalism). Using a modified Nedelsky method for standard setting, minimum performance levels (mpls) can be established easily and calculated automatically using expert judgment or pre-existing item statistics. In addition, the online system allows for immediate item analysis results to be downloaded for the post-exam review process.

Conclusion: While many e-learning delivery systems are developed in a non-standardized fashion, the unique features of the UME online evaluation program promote ongoing item development, accountability and growth.

Take home message: With the ease of use and access for UME Faculty, the online evaluation system promotes the design and development of MCQs, setting mpls, and evaluating examination performance through item analysis.

10C 4 Item development anytime, anywhere
Justin M Bonzo* (University of British Columbia, Faculty of Medicine, UBC Hospital, Koerner Pavillon, St69-2211 Wesbrook Mall, Vancouver, BC V6T 2B5, CANADA)

Aim: This presentation describes the implementation and evaluation of an online examination development tool used by faculty and staff in developing summative assessments.

Summary of work: The University of British Columbia's Faculty of Medicine is involved in an innovative distributed medical education program that coordinates faculty, students and staff at geographically distributed sites. By implementing an online examination development tool, the goal is to reduce travel costs and scheduling conflicts associated with in-person meetings. Specifically, the tool allows the subject matter experts to develop, review, and validate new items from any remote location including their home or office. Additionally, the tool facilitates the collection of critical information on each and every test item including: item performance statistics, classification based on content, cognitive level, and author. Finally, the presentation includes a case example of the assessment tool in action involving the development of a summative end of term written examination. This presentation also provides participants with information regarding experiences and lessons learned in the implementation process. By examining these topics, we hope to improve the initial decision-making, development, and implementation processes in future projects while providing experiential knowledge that other institutions can apply to their own projects.

10C 5 “Smart systems” for medical education assessments
Rui Costa*, Pedro Sousa, Andrea Mendonça, Adriano Raposa, Isabel Neto and João Queirós (Universidade da Beira Interior, Faculdade de Ciencias da Saúde, Rua Marquês d’Ávila e Bolama, Covilhã 6200-001, PORTUGAL)

Summary of work: Since medical activity requires theoretical knowledge as well as clinical activities, the University of Beira Interior (Portugal), through its Faculty of Health Sciences, has implemented completely new tools suitable to the learning methodology. The method mostly uses a b-Learning approach, covering all the years of the Medical Degree. Assessment moments are implemented in proper secure rooms, with specific software and hardware tools developed by the Faculty team. In these “Smart rooms”, the evaluation process is fully controlled. A wide range of question types is available allowing the coverage of different evaluation needs. Students are randomly distributed on the computers, and assessments take place in a secure web environment until the auto correction is completed. Results are available shortly afterwards on the Intranet, for consultation and analysis by the students. In order to guarantee a quality pattern throughout the evaluation process, all of the materials produced and all of the evaluation contents are revised and certified. In addition the evaluation is previously verified and this appliance analyses results and questions quality indicators. By measuring these results, the Faculty develops a continuous improvement of the assessment contents and can establish difficulty levels for each question.

10C 6 When the resources of one medical school are not enough
Peter G Devitt and James Ware* (University of Adelaide, Department of Surgery, Royal Adelaide Hospital, North Terrace, Adelaide, South Australia 5000, AUSTRALIA, and Chinese University of Hong Kong)

Background: Increasingly simulations and computer based enhancements in medical education are being developed. The costs of these developments in terms of faculty time and money are still high. Solutions are needed to address these issues and make collaborative solutions. Two schools in Australia and Hong Kong entered into such a partnership.

Summary of work: Both schools independently developed similar interactive web-based formative assessment cases, which offered students a self-directed learning platform. However, it became clear that neither could realise the full potential alone. In order that the collaboration could work a number of generic issues had to be agreed upon: (1) a clinical core of cases, (2) a balance for the integrating nature of materials used and (3) the task complexity and level for proceeding in the cases. It was accepted that Australian and Chinese contextual relationships would be different and so both schools had to undertake a stringent editing and review process. There were also different tolerance levels shown by student users of the cases. Chinese students will repeatedly try to solve a problem often by trial and error. Australian students are less tolerant. Therefore, when embarking on such a collaboration both or all parties must be prepared to adapt materials and then obtain student evaluation to maximise the opportunity.
Summary of work: This paper describes the cross-referencing exercise undertaken by the SDMCG in 2004-5, the philosophy behind it, the practical steps taken, the findings, the lessons learnt, and reflections upon how this work may proceed. It will be of interest to all those who are involved in curriculum development using outcomes, especially those who use the GMC ‘Tomorrow’s Doctors’ as well as those who are interested in educational informatics and information science in general.

10D 2 Outcome focused learning – development of a new searchable web-based curriculum

A Kiessling*, S Nilsson, L Smidtman and A Josephson (Karolinska Institutet, Centre for Clinical Education, Danderyd Hospital, Centre for Clinical Education, Stockholm SE-18288, SWEDEN)

Aims: To develop a searchable database supporting a structured cumulative outcome-focused core curriculum through a 5½ year medical education programme.

Summary of work: Karolinska Institutet is developing a new outcome-based curriculum. The new curriculum is based on outcomes needed for all graduating medical students. The outcomes are structured in three dimensions. The learning objectives are defined in a concept-oriented outcome model including medical competence and understanding: skills; attitudes and behaviour. We have developed a Swedish version of a clinical problem list with 108 integrative tasks. The tasks are categorised using the International Classification of Functioning, Disability and Health (ICF). Finally, the learning outcomes are formulated at defined competence levels using the Structure of the Observed Learning Outcome (SOLO) taxonomy or the Miller's taxonomy. The outcome-model and the tasks are crossed in a searchable data matrix and presented in a user-friendly web interface.

Summary of results: A prototype of the database is running. The design of the SQL-database is ready and the web interface is nearly finished.

Conclusions: Modern core curricula supporting cumulative structured deep learning must serve the needs of diverse users including curriculum planners, teachers and students. A searchable web-based curriculum seems to satisfy these needs.

10D 3 Medical competency in final year students from six Venezuelan medical schools

A Zahlout, E Roa and P Perez-Gonzalez (Universidad Central de Venezuela, Escuela de Medicina “Luis Razetti”, Facultad de Medicina, Centro de Investigacion y Desarrollo de la Educacion Médica, Caracas, Apartado de Correos No 90.350, El Hatillo 1083A, VENEZUELA)

Summary of work: We developed surveys to approach clinical (CCS, 95 Items, Maximal Score (MS): 475) and non-clinical (NCCS, 75 Items, MS: 375) components of medical competency (MC) as defined by the Three-Circle Model (3CM). We hypothesized that students from different schools can be compared by reference to the 3CM. Since our surveys included items representative of all 3CM Domains, we applied them to 310 final year students. NCCS scores were proportionally higher than CCS (80% MS vs 74%).

Conclusion: Students from different medical schools show differences with reference to the 3CM.

10D 4 CanMEDS competencies in an undergraduate medical curriculum

H E M. Daedmans*, H H Van der Hem-Stokroos and J C G Jacobs (Vrije Universiteit Medical Centre, Van der Boechorststraat 7, PO Box 7057, Amsterdam 1007 MB, NETHERLANDS)

Background: Graduate medical education is becoming increasingly competency based. There are several frameworks classifying competencies such as ACGME and CanMEDS. CanMEDS is being used in graduate medical education in Canada, Australia and in the Netherlands. In order to achieve a smooth transition between undergraduate and graduate medical education, competencies described in CanMEDS can be of interest to undergraduate medical education.

Summary of work: We developed a competency based framework, for undergraduate medical education in the Netherlands, based on CanMEDS and the Dutch Blueprint. Definition, key-competencies, enabling competencies and learning goals for each of the seven CanMEDS roles were described and an extra role, reflector which we consider essential to learning, was added. We allocated the key competencies and enabling competencies to the successive years in the bachelor and master programme of the Vrije Universiteit Medical Centre and elaborated the educational programme for the three bachelor years. Now, the first bachelor year has been implemented and evaluated.

Conclusions: A competency framework for graduate medical education can also be successfully used in undergraduate medical education. It stimulates students to focus on competencies important throughout lifelong medical education.

Take-home messages: Competency-based graduate medical education can well be preceded by undergraduate competency-based education.

10D 5 Modernising Dutch postgraduate education of medical specialists: 33 competency-based curricula. Sharing our experiences with this large scale project

V Schelfhout*, M Biesaart and C den Rooyen (Royal Dutch Medical Association (KNMG), Postbus 20051, Utrecht 3502 LB, NETHERLANDS)

Aim: To give an impression of our experiences with a large-scale project encompassing a nationwide curriculum change with involvement of many stake holders.

Background: In 2001 the KNMG and the universities in cooperation with other partners took the initiative in the project "tomorrow’s doctors": Medical education should prepare medical doctors and medical specialists better for the patient’s demands and ongoing changes in public health. Medical specialists should be competent in seven essential roles and key competencies. These roles are: medical expert, communicator, collaborator, manager, health advocate, scholar and professional (formulated by the Royal College of Physicians and Surgeons in Canada, CanMEDS 2000/2004 and adopted by the KNMG as framework).

To realise the development of competencies, postgraduate education should be based on concepts and teaching principles fostering this development. At this moment, however, neither the structure and contents of many postgraduate education programs in the Netherlands, nor the assessments and length of these programs meet the requirements for structuring this way of acquiring competencies.

Summary of work: In 2005 the KNMG and the steering group modernising postgraduate medical teaching have started a project to modernise the programs. The aim of this project is a new, competency-based curriculum for all postgraduate medical training programs. The programs should comprise suitable assessment methods, structured education and should be transparent and flexible. The qualities of the teaching specialist should suit the new way of teaching. This does not only require a new way of teaching and organizing education, it
also calls for a change in mindset, a culture in which it is common to ask and give feedback with a reflective attitude. Putting into practice this new approach poses a series of challenges for medical leaders, trainees and educators.

10D 6 Implementing an outcome-based curriculum at University of Montreal: a comprehensive innovative model
J Samson, B Millet*, R Lalonde, P Lebel, M Chaput, R Thivierge, J Aubut, S Raymond-Carrier and S Normand (Université de Montréal, Cité de la Santé Hospital, 1755 Boulevard Laennec, Laval, QC H7M 3L9, CANADA)

Background: The Faculty of Medicine of University of Montréal has over 2,000 teachers and more than 2,000 students (undergraduate and postgraduate) who are distributed over 13 medical centers. After a successful implementation of PBL in 1992, a new revision of the curriculum has been necessary in order to implement an outcome-based curriculum (OBC) based on the CanMEDS Royal College of Physicians and Surgeons of Canada (RCPSC) framework of physicians core competencies.

10D 7 Future perspectives of European CME accreditation
T Séverin*, L Goncalves, J Ortoli, F T Black, P Schoch, A Bischof-Delaloye, M Milcinski and R Stevenson on behalf of the European Specialty Accreditation Boards (ESABs) Collaboration (European Respiratory Society, 4 Ave Ste-Luce, Lausanne CH-1003, SWITZERLAND)

Aim: To present the model developed by European Specialty Accreditation Boards (ESABs) for the accreditation of European CME activities.

Background: ESABs operate under the umbrella of UEMS and aim to meet the demand for the accreditation of educational activities which target a European rather than a national audience.

Summary of work: The ESABs model proposes a transparent accreditation process which defines harmonized quality criteria pertaining to the scientific program, the independence of CME provider and faculty members, the disclosure of conflicts of interest, the educational value of the activity, etc. Assessment by at least two international experts and processing of participants’ feedback forms belong to the process. The experience gained in the accreditation of live events was used for distance learning activities which are now accredited according to similar criteria. This presentation will provide information on how we built our system, the quality criteria we apply, as well as the services we provide to both CME providers and doctors.

Take home message: CME and CPD are developing at lightning speed throughout Europe, and the issue of re-certification is already being discussed in a few countries. CME accreditation will thus become a major European issue. Emerging studies of knowledge translation will be summarized, and specific initiatives highlighted that are bringing quality education to front line practitioners: knowledge is the enemy of disease.

10E 1 International continuing medical education: a European reality
Alfonso Negri (CME-ICAER Via Ripamonti 129, Milano 129-2141, ITALY)

CME systems and programs are a growing reality in Europe. Patients have a need for continuing education in their specialty, for keeping abreast of the learning needs of their graduates or for supplying education to meet those needs. Major foundations have not shown interest in funding education of primary care practitioners or their health care teams, while spending hundreds of millions of dollars focusing on eradicating specific diseases. A similar situation exists in many health ministries and most national medical systems. A critical connection between up-to-date knowledge and the betterment of the public’s health is not being made. The entire medical profession and its institutions must be energized to address this issue. Emerging studies of knowledge translation will be summarized, and specific initiatives highlighted that are bringing quality education to front line practitioners: knowledge is the enemy of disease.

10E 2 Knowledge is the enemy of disease
Dennis X Wentz (Wentz Miller & Associates, PO Box 5880, 392 Holden Road, Avon, Beaver Creek CO 81620-5880, USA)

A convincing call for the broader support of continuing medical education and continuous professional development is the phrase “Knowledge is the enemy of disease”, as described in 2006 in The Lancet. Recent literature has cited substantial gaps in the application of important knowledge to front-line practice and patient care. Yet, except for medical associations and specialty societies, the resources needed to provide quality continuing medical education to front line practitioners have not been identified. Medical schools world-wide are usually focused on the educational years leading to the medical degree, and have no mechanism for keeping abreast of the learning needs of their graduates or for supplying education to meet those needs. Major foundations have not shown interest in funding education of primary care practitioners or their health care teams, while spending hundreds of millions of dollars focusing on eradicating specific diseases. A similar situation exists in many health ministries and most national medical systems. A critical connection between good CME improves knowledge and performance, and the interest in quality education to front line practitioners: knowledge is the enemy of disease.

10E 3 Implementing an outcome-based curriculum at University of Montreal: a comprehensive innovative model
J Samson, B Millet*, R Lalonde, P Lebel, M Chaput, R Thivierge, J Aubut, S Raymond-Carrier and S Normand (Université de Montréal, Cité de la Santé Hospital, 1755 Boulevard Laennec, Laval, QC H7M 3L9, CANADA)

Background: The Faculty of Medicine of University of Montréal has over 2,000 teachers and more than 2,000 students (undergraduate and postgraduate) who are distributed over 13 medical centers. After a successful implementation of PBL in 1992, a new revision of the curriculum has been necessary in order to implement an outcome-based curriculum (OBC) based on the CanMEDS Royal College of Physicians and Surgeons of Canada (RCPSC) framework of physicians core competencies.

10E 4 Continuing Professional Development 2: CPD issues

Short Communications
10F 1 Introducing multiple choice question (MCQ) examinations: the value of item writing workshops
Torstein Vik* and James Ware (Norwegian University of Science & Technology, Department of Public Health and General Practice, Faculty of Medicine, MTFS, Trondheim N-7489, NORWAY)

Summary of work: In 2005, MCQ examinations were introduced for written examinations in the medical curriculum at NTNU. A series of workshops were held for teachers to practice and critique item production. Emphasis was put on higher cognitive testing using A-type vignette based MCQs and elimination of item writing flaws (IWFs). Pre- and post-test reviews were used to ensure the quality of the new examination format. The value of feedback to the teachers was also considered an important component of the change.

Summary of results: Despite some criticism, faculty staff and students felt the four examinations delivered were successful. The proportion of the 379 items testing reasoning was 25% for the first and second year exams, and 50% in the third and fourth year. Using item discrimination ranges, 65% of all items fell within three categories: excellent (>0.40), good (0.30-0.39) and satisfactory (0.15-0.29). 61% of all items had 3-4 functioning distractors. In 3/4 exams the item p-values were 0.40-0.80, >50% of the time. Excluding items failing the hand cover test, classical IWFs occurred in less than 10% of all items.

Conclusion: Feedback to item writers should include performance data and where possible have a sound psychometric basis, bearing in mind no absolute criteria exist for this.

10F 2 Reducing a five option multiple choice exam to four options
G Cole*, C Sl-Orge and C Lee (Royal College of Physicians & Surgeons Canada, Educational Research & Development Unit, 774 Echo Drive, Ottawa, Ontario K1S 5N8, CANADA)

Aim: To demonstrate that academia and industry can collaborate in a meaningful way that is beyond dollar requests and product promotion.

Summary of work: The Royal College of Physicians and Surgeons of Canada used a protocol to eliminate one option from five medical specialty certification examinations. The protocol was effective for 75% of the items. Five and four option examinations were administered and compared.

Summary of results: Although differences were observed, across five examinations, the difficulty, time to complete, reliability and face validity of the two examinations were similar.
Conclusions: A protocol for reducing five option multiple choice examination items to four options can be effective. Consistent, with the literature, the four and five option examinations had similar psychometric characteristics as well as similar face validities.

Take home message: The literature supports the use of four option multiple choice questions over five option questions. It can be reasonably easy to reduce five option questions to four options and similar psychometric properties can be expected.

10F 3 Repeated use of selected response items in summative assessments
Clarke Hazlett*, Anthony Nelson and T F Fok (The Chinese University of Hong Kong, Faculty of Medicine, Office of Educational Services, 9A, Block B, Prince of Wales Hospital, Shatin, New Territories, Hong Kong SAR, CHINA)

Background: Not infrequently, medical students attempt to reconstruct by memory items that were used in an assessment, and by working collectively, they try to create an item bank that parallels the teaching faculty’s item bank. Thus, repeated use of items in summative assessments could be inadvisable if teachers’ item banks are insufficient in their volume, representativeness and quality. In one East Asian medical school, teachers have often re-used selected response items if the items were well constructed, demonstrated desired psychometric properties, and/or were judged to assess important content.

Summary of work: We compared the discrimination power and difficulty levels of over 500 items which had varying number of repeated uses over a six year period in a Paediatrics module. A multivariate model was used to determine if number of repetitions, the time delay between administrations, assessed cognitive level and quality of item writing were relevant covariates. The findings (along with those from similar investigations in another clinical discipline) help inform policies and practices for developing and using item banks appropriately in reference to assessment design (i.e., normative vs. criterion referenced) and the purpose of an assessment (i.e., summative vs. formative).

10F 4 Reliability of a progress test compared for multiple choice and true-false questions
Arno M M Muijtjens*, Janke Cohen-Schotanus, Arnold J N M Thoelen, Lambert W J Schwirnich and Coen P M van der Vleuten (University of Maastricht, Department of Educational Development & Research, Faculty of Medicine, PO Box 616, Maastricht NL-6200 MD, NETHERLANDS)

Aim: Discuss the reliability of the progress test when changing from true-false (TFQ) to multiple choice questions (MCQ).

Summary of work: The progress test is taken four times a year by all undergraduate students (six year groups) resulting in scores for 24 measurement moments throughout the program. Since September 2005 the progress test consists of 200 MCQs, before it was 250 TFQ. To correct for random guessing, incorrect answers are penalized by subtracting marks resulting in the formula score. Reliabilities (Cronbach’s alpha) of formula score and correct score were calculated per measurement moment, and compared for TFQ and MCQ.

Summary of results: The reliability of the formula score for TFQ tests increased from 0.3 to 0.8 for measurement moments 1 to 24; for the correct score it was steady; average 0.92 (SD: 0.02). Compared to TFQ, the reliability of MCQ for the formula score was 0.06 higher, and for the correct score was 0.05 lower.

Conclusions/take home message: Reliability difference between correct and formula score is smaller for MCQ compared to TFQ, indicating that correction for guessing with MCQ removes less signal, thus performs better than with TFQ.

10F 5 Examining students with open and multiple choice questions – format matters
K Keller, S Drolshagen, S Gentsch, F Nürnberger and J Schulze* (J W Goethe-Universität Frankfurt, Dekanat Fachbereich Medizin, Theodor Stern Kai 7, Frankfurt/Main 60590, GERMANY)

Summary of work: The Medical Faculty of the Johann Wolfgang Goethe-University Frankfurt has implemented clinical examinations consisting of both open questions to test active knowledge as well as multiple choice questions. We have analyzed examination results for a correlation between results achieved in different question formats assuming that a change in question format affects both students’ learning behaviour and the testable knowledge base.

Summary of results: Changing to short essay questions allows the assessor to include routine procedure and basic knowledge questions. Previous shortcomings are evident by surprisingly large failure rates in basic knowledge questions; these rates quickly drop when students realize that these abilities are required for the test. Also changing from ‘single best’ choice questions to “multiple choice” questions indicates that students solve questions by a mix of knowledge to exclude unlikely possibilities, and rational guessing between the remaining alternatives. Comparisons of questions posted in these formats indicate students’ test strategies and indicate the remaining alternatives.

Conclusions: To improve student learning behaviour assessment tools should be adjusted to the learning objectives rather than the reverse; students likely will learn in response to their test format rather than later requirements. Resources invested in alternative testing strategies may be well invested to optimize learning outcomes.

10F 6 Use of newly developed multiple-choice questions in the scoring of candidates in an adaptive high-stakes examination
Robert S Lee*, André-Philippe Boulais, Timothy J Wood and Thomas O Maguire (Medical Council of Canada, 100-2283 St Laurent Boulevard, Ottawa, Ontario K1G 5A2, CANADA)

Aim: The goal of this presentation is to highlight past and present psychometric practices involving the use of pilot questions and to discuss the benefits of their inclusion in the pass/fail decisions.

Background and Summary of work: In its early stages of implementation, the Computerized Adaptive Medical Council of Canada Part I Examination (MCCQEI) included newly developed multiple-choice questions (MCQs) that were not considered in the establishment of candidates’ ability estimates. Mainly in response to a security incident in 2004, the use of newly developed content as scored questions rather than pilots first served as a mechanism to monitor the potential exposure of confidential test materials.

Summary of results: Subsequently, the inclusion of newly developed questions in the scoring process also added value to the examination’s psychometric properties.

Conclusions: The benefits of injecting more scored MCQs soon became evident. A decrease in the standard error of the estimate in establishing ability translated in a higher confidence in the pass/fail decisions. Furthermore, it allowed the MCC to introduce more newly-developed content and streamline the cycle of test development activities.

10F 7 Online assessment of the application of knowledge and clinical reasoning in a PBL medical program
Peter Davy*, Pippa Craig, Nick Miller and Daniel Burn (University of Sydney, Office for Teaching & Learning in Medicine, Edward Ford Building (A27), Room 136, New South Wales 2006, AUSTRALIA)
10G 1 Integrating simulation technology into a national specialty examination in internal medicine
R. Hatala, B. Kassen* (University of British Columbia, St-Paul’s Hospital, Room 5910, 1081 Burrard Street, Vancouver, BC V6Z 1Y6, CANADA) and S. B. Issenberg (University of Miami Miller School of Medicine Center for Research in Medical Education)

Aim: Simulation technology provides additional methods to assess physicians’ clinical competence. The current study examines the relationship between an interns’ competence in physical examination as assessed using simulation technology compared to real patients.

Summary of work: Internists’ physical examination skills and bedside diagnostic accuracy were assessed during a 12-station OSCE. The OSCE contained 3 modalities of cardiac patients: 4 stations using real patients with cardiac abnormalities, 4 stations using standardized patients combined with a computer-based audio-video simulation of auscultatory abnormalities and 4 stations using a cardiopulmonary patient simulator. Cardiac findings and diagnoses were matched across modalities.

Participants were 28 interns, within 3 years of passing the Royal College of Physicians and Surgeons of Canada’s (RCPSC) Comprehensive Examination in Internal Medicine. At each station, two RCPSC examiners independently rated a participant’s physical examination technique and provided a global rating of clinical competence. Participants’ description of the patient’s clinical findings and diagnosis were scored separately by two investigators.

Summary of Results/Conclusions: Our study has been completed and data analysis initiated, to be presented at the AMEE meeting. The results will aid our understanding of the utility of simulations in assessing clinical competence in physical examination.

10G 2 Assessment of the medical student: a pilot-OSCE in emergency medicine
M. Ruesseler*, M. Weinitich, T. Kunz, H. Ilper and F. Walcher (Universitätsklinik Frankfurt, Department of Trauma, Hand and Reconstructive Surgery, Theodor Stern Kai 7, Frankfurt 60399, GERMANY)

Background: In 2003, emergency medicine became its own cross-section specialty with the obligation of students’ performance records. In order to test the practicability of an OSCE as an assessment tool in emergency medicine, a 9-station Pilot-OSCE was performed.

Summary of work: 15 voluntary students had to solve 7 complete emergency cases, three with standardised patients (SP), four with simulators, as well as two skill stations. Students were evaluated via checklist and global rating scale including communication skills by the examiner, the assistant and the SP.

Summary of results: All scenarios fitted into the predefined time frame of 13 minutes for the scenario and the following feedback plus two minutes for changeover to the next station. The Pilot-OSCE was rated as excellent by 80% of the participating students and as good by 20%.

All students judged the OSCE to test relevant aspects of medical training and to be a good preparation for their future medical occupation.

Conclusions: Even though the OSCE is very time consuming and needs good personnel resources, it can be an adequate assessment tool for practical skills in emergency medicine.

10G 3 Assessment of clinical competence of foreign medical graduates in the Netherlands: development of the blueprint
Mary J. Sonderen*, Olle Th. J. ten Cate, Ted A W Splinter and Cornelis T Postma (UMC St Radboud, Oude Groenewoudseweg 176, Nijmegen 6524 VN, NETHERLANDS)

Aim: A more reliable, valid and shorter assessment procedure for certification of foreign medical graduates in The Netherlands was deemed necessary. An Objective Structured Clinical Examination (OSCE) of 8 hours’ duration including 10 standardized patients, to assess clinical skills and professional behavior was set up. A paramount asset of this is the blueprint of clinical entities to be tested. The development of this blueprint was the aim of this study.

Summary of work: In order to construct a blueprint, faculty members selected the ten most important domains representing organ systems, disease categories and areas of professional behavior. From this, clinical problems to use for concrete case material were identified. The Dutch Blueprint of Objectives for Graduate Education was used for verification.

Summary of results: The results of the evaluations were fit into a multidimensional matrix. This matrix contains the general competencies to be tested, the disciplines on which these have to be demonstrated and the specific problems or conditions that ought to be assessed within these disciplines. The so constructed blueprint is used to select appropriate samples for subsequent assessments.

Conclusion: Following the described procedure a reliable and valid blueprint for the assessment of foreign medical graduates could be defined.

10G 4 The use of Videotaped Objective Structured Clinical Examination (VOSCE) in the assessment of shoulder and knee examination skills by medical students
P. Vivekananda-Schmidt*, D. Coady, A. B Hassell, M. Lewis, C. Morley, L. Kay, D. Walker (University of Sheffield, Academic Unit of Medical Education, 85 Wilkinson Street, Sheffield S10 2GU, UK)

Background: Objective Structured Clinical Examination (OSCE) is a key part of medical student assessment.
Currently, assessment is carried out by medical examiners in situ.

Aim: To assess whether Videotaped OSCE (VOSCE) is reliable.

Summary of work: Participants: 95 undergraduate medical students attending their ‘musculoskeletal’ week at Freeman Hospital, Newcastle (UK). Student performance on OSCE stations for shoulder or knee examinations were assessed by experienced rheumatologists. The stations were also videotaped and scored by a rheumatologist independently. The examinations consisted of a 14-item checklist and a global rating scale (GRS).

Summary of results: Mean value for the shoulder OSCE checklist were 17.9 by live assessment and 17.4 by video (n=50), and 20.7 and 20.8 for the knee assessment (n=45) respectively. The reliability coefficients were moderately strong (r>0.5) for the OSCE checklist scores, but the reliability of individual items varied. GRS scores were less reliable than checklist scores. There was 84% agreement in the classification of examination grades between live and video checklist scores for both the shoulder and knee; kappa 0.43 and 0.45 respectively (p<0.001).

Conclusion: VOSCE is reliable and offers some advantages over live OSCE including more efficient use of examiners' time, increased fairness and better monitoring of performance. Does PBL help or hinder?

10G 6 Desired and undesired variance in communication skills assessed by OSCEs

Peter H Harasym*, Wayne Woloshuk and Les Cumming (University of Calgary, Department of Community Health Sciences, Faculty of Medicine, 3330 Hospital Drive NW, Calgary, Alberta T2N 4N1, CANADA)

Background: Communication skills are believed to be a generic skill that transcends clinical problems. These skills are most often assessed using an OSCE and a rating scale. Currently, it is unknown what sources of error variance are introduced into examinee scores by various components such as cases, raters, etc. This study examined the effect of different cases, examiners, and year of administration on the assessment of communication skills.

Summary of work: The performance of clinical clerks from classes 2005 and 2006 were assessed using six OSCEs at the end of a family medicine clerkship rotation. The performance was rated on the 28 item Calgary-Cambridge communication guide. A multifaceted Rasch analysis was performed on the data.

Summary of results: Findings revealed that the variance and reliability of scores were: communication skills (0.18 and 0.89), examiners’stringency/leniency (0.27 and 0.97), cases (0.05 and 0.95), and year of administration (0.02 and 0.93), respectively.

Conclusions: The reliabilities of communication scores and all components were high (0.89 - 0.97). There was an insignificant amount of error variance due to year of administration; but a significant amount due to different cases and examiners.

Take home message: Communication skills can be reliably assessed by the Calgary-Cambridge guide. However, the case and the examiner significantly alter the level of a student’s communication performance. The greatest concern was the large variation due to examiner stringency/leniency which is not removed by training.
Aim: This study compares the academic achievements of students in a traditional versus an integrated, problem-based curriculum with respect to basic science and clinical knowledge.

Summary of work: Of 868 students in 3 cohorts, 251 applied for the integrated curriculum, of whom 122 were randomly selected (P+), the remaining 129 (P-) together with 617 students (T) took part in the traditional curriculum. Knowledge was assessed at the beginning of the first, third and fifth semester by a 200-item multiple-choice test (PTM, Charité Berlin) containing 1/3 basic science (bs) and 2/3 clinical (cl) items. Comparisons were done by ANOVA and post-hoc analysis with Bonferroni correction.

Summary of results: Longitudinal analysis of cohort 1 revealed identical starting points in bs for groups T (% correct: 8.5±7.8), P- (10.6±7.8) and P+ (9.2±8.1) and cl (8.4±6.9, 10.2±8.4, 9.1±7.8). After two semesters, P+ significantly outperformed P- and T in bs and cl. After four semesters bs reached the same level (39.7±12.0, 43.4±9.0, 42.1±9.4; n.s.), cl was significantly higher in P+ (13.2±6.8, 14.3±7.0, 23.9±8.2; p<0.001). The same was true for the cross sectional analysis.

Conclusions: Students of the integrated curriculum achieve similar levels in basic science knowledge, and reached higher scores in clinical knowledge.

10H 3 How do medical students benefit from a problem based learning approach? A longitudinal comparison between PBL and traditional medical curricula at the University of Hamburg

M Bullinger*, M Krantl and D Kuhniger (Modellstudium Medizin, University Hospital Hamburg-Eppendorf, Martinistr. 52, 20355 Hamburg, 20246, GERMANY)

Background: In spite of research on innovative medical curricula concepts, longitudinal studies are lacking. At Hamburg University medical school, a problem based learning (PBL) curriculum covering the first three years of medical education was implemented, evaluated and compared with the traditional curriculum. The goal was to evaluate PBL- and traditional students with respect to examination results and their perceptions of medical studies.

Summary of work: Examinations results and self-rating questionnaires were obtained for three cohorts of students (n=266) over a total of eight years. Using self-reported questionnaires and variance analyses (MANOVA) PBL- and traditional students were compared with respect to self-assessment of studying, learning, performance and satisfaction.

Summary of results: Standardised measures used to compare PBL- and traditional students showed significant differences between the two curricular concepts in favour of the PBL students (e.g. practical skills, theoretical knowledge, continuous learning and satisfaction). In examination results PBL students did not differ from regular students.

Conclusions: Compared to the traditional curriculum, PBL appears to be associated with equivalent examination results and with higher self-rated performance and satisfaction. This is the first study to document the effects of a PBL curriculum in a quasi-experimental longitudinal design and in different cohorts of PBL- versus traditional students.

10H 4 The integrated curriculum: the mismatch between the curriculum plan for integration and the student perception of integration

Carole Gannon*, Ray Peterson and David Treagust (The University of Adelaide, Medical Learning and Teaching Unit, Faculty of Health Sciences, Adelaide SA 5006, AUSTRALIA)

Aim: The aim of this study was to examine how students perceive and manage their learning in a fully integrated (non-subject based) curriculum. This curriculum is tightly structured for integration across disciplines, PBL cases, clinical skills sessions and between years. Assessment is integrated and cross-disciplinary.

Summary of work: A case study in which 30 year one medical students were interviewed was combined with interviews with their PBL tutors to obtain an understanding on the extent to which students were able to integrate and link information in PBL tutorials. Students specifically asked how they linked their learning across the various disciplines and how they related information lectures and practical sessions and clinical skills sessions to the PBL cases.

Summary of results: Case study analysis indicates that first year students are reluctant to use a cross disciplinary approach to their learning. Students are unable to link conceptual lectures and practical sessions to the PBL cases. Clinical skills are not seen as fundamental to the case.

Conclusions: Based on the evidence from this study, the concept of integration needs to be made explicit to beginning students, so that their learning can become more integrated.

10H 5 Applying clinical problem-based learning (CPBL) in the undergraduate nursing curriculum: evaluation of students’ approaches to learning

Sophia SC Chan*, Agnes FY Tzvari, Emmy M Y Wong, Caroline MY Emmy, Alan Wong and NG Patil (University of Hong Kong, Department of Nursing Studies, Li Ka Shing Faculty of Medicine, 4/F, William MV Moeng Bld, 21 Sassoon Road, Pokfulam, Hong Kong, CHINA)

Aim: To evaluate the effect of CPBL on students’ approaches to learning in clinical nursing education

Summary of work: Clinical PBL was launched in September 2004 as a learning methodology in an undergraduate nursing curriculum in Hong Kong. Using a one-group before-after quasi-experimental design, the revised two-factor Study Process Questionnaire (R-SPQ-2F) was administered to compare students’ approaches to learning before and after a period of nursing practicum in which CPBL was implemented. Focus group interviews were used to elicit from students their PBL experience.

Summary of results: Of the 187 students who responded, the R-SPQ-2F scores indicated that for the deep approach to learning, the post-test mean score was higher than that at the pre-test (30.9 vs. 29.0, p = .005). No significant difference was found for the surface approach. Four themes were identified from the focus group analysis: motivation to learn; self-direction in learning; active, interactive and student-centred learning; and enjoyment in learning.

Conclusions: The quantitative and qualitative data suggested that the students adopted a deep approach to learning during the nursing practicum in which CPBL was implemented. The study provided valuable empirical support for the future development and implementation of an evidenced based PBL clinical education model for nursing students.

10H 6 Effect of problem-based learning on emergency procedure skills of graduating medical doctors in Finland - A follow-up study

L Niemi-Murola*, V Remes, J P Turunen and I Helenius (University of Helsinki, Department of Anaesthesia and Intensive Care Medicine, PO Box 340, Helsinki, Fin-00029, FINLAND)

Aim: The aim of this follow-up study was to assess the effect of new educational strategies on training of emergency procedural skills.
Summary of work: An e-questionnaire was sent to all final year medical students in Finland in 2005 (N = 448) in all five medical faculties. The response rate was 65.2 % (N = 292).

Summary of results: Over 90% of the final year students knew the theory of emergency procedures with the exception of pericardiocentesis (26.8 %), planning and starting fluid infusion for dehydrated infant (73.3 %). Resuscitation of a manikin, inserting an intravenous line and taking arterial blood sample had been successfully performed by over 96% of the students. The amount of students working as doctors has significantly increased during past eight years and amount of procedures performed first time at work has increased. Training in a skills lab correlates significantly with successful performance of inserting intra-venous line for an adult (p<0.05) and for a child (p<0.01). The students in the university having an integrated curriculum and skills lab were most satisfied with the amount and quality of emergency procedural skills teaching (p<0.001).

Conclusions: Students at an innovative medical school were more satisfied with their emergency procedural skill teaching than students following traditional programmes.

10I 1 Embedding a Widening Access to Medicine programme in Southampton Medical School
Caroline Blundell*, Sally Curtis and Linda Turner (University of Southampton School of Medicine, Medical Education Unit, Biomedical Sciences Building, Bassett Crescent East, Southampton SO16 7PX, UK)

Background: Southampton Medical School will take its fifth cohort into its successful Widening Access to Medicine programme this October and so increase its entrants from disadvantaged backgrounds. During the last five years this initiative has developed from a pilot programme, based and managed within the university’s widening access faculty, to a mainstream, BM6 programme embedded in the medical school.

Summary of work: The programme has been evaluated against a number of indicators; use of selection methods to meet the target group including socioeconomic screening criteria; profile of the cohort; appropriateness of the curriculum; student performance and progression; student feedback and perceptions.

Conclusion/take home messages: Commitment to and inclusion within the medical school has been crucial to the initiative’s success; Screening criteria are essential to select the target group; Current students use of their virtual networks, online forums, chat rooms and text messaging has revealed a very effective mode of recruitment; Student performance and progression is comparable to the main cohort; Fear of debt is not the huge barrier originally perceived – in the year that top up fees are being introduced applications have risen 73%.

10I 2 Becoming a medical student - what can we learn from the stories of 'non-traditional' medical students in UK settings?
Jonathan Mathers* and Jayne Parry (University of Birmingham, Department of Public Health & Epidemiology, Edgbaston, Birmingham B15 2TT, UK)

Background: In the UK there is currently an emphasis on widening participation to study medicine for certain groups, including students from social classes that are typically underrepresented within medical schools. There have also been increased opportunities over recent years for students from different demographic groups and working backgrounds to study medicine, for example, through the provision of graduate entry routes and courses. This work, designed to explore the experiences of students targeted by this policy, was carried out under the auspices of the national evaluation of the recent and ongoing expansion of medical school places in England.

Summary of work: In depth one-to-one interviews were conducted with medical students from ‘non-traditional’ backgrounds. The interviews were designed to explore how students came to be studying medicine, the decisions and considerations inherent in that process, as well as their experiences to date as ‘non-traditional’ students. Interviews were conducted with students from four English medical schools.

Conclusions: This presentation will outline the pathways that students participating in this research have taken in order to become medical students, and describe the considerations that were undertaken during the decision to study medicine. The implications for widening participation policies will be discussed.

10I 3 ‘Doc Camp’: an intensive physician-led exposure to medicine for US high school students
Jonathan L Carter*, Silvana T D’Alessandro and Tamara K Nary-Erickson (Mayo Clinic Arizona, Department of Neurology, 13400 E. Shea Blvd, Scottsdale, Arizona 85259, USA)

Aim: To describe an innovative one week program of intensive exposure to medicine for US high school students.

Summary of work: Students were selected from high schools in Phoenix, Arizona based on their application, personal statement, and grades. The program was a structured, physician-led one week experience which included hands-on workshops, lectures by physician leaders, and shadowing of physicians in the hospital and clinic. A total of 17 hours were spent during the week directly observing patient care activities.

Summary of results: Twenty-four students have completed the program to date; 19 were female and 3 were members of underrepresented minority groups. Many had no previous exposure to medicine. Several students have returned to do additional shadowing experiences. Follow-up is planned to determine the number who eventually enter medical school. Most students have said that the program strengthened their interest in medicine as a career.

Conclusions: A physician-led intensive one-week observation and mentoring experience with direct clinical contact can be highly effective in motivating high school students towards a career in medicine. Programs of this type could increase the number of qualified applicants to US medical schools.

10I 4 Is there a difference in study performance between students selected by different extracurricular activities?
Louise C Urlings-Stoop* and Ted A W Splinter (Erasmus MC, Institute of Medical Education and Research, Office CF 3.06, PO Box 1738, Rotterdam 3000 DR, NETHERLANDS)

Background: After four years of experimentation, the selection procedure to select better performing medical students has proven to be valid. The procedure consists of two steps. In the first step students are selected on
the quantity and quality of activities before admission to medical school in one of five different categories; (1) health care, (2) academic study, (3) additional pre-university education, (4) management and organization, (5) exploitation of talent for e.g. music. The goal of this study is to investigate whether the selection categories are associated with different study performances.

Summary of work: Every selected student reported activities in at least one category. For these students study rate, defined as number of credits collected during their first year at medical school, is determined.

Summary of results: The selection category is known for 387 students (1: 5%, 2:15%, 3:44%, 4:18%, 5:18%) out of four cohorts. There were no significant differences in study rate after the first year at medical school between each of the five categories (F5,377=1.47, p<.199).

Conclusion: It is the quantity and quality of extracurricular activities, and not type, that plays a role in the selection of better performing students. Data suggest that the underlying factor may be motivation to be outstanding.

10I 5 Are we asking the right questions?
Taruna Bindal*, David Wall and Helen Goodyear (West Midlands Deanery, Birmingham, UK)

Background: By August 2007, a single run through grade replacement will replace senior house officer (SHO) and Specialist Registrar grades as part of Modernising Medical Careers. Consequently the West Midlands Deanery has centralised recruitment of Paediatric SHO rotations, which includes a structured interview in its selection process.

Summary of work: This study examines whether shortlisting and interview scores are reliable in predicting a Paediatric SHO trainee's performance. A questionnaire with 11 performance questions rated on a 6 point Likert scale (1= poor, 6= very good) was distributed to educational supervisors 3 months into post.

Summary of results: The response rate was 61% (54/88), Mean scores for the Likert questions ranged from 4.4 to 4.9. There was no significant difference in performance of the trainee by start date, age, gender, experience or Hospital Trust of either trainee or consultant (p>0.05). There was no correlation between the shortlisting scores or the interview scores and performance at 3 months (correlation coefficients 0.16 and 0.28 respectively).

Take home messages: Interview and shortlisting scores cannot predict a trainee's performance at 3 months. Hence as competition for training posts increases, selection processes will need to become more discriminative in its recruitment.

10I 6 Selecting future general practitioners using the Matrix

Aim: This presentation on behalf of the Probity Group will demonstrate how the National GP Recruitment process in England & Wales is using assessment centres and a matrix to sample core competencies for general practice training. The aim is to present the methodology of the process, rather than validation, to illustrate how we use this approach for GP selection. Limited outcome data may be presented.

Summary of work: The background to assessment centre methodology will be described. General practice selection includes 3 stages. After an MCQ and competency questions candidates are invited to an assessment centre (stage 3). Six competencies are assessed. Each Deanery runs a 3rd stage selection centre. Approved methods are used to assess each competence, including patient simulation, interview, group exercise and written exercise. Each competence is sampled more than once, and each assessment samples 3 competencies. The matrix is used to tabulate the assessments and global assessment.

Conclusions: The assessment centre and matrix provides rigorous assessment of core competencies for general practice. This method would be suitable for selection to other specialties.

Short Communications

10J Assessment 5: Postgraduate Assessment

10J 1 Visual-Analogue-Competence monitoring System: VACS
1 Fog, U Delgaard, K Hervert Petersen and P C Frimodt-Moller (Fredrick Kolding Hospital, Follerup) 67, Fredericia DK 7000, DENMARK

Background: A tool for monitoring competence level was developed, as part of a postgraduate educational project in a Department of Urology and Gynaecology Obstetrics. The tool (VACS) includes five global ratings: 1. Medical theory; 2. Medical Practice; 3. Communication and Collaboration; 4. General view; 5. Prosperity.

Aim: The aim of the study was to evaluate VACS and the objectives of VACS were to support both junior and senior doctors by ensuring formalised, structured feedback.

Summary of work: During 1½ years, all junior doctors made self-assessment and were assessed by the senior staff and selected nurses, once a month. The study included 150 measurements on 29 junior doctors. The tool was evaluated 3 times by use of a questionnaire.

Conclusions: The tool has high validity, reliability, acceptance and feasibility. VACS provides senior doctors with ongoing valid information and it gives junior doctors structured feedback in a systematic way. VACS strengthens self-esteem, and it supports early spotting of poorly performing junior doctors. VACS supports senior doctors' decision making in relation to poorly performing doctors.

Take home messages: VACS supports: standard setting, ensuring structured feedback, assessment of performance, focusing the dialog and keeping educational culture on track.

10J 2 What is the optimal ratings scale for use in multi-source feedback (MSF) to junior hospital doctors?
Andrew Hassell*, Alison Bullock, Andrew Whitehouse, Laurence Wood and David Wall (West Midlands Deanery, Department of Rheumatology, Haywood Hospital, Burslem, Stoke-on-Trent ST6 7AG, UK)

Background/Aim: MSF has a role in formative assessment of junior doctors in the UK. At least 3 models are in use: “Team Assessment of Behaviour” (TABI), mini peer assessment tool (mini-PAT) and the model implemented by the Royal College of Physicians (RCP). These models differ in ratings scale used and space for written comment. TAB has a 3-point scale, mini-PAT a 6-point scale and the RCP model, a 9-point scale. This study explores aspects of the different scales.

Summary of work: Four versions of TAB were produced, the original (TAB3), TAB4 with a 4-point scale, TAB6 and TAB9. Eight hospital trusts were allocated and returned one of the 4 versions of TAB for use with Foundation Year 2 doctors. We compared (i) range of scores awarded and (ii) assessors’ responses to a short questionnaire. For each of the 4 versions, results were available from over 150 assessments and questionnaires.

Summary of results: (1) Widespread use of ‘above expected’; (2) All forms identify individuals with behaviour
10J 3 Intended and unintended outcomes of multi-source feedback (360-degree assessment)
Joan Sargeant*, Karen Mann, Douglas Sinclair, Cees van der Vleuten and Job Metsemakers (Dalhousie University, Continuing Medical Education, 5849 University Avenue, Halifax, Nova Scotia B3H 4H7, CANADA)
Aim: Multi-source feedback (MSF) is a type of formative assessment intended to guide learning and performance change. However, MSF recipients have not consistently accepted their feedback or used it as intended. The purpose of this qualitative study was to increase understanding of the consequential validity of MSF (its ability to produce intended outcomes) by exploring family physicians’ use of their feedback and factors influencing this.
Summary of work: We purposefully recruited volunteer participants from two groups of family physicians who had participated in an MSF pilot: those receiving high (n=25) and average/lower (n=44) scores. We conducted interviews using open-ended questions.
Summary of results: Participants included 12 from the higher and 16 from the average/lower scoring groups. Fifteen interpreted their feedback as positive and did not make changes. Thirteen received negative feedback indicating need for change in one or more domains. Seven reported making changes. Most common changes were in patient and interprofessional communication; least common, clinical competence. Common changes resulted from specific feedback consistent with that from other sources, from credible reviewers.
Conclusions: Findings suggest factors which influence the consequential validity of MSF for physicians, including procedural credibility, feedback usefulness, and its appropriateness for assessing clinical competence.

10J 4 360 degree feedback – how well are we preparing medical students in the UK for the real world?
Dawn Stephenson*, Peter Belfield and Anana Nwuba (The Leeds Teaching Hospitals NHS Trust, Undergraduate Office, A Floor, Gilbert Scott Building, Leeds General Infirmary, Leeds LS1 3EX, UK)
Aim: Doctors use 360 degree assessment or multi-source feedback during the Foundation Programme, and it is likely to be a key measure of relationships with colleagues for revalidations. We surveyed UK Medical Schools to see if 360 feedback is used elsewhere and also checked medical students’ awareness of 360.
Summary of results: Participants included 12 from the higher and 16 from the average/lower scoring groups. Fifteen interpreted their feedback as positive and did not make changes. Thirteen received negative feedback indicating need for change in one or more domains. Seven reported making changes. Most common changes were in patient and interprofessional communication; least common, clinical competence. Common changes resulted from specific feedback consistent with that from other sources, from credible reviewers.
Conclusions: Findings suggest factors which influence the consequential validity of MSF for physicians, including procedural credibility, feedback usefulness, and its appropriateness for assessing clinical competence.

10J 5 Quality assurance of GP appraisal: a 2-year study
Katie Evans* and Malcolm Lewis (Cardiff University, GP Appraisal Unit, School of Postgraduate Medical & Dental Education, Heath Park, Cardiff CF14 5XN, UK)
Aim: (1) To provide an overview of processes used to ensure that the GP appraisal system in Wales is robust, fit for purpose and of value to key stakeholders. (2) To share the outcomes of quality assurance evaluations undertaken during 2003–2005.
Summary of work: The quality assurance processes demonstrate the application of national guidance for quality assurance of medical appraisal as recommended by the National Clinical Governance Support Team (NCGST). Robust internal and external quality assurance processes have enabled us to define and develop standards of practice on a relatively large scale.
Summary of results: These quality assurance mechanisms reveal positive feedback from the vast majority of participants in the process. Both GPs and appraisers report that they benefited from their involvement in appraisal. The study demonstrates that the outputs of appraisal (summary and Personal Development Plan) accurately reflect the content of the appraisal and help doctors to plan their learning, although further work is required with respect to specifying action plans.
Take home messages: Robust quality assurance mechanisms are essential to the continued development and credibility of GP appraisal and to ensure maximum value can be derived. These mechanisms can effectively be implemented on a relatively large scale.
10M Virtual Patients Online – How can you integrate them successfully into your curriculum?

Martin Fischer (Munich University Hospital, Medical Hospital – Downtown Campus, Medical Education Unit, Ziemsenstr. 1, D-80336 Munich, Germany) and Soeren Huwendiek (University Children’s Hospital Downtown Campus, Medical Education Unit, Ziemssenstr. 1, D-69120 Heidelberg, Germany)

Background to topic: Despite the fact that Virtual Patients (VPs) are playing a growing role in medical education, there is little data available on how to integrate them best. Medical educators face several challenges in integrating VPs into their curricula: optional vs. mandatory, individual study vs. group-work, and self-study vs. teacher-supported study. The workshop will explore successful integration scenarios and facilitate participants to formulate their own.

Objectives/intended outcomes: At the end of the workshop participants will (1) become acquainted with principles of successful integration of VPs and (2) will be able to apply these principles to their own educational needs. Format and content: After an introduction to general integration concepts of VPs, participants will have the opportunity to develop their own integration concepts and discuss them with other participants and the facilitators.

Intended audience: Participants with interest in VPs as an educational method (some experience with VPs is preferable).

10N Teaching and learning in the clinical context

10N 1 Anaesthetists’ attitudes to teaching in the operating room
Michael Opharm* and Alison Bullock (West Midlands Deanery, Birmingham Research Park, 97 Vincent Drive, Edgbaston, Birmingham B15 2SQ, UK)

Aim: Identification of Anaesthetists’ attitudes to teaching within the Operating Room (OR).

Summary of work: OR teaching is challenging because anaesthetists simultaneously ensure patient safety. We surveyed anaesthetists attending Royal College of Anaesthetists ‘Training-the-Trainers’ course. Participation was voluntary, anonymous and explored attitudes to OR teaching by rating statements using 6 point Likert scales (6 = strongly agree).

Summary of results: Response rate 31/33. The majority were registrars 14 or consultants 10. Views reported were registrars 14 or consultants 10. Views reported as mean values (max 6, min 1): OR is a good place to learn (5.43); OR teaching is rewarding (5.16), part of an anaesthetist’s life (5.13), enjoyable (4.84) and respondents looked forward to having trainees with them (4.74); OR teaching is challenging (4.1), more so than lecturing (3.8), and associated with patient safety (4.03) and not seeing the same trainee regularly (4.07); While respondents had learnt to teach by observation (4.35) they felt one-to-one teaching should be taught (5.23) and would welcome opportunity to discuss teaching (4.47).

Conclusions: OR teaching is alive and well. Anaesthetists enjoy OR teaching despite the challenges and see the benefit of learning more about one-to-one teaching.

10N 2 Neonatal resuscitation competencies of the final year medical students
W Chandrakachorn* and K Sriruksa (Khon Kaen Hospital, Pediatric Department, Srijam Road, Amphur Maung, Khon Kaen 40000, THAILAND)

Summary of work: Neonatal resuscitation is an essential skill for a new doctor. The teaching session consists of a 45-minutes lecture and hands-on practice with a mannequin. All medical students must practise in real situations under close supervision during the pediatric clerkship. Authentic evaluation in a real situation had never been done in the past. The aim of this study was to evaluate student competencies of neonatal resuscitation at birth in real situations. The evaluation check lists consisted of 3 parts: 1) equipment preparation, 2) resuscitation skills, and 3) APGAR scoring. At the end of pediatric clerkship the resuscitation competencies were assessed with an Objective Structured Clinical Examination (OSCE). Twenty-four students had been evaluated at least twice.

Summary of results: Meconium aspirator (13.24%), endotracheal tube (5.88%) and laryngoscope (5.88%) were the three most common necessary pieces of equipment which students did not use correctly. All students performed resuscitation and assessed the APGAR score correctly. Only one student did not manage the process properly. The mean OSCE score was 81.7 (SD=10) out of 100. Three students (12.5%) had an OSCE never been done in the past. The aim of this study was to evaluate student competencies of neonatal resuscitation at birth in real situations. The evaluation check lists consisted of 3 parts: 1) equipment preparation, 2) resuscitation skills, and 3) APGAR scoring. At the end of pediatric clerkship the resuscitation competencies were assessed with an Objective Structured Clinical Examination (OSCE). Twenty-four students had been evaluated at least twice.

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Conclusion: Using the OSCE method is not enough for evaluation of neonatal resuscitation competencies.

10N 3 Improving work-based learning: a schematic, written report of a selected emergency patient generates more reflection on practice
Thomas Balder* (Aarhus University Hospital, Department of Paediatrics, Brendstrupgaardvej 100, Aarhus N DK-8200, DENMARK)

Work-based learning is concerned with reflection on work practices. In many clinical departments, emergency room patients are reported in the morning at a round, creating opportunities for feedback and reflection. This study, performed in an academic pediatric department, was prompted when residents and staff found that the interaction during the morning report was sparse or absent.

To stimulate interaction and reflective learning a schema for report of single emergency room patients was generated. Age, gender, primary symptoms, findings, working diagnosis, most important differential diagnosis
and suggestions for work-up were included. The residents-on-call daily selected and reported one patient using a single-paged transparency with this schema. A total of 117 reports of emergency room patients, reported during 7 + 7 morning reports, were analysed. Transfer of reporting-skills was assessed by counting of emergency patients reported with an explicit working diagnosis. Reflection on practice was measured by a questionnaire filled in by participants immediately after the report.

The number of reports of patients with explicit working diagnoses was significantly improved. Reflection on practice was also significantly improved. This study suggests that reflective learning can be improved by the use of a simple and highly feasible schema.

10N 4 Teaching pediatric emergency in the emergency room
S Dansawang*, K Sudhorn and Y Jariya (Buddhamahana) Hospital, School of Medicine, 90 Srinathamtripol Road, Amphar Muang, Phitsanulok 65000, THAILAND

Background: According to the curriculum, the pediatric clerkship for medical students included emergency pediatric conditions. In order to develop skill in pediatric care, a teaching program in the emergency room (ER) was set up. Aim: To study the students’ opinion of this ER-based teaching program.

Summary of work: 32 medical students from Naresuan University and 35 medical students from Chiangmai University were rotated to study in ER. Each time they came into the ER, they were required to fill in the questionnaires for feedback. Data from the questionnaires were analyzed.

Summary of results: There were 115 responses. Most of the responders were satisfied with timing for this learning (78.26%), with the number of patients they encountered (71.30%) and with the variety of cases (60%). 57.39% thought that they gained more knowledge from consultation. 80.86% felt confidence in pediatric emergency before this clerkship and increased to 100% after the clerkship. 63.48% recommended this type of learning in another specialties too.

Conclusion: The ER-based teaching program for pediatric emergency conditions results in increased knowledge and skills in emergency care for the pediatric patients. This type of ER-based teaching may be developed in other specialties too.

10N 5 Constructing educational objectives in a course of angiography for physiotherapists
C E Pirciaceto*, D O Grossi, M L V Rodrigues, J F C Figueiredo and T Moriya (Faculty of Medicine of Ribeirão Preto, Depto de Cirurgia, Hospital das Clínicas, Campus USP, Ribeirão Preto SP 14048-900, BRAZIL)

In order to find out about learning Angiography in an undergraduate course of Physiotherapy, an inquiry was carried out with physiotherapists, in contact with hospitalized patients. The sample was composed of 14 practitioners, 7 university professors and 2 students of the Specialization Course who had graduated between 1-16 years ago (median=8), nine of them having academic degrees.

The instrument was an open questionnaire and the results showed that the most frequent vascular problems observed in clinical practice were: venous thromboembolism, ischemic diseases and lymphoedema; most of the physiotherapists used to ask for physicians’ advice in the management of vascular problems; 16 answered positively that teaching in this subject was necessary and more than 50% of the subjects considered it necessary to receive information about clinical and surgical management; one half of them received Angiology classes during their courses; the most frequent suggestions about contents were: surgical procedures (revascularization, amputation), clinical therapeutics, physiology/pathophysiology/

haemodynamics, ischaemic diseases, vascular diseases, lymphoedema, vascular anatomy, epidemiology/prophylaxis, venous thromboembolism and venous insufficiency. This research provided guidelines for the construction of educational objectives in the program design for the course of Angiology for Physiotherapists.

10N 7 Monitoring and developing the culture of clinical education
Hans Ehlert* and Anne Marie Toft Hansen (Holmbjerggade 87, Knebel DK-8420, DENMARK)

Background: The objective was to monitor and describe the culture of clinical education in two different departments. The study was part of a postgraduate educational project, called EDUH.

Summary of work: Semi structured interviews with a representative selection of doctors on a range of issues concerning clinical education resulting in feedback reports. In seminars the doctors reflected on the reports and decided on important developing points. The process was repeated after a year; now including the ability of the departments to implement the decided changes in the organization and the culture.

Conclusions: The ability to reflect on the educational agenda and culture among the senior doctors is important to the way the younger doctors are included. Well-defined goals for the education, introduction to the department and outlining of mutual expectations have a great impact on the ability to learn. Take home messages: No such thing as a general educational culture exists. There are general issues but the meaning and the ability to develop the culture is a matter of specific local conditions, one of which seems to be the interest in developing and maintaining a well functioning culture among the senior doctors themselves.

10N 8 Students’ and clinical teachers’ views on effective clinical education in physiotherapy at Stellenbosch University, South Africa
Dawn Ernstzen (Stellenbosch University, Department of Physiotherapy, Faculty of Health Sciences, PO Box 19063, Tygerberg 7505, SOUTH AFRICA)

The attainment of clinical competence is a key outcome of the Clinical Physiotherapy module in the BSc (Physiotherapy) programme at Stellenbosch University (SU). SU’s Strategy for Teaching and Learning embraces a student-centered approach to teaching. The aim of this study was to investigate what physiotherapy students and clinical teachers at SU view as student-centered teaching in a clinical context. Teaching-learning activities and the role they play in learning production were investigated. A descriptive case study was undertaken. All clinical teachers and physiotherapy students exposed to clinical education during 2005 were recruited. A questionnaire and semi-structured individual interviews generated qualitative and quantitative data respectively. The response rate for the questionnaires was 80%. Findings suggest that demonstrations of patient management should form an integral part of clinical education. Demonstrations should be followed by discussion and appropriate feedback. Formative assessment appears to be a powerful learning tool. Participants’ views related to facilitation of problem solving, clinical reasoning, practical skills and communication skills to achieve clinical competence. Participants had mixed feelings on the efficacy of reflection, peer and self-assessment for learning production. The clinical teacher plays a central role in the students’ clinical learning experience. This role encompasses teaching-learning activities, personal and professional factors.
10N 9 Diagnostic rounds in undergraduate medical education – are they an effective teaching method?
Andrea Praschinger*, Stefan Stegner, Kurt Kletter and Franz Kainberger (Medical University of Vienna, Department of Curriculum Coordination, Center of Medical Education, Spitalgasse 23, 1070, POB 10, Vienna 1071, AUSTRIA)

Background: In winter term 2005 diagnostic rounds were implemented for students in their fifth year of medical education at Medical University of Vienna. The goal has been to teach indication, and interpretation of diagnostic methods to use them correctly in a clinical setting.

Summary of work: Rounds are held bi-weekly by representatives of various diagnostic departments. Casuistics follow the schedule of topics of the academic year (e.g. October: inflammation). A 15-minute introduction is followed by 3-4 case scenarios. Students have the opportunity to collaborate by filling out allocation forms and answering posted questions. After one term students and teachers were questioned if the diagnostic rounds are a potential teaching option to lectures, seminars and clerkships.

Summary of results: 84% of the students indicated that this teaching strategy is appropriate. All students agreed that the teachers have been prepared well. This result is underlined by the fact, that all teachers are convinced, that rounds are an effective way of teaching clinical diagnostics. More than 77% of the students feel more confident about expressing allocation diagnosis; more than 80% are more confident about choosing the essential tests.

Conclusion/Take home message: Diagnostic Rounds are an effective teaching method in undergraduate medical education.

10N 10 Adding a longitudinal family medicine course to the clinical year teaching: acceptance and room for improvement
Nipat Kittritmanon* (Buddhasaenchak Hospital, 90 Srihatトリピドク Road, Muang District, Phitsanulok Province 65000, THAILAND)

Background: The basic family medicine theory and practice start at the beginning of the fourth year for four weeks. We added a longitudinal course; a half-day once a month for seven months was developed to provide students with opportunity to practice with a family in the community.

Aim: To evaluate the outcome and satisfaction of a longitudinal family medicine course.

Summary of work: Self-administered questionnaires were used with 60 students after finishing the longitudinal course.

Summary of results: Two-thirds felt that this course was appropriated in the time schedule. Half of them were satisfied with small group learning with problem-based and evidence-based practice. 80% agreed with 2 home visits practice with teachers. Half of them graded 'good' for appropriate consultation with group staff. Poor teamwork was mentioned as a barrier to learning because of the different rotation of each team member. SDL was hindered by lack of time and insufficient resources. Home visits faced the problem of too long a distance and inadequate transportation. However, 72% were satisfied with this course.

Conclusion: The overall course structure, availability of staff, and student learning experience were acceptable, but time management should be re-considered when implementing the new curriculum.

10N 11 Describing the colours of the internship
Hulyeke Gurkan*, Esra Tekar, Serra Aytunur and Melih Elicin (Hacettepe University Faculty of Medicine, 1 ETAP 9 Sokak, 158/9 Eryaman, Ankara 06930, TURKEY)

Medical education is six years in Turkey; the first three years preclinical, fourth and fifth years clerkships. The sixth year is the internship. The students are called 'intem doctors' and given lots of responsibilities on the wards. The aim of this study was to evaluate the thoughts of medical students about the internship. Preclinical students gave their thoughts and expectations. Students in the clerkships gave their opinions, observations and dreams about the internship. Faculty members defined the aims of internship, and shared their own 'internship stories'. Interns told their problems, anxieties, hesitations and 'learned helplessness'. The colors of the internship from the viewpoint of the students were mostly different in the preclinical years, clerkships, internship and doctors. Preclinical students considered internship as purple, white and black, dark blue. Students in the clerkships dreamed it gray and red. All faculty members remembered it blue. Interns felt themselves colorful or colorless. The feeling that best described the internship for preclinical students was 'hopeful', for students in the clerkships 'worried' and for the interns' 'depressed'. For the faculty members it was an 'unobjectionable opportunity'. When we evaluated their reasons and mood together, we discovered the rainbow of the internship.

10N 12 Differential behaviour of knowledge and clinical skills maintenance after medical student initial training
Fernando T V Amaral and Luiz E A Trancos** (Ribeirão Preto Faculty of Medicine, Department of Clinical Medicine, Hospital das Clínicas, Campus da USP, Ribeirão Preto, State of São Paulo 14048-900, BRAZIL)

Aim: To compare maintenance rates of medical student knowledge and clinical skills one year after initial acquisition.

Summary of work: Fourth year volunteer medical students randomly recruited (N=19) were assessed immediately after an introductory, practical course and one year later. Knowledge about both clinical skills and management topics was assessed using multiple-choice questions. Performance on basic clinical skills (history-taking and physical examination) was assessed with standardized patients on an 8-station OSCE staffed by faculty members using structured checklists.

Summary of results: Scores on knowledge related to clinical skills were higher than on management topics on both the first (7.31±1.0 vs. 5.93±1.2; p<0.001) and second assessment (6.47±1.0 vs. 5.13±1.1), with similar rates of decay throughout the follow-up year. Contrastingly, performance regarding clinical skills improved significantly from baseline up to the second assessment (7.48±0.8 vs. 8.24±0.77; p<0.002).

Conclusions: Medical students are able to improve clinical skills, even when mastery of cognitive aspects deteriorates. This could be explained by either a better initial acquisition of knowledge subsidiary to clinical skills or increased training opportunities.

10N 13 Heart auscultation skills – is the ability to distinguish heart murmurs from normal heart sounds unrelated to diagnostic abilities?
Tommy Nielsens*, Henning Malgaard, Charlotte Ringsted and Bente Eika (Aarhus University, Unit of Medical Education, Vennelyst Boulevard 4, Aarhus 8000, DENMARK)

Background: Despite the widespread use of cost effective auscultation screening of almost any patient admitted to a hospital, very little research has been carried out regarding doctors’ auscultation skills.

Aim: To investigate the auscultation skills of medical students and doctors, by measuring their ability to identify grade 3 cardiac murmurs as well as by measuring their ability to diagnose common cardiac murmurs.

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10N 14 Our model of clinical reasoning: six steps to the clinical diagnosis

Andrey Kuimov*, Vital Kaznacheev and Irina Kuimova (Novosibirsk Medical Academy, Silessevaja 52-20, Novosibirsk 630112, RUSSIA)

Aim: To present our model of the clinical reasoning process based on logical principles of experience-based medicine.

Summary of work: Our concept of experience-based clinical diagnosis (Kaznacheev and Kuimov, 1982) is based on development of the clinical reasoning process from Hippocrates to up-to-date evidence. The first step identifies the patient's anamnesis, symptoms and signs and interpretation of its meaning as the main syndrome - empiric step (by Hippocrates and Halen), pointed to anatomic diagnosis. The second step is the anatomic diagnosis of the defective organ or system (heart, respiratory system, etc.) - anatomic period of medicine by Virchow. The third step is the pathological diagnosis of the defective organ (inflammation, tumor, etc.) - pathophysiological period of medicine by Bernard and Pavlov. The fourth step is the nosological hypothesis or working diagnosis (Barrows, 1978; Elstein, 1978) according to up-to-date classification of disease. The fifth step - the deductive differential diagnosis of this hypothesis (including computer variant). The sixth step - the clinical diagnosis of the patient with etiology (if possible), pathogenesis, functional disorders, complications, prognosis, treatment and secondary prevention.

Conclusions: These logical principles of experience-based clinical reasoning and diagnosis are introduced in phase 3 of the spiral curriculum model of the student's education at the bedside of the patient.

10N 15 The pelvic exam deconstructed: myths and realities

M C Martin*, H Abenhaim and E Turner (McGill University, 5845 Côte des Neiges #600, Montréal, Québec H3Z 1Z4, CANADA)

What is a proper pelvic exam is dependent on whom one asks. The aim of this study was to approach five different cohorts and ask them which aspects of the pelvic examination they felt were important. The five cohorts included medical students, obstetrics and gynecology residents, attending obstetrician-gynecologists, nurses and patients. Twenty five questions were asked and these were subsequently collapsed into four categories. The answers ranged from 'must do', 'should do', 'nice to do' and 'indifferent'. The results, although not all statistically different, validated our thinking that we are ignoring what is important for the patient by listening over-eagerly to advocacy groups and anecdotal methodologies. Our conclusion is that we must listen more to the patient's concerns.

10N 16 A 'driving licence' for placement training: development of a blended learning package for veterinary students

Catriona Bell*, Sarah Baillie, Gill McConnell and Susan Rhind (Veterinary Teaching Organisation, Royal (Dick) School of Veterinary Studies, Easter Bush Veterinary Centre, Roslin, Midlothian EH25 9RG, UK)

Background: In the United Kingdom veterinary students are required to spend 26 weeks undertaking extramural studies (EMS) or placement training as part of their clinical training. The majority of this time is spent in private practices where students watch and then perform procedures under veterinary supervision. As the amount of first opinion clinical material at universities reduces, EMS is an increasingly important way in which students gain experience.

Summary of work: A training pack, comprising a workbook and a DVD, has been produced to help students prepare for EMS and maximise their learning experience. Content was informed by consultation with veterinary surgeons and students, and a series of scenarios was then written and filmed with actors. These included short scenes explaining practice expectations, an overview of the working environment and highlighting common pitfalls. An ongoing evaluation of the package is being conducted with students as part of the development process.

Conclusion: Preliminary feedback has been positive and the training pack is being further developed. Future plans for the EMS ‘Driving Licence’, involve inclusion of further scenarios and an on-line MCQ based test, which students would be required to complete in advance of their first EMS placement.

10N 17 Students’ view on outpatient training during the practical education in pediatrics.

Ulrich Kessler* and Andrea Antolic (Charité, Reformstudiengang Medizin, Rungiusstr. 69, Berlin 12347, GERMANY)

Background: At the reformed track in Berlin in the fourth year medical students attend a pediatric clerkship of two weeks in a hospital ward after studying pediatrics in PBL, seminars and other courses. During winter term 2005/06 a two-day training with a pediatric practitioner was added to the pediatric clerkship in order to give students the outpatient perspective in pediatrics, to see common pediatric cases and children’s check-ups whereas at the hospital clerkship they attend to more severe cases.

Summary of work: Retrospectively a detailed questionnaire was given to the students at the end of the semester to evaluate their experiences and it was statistically analysed. Among socio-demographic data and former experience in pediatrics, satisfaction in regard to organization, seen outpatient cases and support by physicians was asked. Furthermore the interest in pediatrics, desired arrangement of medical clerkships and implementation of practical experience in other medical specialties were issues among others.

Conclusions: Students are content with the opportunity to see common pediatric outpatient and agree with time and effort. They desire to have more outpatient training in different specialties. Outpatient training with pediatric practitioners should become a regular part of the pediatric clerkship besides hospital training.

10N 18 Education of physical examination of the location and size of the liver and spleen improved by checking with ultrasound

S Kolkmann*, P Roedenburg, C Tipker-Vos and M Maas (AMC, Meerdorp 24, Amsterdam 1025 LB, NETHERLANDS)

Background: In the second year of the medical curriculum, medical students learn the physical examination of the liver and spleen by percussion and palpation. The use of direct ultrasound comparison enables direct feedback on the accuracy of the percussion and palpation performed by the student.
Summary of work: After theoretical training, a hands-on training session focusing on the liver and spleen detection is followed. One session consists of 20 students and lasts 1½h. The supervisors are a general practitioner and a radiologist.

The students work in pairs. Through percussion and palpation the students locate and annotate the position of the liver and the spleen on each other’s skin. The findings are checked by ultrasound examination.

Conclusions: 95% of the students state that checking of the findings of physical examination by ultrasound is of great additional value. 61% students are now more confident in performing physical examination of the liver and spleen and in 73.5% an increased three-dimensional view of the location of the liver and spleen was provided by the use of ultrasound.

Take home messages: Ultrasound is of great value in the education of physical examination.

10N 19 The study of clinical skills in midwifery students and the factors affecting it

Fereshteh Athari (Ahwaz Jundishapur Medical Sciences, Faculty of Nursing and Midwifery, Ahwaz 61531, IRAN)

Background: The best way to improve clinical practice is use of a practical evaluation and feedback system.

Summary of work: Data were gathered by a questionnaire containing 20 questions about clinical skills. The questionnaire was completed by 50 final term B.S. midwifery students. Mean scores were determined and Gorman Classification was used for final analysis.

Summary of results: 70% of students in B.S. level were moderate and 25% were weak in 17 skills. They needed guidance and to repeat the practical course. 20% were moderate and 25% were weak in 17 skills. They needed guidance and to repeat the practical course. Conclusion: We suggest to the planning authorities that the practical course.

10N 20 Survey of nursing students view about clinical education conditions in Tehran School of Nursing

Alireza Khatouni*, Fatemeh Darabzey, Yekta Parsa, Farhard Ramezanizadeh Bado, Yadollah Seiavsah Toherb and Darzamere Negad Ahmadzeza (Tehran School of Nursing and Midwifery, PhD Department, Tohid Square, Tehran, IRAN)

Aim: The purpose of this descriptive-analytic study was to assess nursing students’ view of clinical education conditions.

Summary of work: The participants were 91 undergraduate nursing students from Tehran College of nursing and midwifery. Data were collected by questionnaire (Likert type) containing 5 parts: demographic characteristics, educational planning, clinical instruction, medical care team performance, and educational equipment and space.

Summary of results: Most of the students’ views (44.3%) on educational planning were moderate; on clinical instruction were good (42.9%); on health care team were moderate (45.7%); and on educational equipment were moderate (62%).

Conclusions: In general, most of the participants’ views about clinical education conditions were moderate. Also there was no significant relationship between demographic characteristics of participants and their view about clinical education conditions.

10N 21 The effect of clinical supervision program application on nursing students skills from their viewpoints in Jahrom Medical School

Fateme Beyazadeh (Jahrom Medical School, Jahrom 74748, IRAN)

Aim: The main purpose of this study is to evaluate the effects of clinical supervision on nursing students’ skills including interpersonal and communication.

Summary of work: This is a quasi-experimental study in which 100 nursing students under clinical training were selected by simple sampling method and were divided into two case and control groups. The data were collected by questionnaire. For the case group, clinical supervision was applied by a staff member and an instructor for a two week period while that of the control group was a two week nursing practice conducted only by an instructor.

Summary of results: The findings showed that according to the students the differences between the means of interpersonal, professional and communication skills and total skills in pre- and post-application of clinical supervision were statistically significant in the case group but not significant in the control group.

Conclusion: The results indicate that designing clinical courses based on a clinical supervision model can promote interpersonal, professional and communication skills of the nursing students.

10N 22 Opinions of nursing and midwifery students regarding effective clinical instructor in Universities of Medical Sciences, Tehran, 2004

F Pazandez*, K Abedelyan, Sh Jannesari and M Sepehvand (Shahid Beheshti Medical Sciences University, No 1 soroush, St, Hormozan Ave, Shahroud-e-gharb, Tehran, IRAN)

Background: Clinical training as the core of professional education is very important in nursing and midwifery education with many resources provided. Clinical instructors are considered as the basis of clinical training with great effects in educational outcomes, but their characteristics are not clearly identified.

Aim: This descriptive study was conducted to identify the characteristics of an effective clinical instructor according to the opinions of nursing and midwifery students in universities of Tehran in 2004.

Summary of work: The opinions of 882 students were asked by a questionnaire in two parts. The first part was related to demographic information and the second part consisted of statements regarding the characteristics of an effective clinical instructor in five domains (professional competence, personality characteristics, interpersonal relationships, educational skills, and students’ evaluation). Each statement was ranked on a 5 point Likert scale. Validity of the questionnaire was achieved by content validity and its reliability was measured 0.78 by Cronbach’s alpha coefficient. The subjects included all junior and senior nursing and midwifery students of Shahid Beheshti, Tehran, and Iran universities.

Summary of results: Almost all students agreed with the statements of the characteristics of an effective clinical tutor with some differences in the domains. Students emphasized mostly on the personality domain and students’ evaluation got the lowest emphasis. There was a significant relation between such variables as age, year of education, interest in university in terms of educational facilities and the rate of agreement regarding an effective clinical tutor.

Conclusion: Students focus on all aspects of characteristics of their clinical instructor, not only on their professional competencies.


10O 1 A survey of major ambulatory based teaching in Thailand: results and recommendations

Darawan Tawaythong* (Ratchaburi Hospital, Office of Medical Education Center, BS Somboonkul, Na-Muang, Muang District, Ratchaburi, THAILAND)

Aim: To show the need of faculty development program in Thailand.

Background: Ambulatory medicine training in Thailand is at an early stage as it was for other countries including Great Britain, Australia, Canada etc. several decades ago. A survey was conducted to evaluate the needs for a faculty development program in Thailand by evaluating medical students' and residents' satisfaction in an ambulatory rotation.

Summary of work: A 40 item questionnaire adapted from MedEd IQ questionnaires was posted on a webpage and distributed to 12 Academic Medical Centers.

Summary of results: Results show that more than 30% of medical students experienced a negative impression on their ambulatory rotation due to preceptors' lack of teaching skills.

Conclusion: Ambulatory teaching in Thailand is in the process of development. One of the most important areas that should be improved is preceptors' teaching skills. Implementing a faculty development program in the near future is to be considered by the Office of Collaborative Project to increase Rural Doctor Production, Thailand.

Take home message: Organizing faculty development programs is paramount in order to improve medical students' satisfaction and learning outcomes in ambulatory rotations.

10O 2 A student centred approach to curriculum development

Penny Lockwood* and Fiona Muir (University of Dundee, Tayside Centre for General Practice, Mackenzie Building, Kirsty Semple Way, Dundee DD2 4BF, UK)

Aim: To describe a method of placing the student at the heart of learning and present the outcomes

Background: The Doctors, Patients and Communities course at the University of Dundee Medical School engages students from the outset of their career to explore student-centred learning. Effective education requires exploration of the students' educational needs and aspirations to provide a course which places students at the heart of learning.

Summary of work: Focus groups have been set up to explore student-centred learning. Effective education requires exploration of the students' educational needs and aspirations to provide a course which places students at the heart of learning.

10O 3 Introductory courses to develop basic competences

Manuel João Costa*, Ana Salgueira, Joaquim Pinto Machado, Raquel P Andrade and Pedro Oliveira (Universidade do Minho, Medical Education Unit, School of Health Sciences, Gualtar Campus, CPII, Piso 3, Braga 4710-057, PORTUGAL)

Aims: We present an integrated introductory four week course and results of its impact on student competences based on self-evaluations.

Summary of work: Repeated observations reveal that students may reach Medical Schools ill equipped with basic competences. Introductory courses are useful for giving students a good start. “Introduction to the medical degree” is the first curricular unit of the study plan of the University of Minho’s medical degree. The course aims at training transversal competences, such as the use of computers, the application of descriptive statistics, building presentations, laboratory and team work. Learning objectives, covering the cognitive, psychomotor and affective domains, are integrated into three training modules. The course’s impact on student competences was assessed from their answers to a questionnaire presented at the beginning and end of the course.

Summary of results: Statistical analysis was based on Wilcoxon’s non parametric test to the answers of two student cohorts (n=120). Significant positive variations were identified in the use of computers, some laboratory components, statistics and team work.

Conclusions: There is a positive impact of this Introductory course on students' basic competences. The results emphasize the importance of addressing basic competences at the entrance to the medical degree.
100 4 Developing generic skills through early years Student Selected Components
P Stark*, J L Burton and N D S Bax (The University of Sheffield, Academic Unit of Medical Education, 85 Wilkinson Street, Sheffield S10 2GZ, UK)
Background: Tomorrow’s Doctors (GMC 2002) requires UK medical curricula to have a core curriculum of 66% to 75% of the overall course and a Student Selected Components (SSCs) programme of between 25% and 33%. At the University of Sheffield, the SSC that will be programmed in the first two years (Phase 1) aims to develop key generic skills throughout the continuum of medical education.

Summary of work: The new curriculum at the University of Sheffield was introduced in September 2003. SSCs make up 25% of the overall MBCHB course and 28% of Phase 1. Phase 1 SSCs aim to develop IT and information literacy; an understanding of professionalism, critical analysis skills, patient safety and interprofessional working and research methodologies. The SSCs are summatively assessed and all assessments include a professional behaviour element. Assessments include written reports, reflections, peer-reviewed oral presentations and the production of a patient information leaflet.

Conclusions: A defined early SSC programme guides students through a learning pathway, encourages self-development and enhances a range of generic knowledge and skills essential for the self-directed and lifelong learner.

Take home messages: Allowing students to determine the content of their learning in this way is educationally valuable and appreciated by the students.

100 5 Consequences of local curriculum development and national legislation on behavior and attitudes of medical students
Johann Pfeiffer-Wolf, Stefan-Marie Bartusche and Volkhard Fischer (Hannover Medical School, Rectors Office, OE 9103, Carl-Neuberg Str. 1, Hannover D-30623, GERMANY)

The classical idea of studying should be activated by the Bologna-Declaration. But the political constraints on the content of a medical curriculum do not enable the necessary attitudes at least in Germany. Students will be rewarded for studying in a short time not for making experiences and broadening of their medical skills.

The curriculum reform in Hannover, Germany intended to facilitate Student exchange. Due to legal restrictions the resulting demands produced an atmosphere more similar to “Modern Times” than to the classical idea of an academy.

100 6 The revamped undergraduate anaesthetic curriculum: the Singapore General Hospital Experience
S M Tay* and B L Lim (Singapore General Hospital, Outram Road, Singapore 169608, SINGAPORE)

Aim: To demonstrate the positive impact of a revamped and responsive anaesthetic curriculum on undergraduate learning and meaningful learning experience for both learner and faculty.

Summary of work: Educational pedagogy is increasingly being scrutinised. Traditional educational values are being reevaluated, eroded. Increasingly the active, lifelong independent learner is the desired educational goal. In June 2002, the Yong Loo Lin Medical School effected a revised curriculum and implemented it through the associate deans of the respective hospitals; aimed to prepare them for their exit OSCE.

Conclusion: This attention intensive approach is taxing but the students’ learning experiences have been fruitful and meaningfully engaging according to both student and faculty feedback.

100 7 The supercase method facilitates integration of basic and clinical science and cooperation between students in multi-stage of interdisciplinary courses
Hans Gyllenhammar*, Sofia Emerst, Loghman Henareh, Agneta Månsen-Broberg and Birgitta Björck (Karolinska Institutet Huddinge, Department of Medicine, Institution for Medicine, MS4, Stockholm SE-141 86, SWEDEN)

We studied integration of basic and clinical science in two settings of heterogeneous groups of students. In one line of study we focused on medical students from different stages of their basic education. In the other we studied interdisciplinary education for nursing- and medical students. We used two-week modules and assessed student activity, interaction and fulfillment of learning goals. First we used a traditional curriculum with lectures and demonstrations. This offered several problems with the heterogeneous groups – either too advanced for some or too basic for some. Then we developed a different case-centered strategy. The case, which most often was a patient currently treated at our hospital, was the curriculum – thus the term supercase. The following steps were included: (1) the course leader and students agreed on learning goals. (2) The students were presented with the case and their learning for the module was always to relate to the case. (3) Lectures, demonstrations and seminars were presented as a menu and students selected those of importance for their own learning. (4) At the end of the module the students chaired a large-group case seminar on their case for the other students in the course. Our results show much improved student activity, cooperation instead of competition, and excellent fulfillment of learning goals.

100 8 Assessment of content integration in a multidisciplinary unit through analysis of students’ outcomes

Aims: Evaluation of the effectiveness of discipline integration in a multidisciplinary Curricular Unit through analysis of students’ outcomes.

Summary of work: “Biopathology and Introduction to Therapeutics” is a Curricular Unit, integrating the disciplines of pathology, microbiology, genetics, immunology and pharmacology, structured in thematic modules. The assessment of this Unit includes five modular examinations, with multiple choice questions (MCQ) including at least 3 disciplines. Non-parametric tests were applied to analyse students’ (n=95) marks in every modular examination (n=10) to determine correlations between students’ marks in the different disciplines and their overall MCQ module marks. This study corresponds to two academic years.

Summary of results: For all modular examinations, there were positive correlations between individual disciplines and total marks. Differences in strengths between correlations were found, which were significantly associated with the discipline’s relative weight in a particular exam, but not with a discipline along the academic year.

Conclusion: These results suggest that although students did not neglect any discipline, they concentrated their manual ventilation, oral airway and laryngeal mask insertion, laryngoscopy and endotracheal intubation. Mentors also facilitate the coverage of core curriculum topics on a one-to-one basis. Students undergo in-house OSCE training to prepare them for their exit OSCE.
efforts on the one of the highest relative weight. This raises interesting reflection points for the development of integrated Curricular Units and for curriculum developers who are interested in adopting these educational strategies.

10O 9 How to make a B.Sc (Hons) a core part of an integrated medical curriculum
Simon Guild (University of St Andrews, Bute Medical School, Bute Medical Building, St Andrews KY16 9TS, UK)

Students at the Bute Medical School now undertake a new curriculum designed to award them a B.Sc Honours before continuing with their clinical training. The challenge of introducing this new curriculum was to meet the requirements of a scientific Honours degree while retaining the needs of a medical education programme. This was achieved by specific curricular and assessment adaptations. The new programme delivers the foundations of medical science through an integrated curriculum with a strong clinical context. There is a formally taught knowledge stream supported by self-directed learning elements designed to encourage the application of medical sciences to clinical problems. Clinical context is provided by a customised series of patient-based tutorials. Clinical experience is offered in the form of patient contact through primary care initiatives, hospital attachments, family interviews and GP attachments. The spiral nature of the curriculum permits the scientific progression and the opportunity to conduct a lab-based research, community-based or library project to an advanced level necessary for an Honours degree. The new curriculum adapted assessment methods recommended by the Scottish Doctors' document to measure competency, proficiency and permit the discrimination between students required by the awarding of a classified Honours degree.

10O 10 Integrated musculo-skeletal teaching and traditional study: a comparison
Shekhar M Kumta* and James Ware (The Chinese University of Hong Kong, Department of Orthopaedics and Traumatology, Prince of Wales Hospital, Room 7403 5/F, Clinical Sciences Building, Shatin, NT, HONG KONG)

The benefits of integrated teaching for long term retention and the enhancement of developing student skills were determined using recognition of abnormal gait. Gait was taught in a large group tutorial with a presentation of numerous cases illustrative of different gait abnormalities in the New Curriculum (NIC). Two years later the students in the NIC entered an orthopaedic clerkship. Several groups of students were randomly chosen to test their retention of gait recognition skills (n=68). A similar selection of students (Med Year III) from the old curriculum were chosen and tested at the end of this clerkship (n=64). Additionally, 49 volunteers were tested after the completion of a second orthopaedic clerkship.

Less than one fifth of the Med Year III students (18%) in the old curriculum achieved the minimum standard while 40% of students in the NIC retained the skill more than two years after being introduced. The 49 student volunteers about to take their final graduation examinations achieved a 49% success and an overall passing rate with minimum skills of 56%, compared with 12% and 18% respectively for Med Year III students in the old curriculum and 28% and 40% for the Med Year III students in the NIC.

10O 11 Training needs assessment on the teaching of physical medicine and rehabilitation among graduates: implementation of integrated curriculum
Punjit Wannapirat*, Wiroj Wannapira, Yongyos Jariya and Supasit Pannaratthi (Buddhachinaraj Hospital, School of Medicine, 50 Srithamtripod Road, Amphur Muang, Phitsanulok 65000, THAILAND)

Background: The medical curriculum of Naresuan University will change from discipline-based to an integrated outcome-based approach in the next few years. Physical medicine and rehabilitation (PM&R) at Buddhachinaraj Hospital School of medicine was taught during the fifth year of the six-year curriculum in a 2-week rotation. To affirm a good direction of new curriculum development, needs assessment was performed on medical graduates regarding their roles related to PM&R.


Summary of results: 56% of mailed questionnaires were returned and data analysed. 80% graduates worked in the rural hospitals. The three most common PM&R practices were handicapped certification, therapeutic exercises, and bed positioning. According to the types of patients that might need PM&R care, the three most common were cerebrovascular diseases, musculoskeletal pain, and fracture of extremities. Reasons given for not providing PM&R care were lack of time (86%) and there were others who were responsible (53%). Most of them (41%) suggested a 4-week course instead of a 2-week course, and continued teaching during the fifth year.

Conclusion: A longer, integrative and practical course in PM&R teaching is recommended for curriculum change according to the practices needed.

10O 12 The development of fourth year medical students’ outcome evaluation form on the integration of family medicine and surgery at Chonburi Medical Education Center, Thailand
Sairat Noknay*, Somprasong Tongmee, Saranya Atikasvetparit and Malinee Punyaratbandhu (Chonburi Medical Education Center, Chonburi Hospital, Chonburi 20000, THAILAND)

Background: The research was undertaken as part of an ongoing study as part of the development of Family Medicine education to implement a longitudinal education for fourth year medical students. Family medicine topics were taught at the beginning of the year. Then there was integrated teaching between family physicians and surgeons during the surgical rotation.

Aim: To analyze the teachers’ ability to assess medical students using an evaluation form. The outcomes evaluated were communication skills, the holistic approach, medical ethics and professional law, the role of doctors and social responsibility, professional and personal development, leadership and teamwork.

An evaluation form was developed using Rubric scoring system. Spearman Ranks correlation test was used as the method of analysis.

Summary of results: There was significant correlation in 12 of 15 indicators. The topics in which we found correlations were: patient-centered approach, motivational enhancement skill, comprehensive care, health promotion, continuity of care, personalized care, optional care, cost-effectiveness of management, roles of doctor and social responsibility, and information searching and handling skills.

Conclusion: Many conclusions can be made using the Student Outcome Evaluation Form. Further research is needed to improve the quality of the evaluation forms so that more specific conclusions can be made.
10O 13 Assessment of professional competency perception before and after integrated cardiopulmonary clerkship module of year four students

Y Günsel, M Demiroren*, F Dokmeici, F Ozuyurt, T Aktug, E Erden, M Gunes, A Erden, N Unal, B Hatasay, S Kocak and G Nergizoglu (Ankara University, Departments of Medical Education & Pediatrics, Faculty of Medicine, Morfoloji (Dekanlik) Binası, Sihhiye, Ankara 06100, TURKEY)

Background: Professional skills education in Ankara University Faculty of Medicine is structured as basic skills education in years 1-3 and clinical skills education in years 4-5. Clinical skills training may either be a repeat of a basic skill in a clinical environment or learning of an advanced one. The present study was undertaken to compare the competency perception of students related to seven professional skills gained during grades 1-2-3 and repeated during grade four, before and after cardiopulmonary clerkship module.

Summary of work: Competency perception was taken for ‘history taking,’ ‘pulse examination,’ ‘heart examination,’ ‘pulmonary examination,’ ‘pulmonary x-ray assessment,’ ‘rational prescription’ and ‘blood pressure assessment.’ The scores of 63 students (91.3%) who completed the questionnaire on competency perception before and after their cardiopulmonary clerkship education were compared via paired t-test for any statistical significance.

Conclusions: The mean competency perception scores were found to be higher for six of the skills (three of them statistically significant), after clerkship education. Moreover, mean scores reached 85-94% of the maximum score except for ‘rational prescription’ whose score was found to be significantly lower.

Take home message: A spirally structured curriculum is effective for strengthening the competency perception of professional skills education as well.

10O 14 Student assessment model of the clerkship program in the new curriculum of University of Ankara Faculty of Medicine

S Arsan, F Dokmeici, S Karayaycin, M Gurel*, M Demiroren, S Kemahli and T Cengizcioglu (Ankara University, Departments of Medical Education & Pediatrics, Faculty of Medicine, Morfoloji (Dekanlik) Binası, Sihhiye, Ankara 06100, TURKEY)

Background: Ankara University Faculty of Medicine has changed to a student-centred, integrated, problem-based hybrid curriculum from a traditional, lecture-based one. The clerkship years 4 and 5 are organised in four 10-week blocks which integrate both the pre-clinical and clinical disciplines. Turkey is a developing country; the health care providers are expected to comprehend the importance of preventive public health strategies as well as the integrated management of childhood and women's diseases.

Summary of work: The clerkship program of Ankara University is comprised of 8 clinical modules, 6 of which depend on organ system based integration of the clinical disciplines. The remaining two modules take place at the 5th grade and depend on gender and age based integration: “Women's Health-Reproductive and Public Health Module” and “Child and Public Health Module”.

Specific aims of the preclinical courses, courses that represent a public health point of view and Radiology and Nuclear Medicine – under the course name of “Medical Imaging”, are all distributed among the 8 modules.

Conclusions: A new integrated clerkship program aimed to meet universal and national needs is presented.

Take home messages: Both the universal and the national needs should be taken into account in deciding on medical curricula.

10O 15 Integration model of the clerkship program in the new curriculum of University of Ankara Faculty of Medicine

S Arsan, F Dokmeici, S Karayaycin, M Gurel, O Tiryaki-Aydintug*, S Kemahli and T Cengizcioglu (Ankara University, Departments of Medical Education & Pediatrics, Faculty of Medicine, Morfoloji (Dekanlik) Binası, Sihhiye, Ankara 06100, TURKEY)

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Conclusions: A new integrated clerkship program aimed to meet universal and national needs is presented.

Take home messages: Both the universal and the national needs should be taken into account in deciding on medical curricula.

10O 16 The cognitive apprenticeship and situated learning theories and curriculum reform in the Faculty of Medicine, Cluj-Napoca, Romania

Valentin Muntean* and Nicolae Miş (University of Medicine and Pharmacy ‘Iuliu Hatieganu’ Cluj-Napoca, Department of Surgery, CF University Hospital, 5 Observatorului 58, Cluj-Napoca 400500, ROMANIA)

Aim: We present our model of the medical curriculum, grounded on the theories of cognitive apprenticeship and situated learning.

Summary of work: The proposed analogy for learner evolution is “the clonal selection” and the analogy for medical teaching environment is “the sushi restaurant”. The clone evolution depends on the growth factors available; the individual clone should be free to choose the growth factors it needs. The integration of the theory and the practice is done by the diversity of communities of practice the learner is exposed to during the training period. The learning starts with seeing and doing under experts guidance and continues with the social and professional activity. The information support is the University Intranet, imagined as a www information, filtered by the communities of practice in our University.

Conclusions: Our curriculum, competence-based reform, is grounded on modern educational theory, in a medical environment characterized by an increase of specialization and team approach to problem solving.

Take home messages: The education in medical professions is a continuous, life long process, the result of active involvement in different learning opportunities in specific communities of practice.
10O 17 The pyramidal analysis allows the course of biochemistry and molecular biology to organize the clinical practice of medical students

Fedelrico Martinez*, Alicia Can, Rebeca Milan, Noemi Menza and Oscar Flores-Herrera (UNAM, Departamento de Bioquimica, Facultad de Medicina, Apdo. Postal 70-159, Mexico D F 04510, MEXICO)

Aim: The biochemistry and molecular biology course was structured for medical students.

Summary of work: The teaching of biochemistry and molecular biology is necessary and fundamental for medical students, since it gives them a scientific, analytical and structured thought to understand the different metabolic pathways. However, the scientific findings are more rapidly increasing than the information students are acquiring. Therefore, it is essential to give a suitable orientation to programs of biochemistry and molecular biology given to medical students. The authors of this research work suggest biochemical themes to be classified using a pyramidal system according to their importance for future clinical practice.

Summary of results: The course of biochemistry and molecular biology was divided into fundamental, intermediate or basic knowledge. Their clinical relevance was assigned to each area of knowledge. It was also determined if this knowledge should be evaluated, as well as the number of teaching hours needed for each topic. With this point of view, each pyramid reaches a medical application.

Conclusions: The pyramidal method let us determine a coherent and cohesive sequence to teach biochemistry and molecular biology in which the teachers as well as the student know what to teach and what to learn. This work was supported by Grant EN206603 from DGAPA, National Autonomous University of Mexico.

10O 19 How does early exposure to inpatient settings influence medical students’ attitudes toward teams?

Carol S Hodgson*, G Guittin and R Deterding (UCHSC, School of Medicine, 4200 E. 9th Ave, C299, Denver CO 80262, USA)

This study describes an innovative activity to introduce students to the culture of the inpatient setting at the end of their first semester. Taking the role of an anthropologist, students observe, study, and discuss the culture of inpatient units and health care teams with the goal of describing the roles of health care team members and understanding the patient’s perspective. After an orientation session, students spend 2 half-days on a team, followed by a small group debriefing session. A 28-item questionnaire assessed students’ attitudes toward health care teams’ efficiency, their contribution to patient care, communication within a team, and the physician’s role on the team on a 1 (Strongly Disagree) to 5 (Strongly Agree) scale. Analyzed using paired t-tests, all pre-post differences are significant at p < .001. After observing, students saw team time as more productive. They saw team communication as a way to improve patient care decisions and team members’ satisfaction. Yet they thought physician leadership, even to the extent of overriding team decisions, was more important than they had pre-test. Unstructured responses focused on the competencies and role of the third-year students in the team. Early exposure to inpatient settings provides a framework for the culture of medicine.

10O 18 The problems of working out a curriculum under existing conditions in Russian medical education

Vyazmin Alexander (Northern State Medical University, Troitsky 51, Arkhangelsk 163000, RUSSIA)

The State Educational Standard is the main guideline document in Russia which regulates the content of educational activity. Based on the State Educational Standard, there is the professional educational program, the main part of which is the curriculum. At the present time, we are creating the curriculum of the third generation. It will be developed by 2007-08. New curricula are supposed to differ from the present one. All these changes are because of the European educational system integration in the context of Bologna Agreement. The main direction of modification is the transition to the ECTS system. Therefore it is important to avoid the mechanical approach to converting the students’ study hours into ECTS units, the sum of which have to reflect all kinds of students’ activity. Keeping in mind the State Educational Standard, for united educational space conservation, we should think about maintaining an all-Russian and regional programs balance. One more fundamental problem is the correlation and content in blocks of disciplines. It is especially relevant taking into consideration the fact of switching into a module-rating system, which would be one of students’ mobility factors. During the development of the new curriculum, the problem of correlation between the doctors’ clinical and theoretical practice will be discussed, taking into consideration the training continuation in internship and residency.

10O 21 Continuous and systematic evaluation as a tool for creating a self-restoring program: experience of Ege University School of Medicine

Keverer Vatansever*, H Ibrahim Durak, Meltem Ciceklioglu, Gulsen Kandiloglu and Abdullah Sayiner (Ege University Medical Faculty, School of Medicine, 834 Sok, No:36 Bornova, Izmir 35040, TURKEY)

Background: Program evaluation aims to create a self-restoring program. Ege University School of Medicine has implemented its new curriculum since September 2003 and a continuous and systematic evaluation system was established.

Summary of work: The evaluation system is composed of: Planning Group of Educational Committee (PG-EC), Program Evaluation Board (PEB), Block Executive Boards (BEBs) of first three years, and Department of Medical Education (DME). PG-EC is assessing evaluation needs and following-up the system; PEB is developing instruments, collecting data, BEBs are preparing block reports, DME is processing and analysing data. By two expert panels, a matrix of the variables, information sources, and data collection methods was obtained. Variables are: management, organization and logistics of the curriculum; instructional activities and materials; teachers; student development and motivation; and assessment methods. Methods used are: questionnaires; interviews; test analyses; and document analyses.

Conclusions: The evaluation system using multiple quantitative and qualitative methods and providing information on relevant elements to target groups, has become a vital part of instructional activities. The first two years’ evaluation provided evidence of continuous improvement.

Take home messages: Evaluation embedded into curriculum development from the beginning, and involving and informing target groups, helps to follow-up and improve the program as a whole.
10O 22 The value of diagnostic and treatment guidelines for the educational process
Murotkul Marupov*, Mavlon Marupov and Jamal Ergashev (Samarkand State Medical Institute, 27 Arabxona Street, Samarkand 704441, UZBEKISTAN)

Background: Reform of public health services and the educational system require the introduction of new approaches to teaching. They also require a new approach to training of staff (general practitioners).

Summary of work: The Samarkand State Medical Institute including the entire clinical department designed the guidelines for diagnosis and treatment, categorised into 3 groups (surgical, pediatric and social diseases). The guidelines for diagnosis and the codes were updated according to ICD - 10. The naming of procedures and the codes for consulting the specialists, the diagnostic procedures, laboratory and functional research and methods of treatment were unified and agreed. The duration of treatment and guidelines on diagnostic procedures were fixed depending on the gravity of disease, and also the average time of observation after treatment and after the conducted pharmacotherapy were determined.

Conclusion: We hope that the guidelines for diagnosis and treatment will lead to improved teaching in clinical subjects and to highly educated doctors.

10O 23 Comparison between the curricula of four medical schools in Jordan
Nayef AL-Gharaibeh* (Hashemite University, PO Box 2149, Irbid, JORDAN)

The aim of the presentation is to share expertise about the modular curricula and to gain additional information from other medical schools on the comparison between the modular curricula of 4 medical schools in Jordan. The phases of education and the differences in each phase in those medical schools will be outlined. Each school has its own philosophy on the benefits of those differences. Overall the four curricula share similarities and taking the modular style as a core, there are differences in the distribution of disciplines.

10O 24 An alternative in pharmacology education model
Y Uresin, Z G Uslu*, S Sabirli and L Eroglu (Istanbul Faculty of Medicine, Department of Pharmacology and Clinical Pharmacology, CAPA, Istanbul, TURKEY)

Pharmacology, the bridge between basic and clinical sciences, has a special place in medical training. Accordingly, in Istanbul Medical Faculty, the courses were expanded to 3rd, 4th and 5th years. Pharmacology education took place along with basic sciences in the later years and is based on active learning methods. In the fifth year course, the main purpose is to develop students’ critical thinking, problem solving techniques, self-learning skills and judgement to make rational choices between therapeutic alternatives by means of active learning processes. In the examination students are allowed to use whatever resources they choose - reference books, literature, journals, and so on. In this study we looked at the students’ structured feedback about course goals and evaluated the correlation between the resources used in the examination and the final scores. Among the responses the most scored phrase was “I did not face any difficulty to follow up the course program." “My presentation capacity was improved" and “I realized the importance of considering cost beyond the efficacy and tolerability when making rational choices between therapeutic alternatives”.

10O 25 Attitude of faculty members of Kashan University of Medical Sciences about course planning
Z Vakili*, M Mahidian, F Saberi, S Mirazadeh, M Hosseinian and R Moniri (Kashan University of Medical Sciences, Department of Pathology, PO Box 87155 111, Kashan, IRAN)

Background: Considering the importance of course planning in the teaching process and the supervision of its preparation is a duty of the EDC curriculum planning committee. This study was done to gather the views of faculty members about its ability to determine problems and to solve them.

Summary of work: In a descriptive study a questionnaire containing 10 questions including necessity and advantages of course planning, the adequacy and performability of subjects by the EDC, satisfaction of faculty members with its performance and their evaluation of prepared course plans was designed and distributed to 152 faculty members and teachers of various faculties. Results were analyzed with statistical tests.

Summary of results: Of 152 questionnaires 128 were returned (84.2%). Results showed that 78.9% of persons believed in the necessity of course planning. Sixty-eight percent believed in its usefulness. 36.7% believed the educational subjects were adequate and 31% believed that the educational subjects were performable. 35.9% were satisfied with the course plan performance. 66.4% agreed with the evaluation of their course plans.

Conclusion: Faculty members had a positive attitude about course planning. It seems that with good supervision in course planning and suitable feedback to faculty members this process can be improved.
10P 1 Biomedical subjects teaching in the medical and health study programmes
E Kralova*, E Kuikurova, L Bergendi, P Traubner and M Bernadic (Comenius University, Institute of Medical Physics and Biophysics, Faculty of Medicine, Sasinkova 2, Bratislava 81372, SLOVAKIA)

Theoretical and practical teaching of biomedical subjects in medical and health study programmes is specific and requires modern teaching methods, procedures and didactic means including the context-based approach supported by information and communication technologies. In the last four academic years, pedagogical investigation using an anonymous questionnaire by 150 students of General Medicine and Dentistry of the Faculty of Medicine, Comenius University in Bratislava has been carried out. It surveys their suggestions on coordination of biomedical subjects (namely Medical Physics, Biophysics) in a given study programme from the contextual point of view. Physical principles of modern diagnostic, therapeutic methods and medical equipment have been regarded as the most important contribution of physically oriented subjects. The positive reflection of medical applications in them was confirmed. Results of presented pedagogical research have been considered by creating of the new study curricula and textbooks published in recent years. The close interactions and relations between taught scientific disciplines were emphasised.

This project is supported by grant project of Ministry of Education of SR KEGA No. 3/2030/04. It supports the dialogue between teacher and student and aims to improve the level of the educational process by applying up-to-date elements of teaching theory.

10P 2 Ideals and requirements in practice in medical students' anatomy studies
Klas Karlgren*, Parvaneh Sharafi, Italo Masiello, Kirsti Lonka and Anna Josephson (Karolinska Institutet, LIME, Berzeliusvagen 3, Stockholm 171 77, SWEDEN)

Background: To study anatomy is crucial in medical studies but students may experience it as challenging.

Summary of work: A questionnaire study was carried out at a Swedish medical school to examine students' views on learning anatomy (n=134) and study approaches.

Summary of results: Most important in learning anatomy, according to the students, is to know the functions of anatomical structures and to be able to describe how structures are related. The most efficient methods to learn anatomy are studying models, participating in dissections and practical exercises, and reading, while practicing with past exams, studying lecture notes, and learning anatomical names by heart are significantly more efficient for passing exams than for learning in the long run. Deep learning is associated with considering the following to be important: being able to visualize bodies three-dimensionally and describe how structures are related; surface learning with knowing anatomical names, being able to describe details and to master the language use of anatomy.

Conclusions: The results raise questions about the relationship between the requirements posed on students to pass anatomy courses and the methods that are considered efficient for learning but also about the relationship between meaning-orientation and crucial aspects of the subject of anatomy.

10P 3 Practical physiology education: an overview of Turkish medical faculties
Dicle Z Balkancy and Bilge Pehlivanoglu* (Hacettepe University Medical Faculty, Department of Physiology, Sihhiye, Ankara 06100, TURKEY)

Background: Physiology sessions are known to be an integral part of physiology courses. We performed this study to exhibit and evaluate the differences in practical physiology education in Turkish Medical Faculties.

Summary of work: A questionnaire about the program applied to medical students during 2002-2003 academic year was sent to 38 physiology departments involved in medical education for at least for 3 years, out of 42 medical faculties. The educational load, evaluation and the content of the practical sessions were questioned. All of the 38 departments answered the questionnaire.

Summary of results: Numbers of the first and second year students were 128 (42-480) and 140 (24-409) respectively and number of teaching staff was 9 (1-27). Theoretical hours/student was 169.3 and the percent of practical hours in the total physiology lessons was 17.1. Although the subjects exhibited difference, all the departments performed blood and circulatory physiology laboratories. 8 departments perform experiments only on humans. 29 departments gave laboratory guides and 28 took feedback. Assessment of the practical work was done in all of the departments.

Conclusion: The differences determined may depend on the educational model applied, numbers of the academic personnel and the students, and the laboratory equipment that can be provided.

10P 4 Reorganization of human gross anatomy practical courses for undergraduate medical students to enhance 3D knowledge
Ingrid Kerckaert*, Tom van Hoof, Sylvie Massche, Erik Barbaix, Caroline Pouders and Katharina D Herde (University Gent, Department of Anatomy & Embryology, Godshuizenlaan 4, Gent B-9000, BELGIUM)

After the implementation of a renewed medical curriculum, we introduced a new approach in the courses of anatomy for undergraduate medical students, imposed by the need for maximal efficiency of gross anatomy teaching in the dissecting room. Traditional lectures became keynotes lectures, in which interaction with the students is stimulated and clinical illustrations are used to highlight important structures. Lectures are followed by active self-learning practical courses on prospected preparations and models, in which older voluntary students assist as instructors and also participate in the dissection sessions of the 2nd year. Some regions are demonstrated on prospected preparations and models. We also focus on the anatomy of the living person, making use of medical imaging documents and surface anatomy, in which peer-learning is the teaching method. Medical imaging allows the students to navigate through video sequences of a series of consecutive transverse CT or MRI images. A new technique of embalming is recently introduced to get endoscopic approaches of cadavers as a new tool to teach anatomy, in addition to dissections and projections. Imaging and the endoscopic approach allow better 3D-impression and facilitation of recognition of structures and topographical relationships. We found the appropriate proportion for an effective anatomy training program: imaging, endoscopy and living anatomy reveals the clinical relevance and need to study 3D gross anatomy in the dissecting room through models and cadaver material.
10P 5 A clinical experience for first year medical students in Mexico

Sara Morales*, J Lopez Barcena and Neona Petra (Universidad Nacional Autonoma de Mexico, Facultad de Medicina, Avenida Universidad 3000, Circuito Escolar, Ciudad Universitaria, Tlalpan DF 04510, MEXICO)

Medical students at UNAM attend 2 years of basic sciences and 3 in hospitals. This study intended to include significant learning of clinical aspects in the first years using a Basic-Clinical Integration Week. Pamphlets were designed for students and professors containing: History, physiopathology, basic and clinical aspects, monographs, student and professor questionnaires and bibliography. Professors received extra material and glossary. The students access the guide online a month before. During this Week, students discussed the case with their 6 professors and a clinical area professor. These two Weeks were evaluated with a Likert type questionnaire with 19 closed questions and 2 open ended in 38 first year groups. 1,098 students participated during the first and 1,031 in the second. The results given for first and second weeks are: 82%/80% accessed the material online on time; 62%/63% considered the review class time sufficient; 80%/68% judged the information as clear; 96%/84% considered this experience useful; 80%/76% thought it should increase. 74%/77% agreed that cases allowed them to associate first year knowledge with clinical matters, 66%/71% said professors motivated them, 80%/77% considered that the clinical professor integrated and applied knowledge in the discussion. On these bases, we can assume the activity was well accepted and useful and allowed students to understand how first year knowledge is applied in the future. Results show this activity can and must be repeated and continue within curricula.

10P 6 Integrating cell biology and metabolism with genomics, proteomics and metabolomics, in a single curricular unit

P Ludovico*, J Palmeirim, F Rodrigues, P A Padrao, A Salgueira, M J Costa and C Leao (University of Minho, Health Sciences School, Campus de Gualtar, Braga 4710-057, PORTUGAL)

Aims: To describe the curricular organization of the area Molecules and Cells (MCs) and present the area's evolution through five years of experience.

Summary of work: MCs is sequentially organized integrating cell biology, metabolic biochemistry, molecular genetics, and cellular proliferation, differentiation and death. A transversal experimental project replaces the traditional approach of presenting unrelated experiments. The area structure emphasizes integration instead of subjects tackled in an individual way. MCs are an innovative experience, particularly in Portugal. Students are expected to (i) constantly learn to discover the essential contribution of cellular and molecular biology to medicine; (ii) understand genomics, proteomics and metabolomics; (iii) understand that biochemical alterations have implications in diseases; (iv) gain experimental training on molecular and cell biology techniques. The assessment process has evolved over the years. Student ratings are collected on the unit and on faculty.

Summary of results: The unit has been presented to 272 students. So far, only three students have failed. Annual grades average 14 or 15/20. Both the area and the faculty are consistently rated very high.

Take home messages: The area has overcome the challenges of integrating several scientific disciplines and can be used as a model to other medical curricula.

10P 7 Clinical competence in radiology 2002-2005

M Lopez, G Bae*, J Trejo, A Mesina and J Peña (Universidad Nacional Autonoma de Mexico, Calle Union 77, Depto 304-A Col. Escandon Del, Miguel Hidalgo, Mexico DF CP 11800, MEXICO)

Aim: To evaluate the clinical skills to read simple X-rays, acquired by the students in a curriculum.

10P 8 Students’ perception of introducing traditional Chinese medicine into the Western medical curriculum in Taiwan

Walter Chen*, Nick Ching-Shiang Chen, Shih-chieh Liao and Kun-yen Huang (China Medical University, School of Medicine, 91 Huueh-shih Road, Taichung 40402, TAIWAN)

Background: Attitudes of students toward traditional Chinese medicine (TCM) or complementary and alternative medicine (CAM) have been shown to be different. We study the variability of TCM of students from two different medical schools where TCM courses were required in one and an elective in the other.

Summary of work: Among the 240 questionnaires sent out to all fifth-year medical students in these two schools, 167 students (74% males, 26% females) returned valid data. The questions include knowledge and belief on TCM, and the attitudes on having the TCM courses as required or elective and the reasons behind it.

Conclusions: No major differences were observed between these two groups. One exception is that students from the TCM-required school showed more positive belief toward TCM. Most students, either from TCM-required or elective and the reasons behind it.

10P 9 Caring for women with disabilities: an interactive educational program for physicians in training

A Schwandt, J Uy-Kroh, L Koplin* and L Pitta (Case Western Reserve University, School of Medicine, 1401, 10900 Euclid Avenue, Cleveland OH 44106-4936, USA)

Background: Disability is a physical or mental impairment that substantially limits one or more major life activities. 25 million U.S. women have a disability - 63% severe. Medical students receive little training about health care delivery for this population.

Summary of work: Designed interactive, educational modules on core knowledge and attitudes requisite for the delivery of optimal care to women with disabilities. A "pre-test" and "post-test" of knowledge and attitudes were given to evaluate learners' progress.

Summary of results: 135 year 2 medical students completed a pre-test of baseline knowledge and attitudes toward women with disabilities. 63% believed they had no education, 17% some but not enough, 21% insufficient education regarding care of people with disabilities. 80% believed women with disabilities are best served...
**10P 10 Interactive/proactive medical scientific writing seminars in Florence Medical School, Italy**

Andrea A Conti, Antonio Conti* and Gian Franco Gensini (Università degli Studi di Firenze, Dipartimento di Area Critica Medico Chirurgica, Fondazione Don Carlo Gnocchi, IRCCS, Firenze, Centre Italiano per la Medicina Basata sulle Prove, Viale Morgagni 85, Firenze E-50134, ITALY)

**Background:** Medical scientific writing competence may be taught and learnt, but its place in the medical postgraduate curriculum has not yet been exactly defined. Therefore the Dean’s Office of the Florence Medical School organized two one-day scientific writing seminars in English.

**Summary of work:** The seminars involved two teachers/tutors with documented literary, biomedical and communicative competence and 40 health operators, 24 medical fellows and 16 physicians attending the Ph.D. course. The seminar format consisted in an initial theoretical part - interactive teaching, with the proposal of two different patterns of medical paper: the classical 4-item model (Introduction, Methods, Results, Conclusions) and the newer evidence-based medicine 7-item scheme (Design, Setting, Patients, Intervention, Outcomes, Main results, Conclusions); a practical-operative part (small work groups elaborating different sections of the medical scientific paper); a final general discussion.

**Conclusions:** Documented appreciation on the part of the participants was high (significantly above the expected a priori 80% threshold; p<0.05). Greater adherence to the international standard for scientific writing emerged from the use of the evidence-based model, as compared to the classical one (p<0.01).

**Take home messages:** Interactive/proactive medical scientific writing seminars both develop theoretical knowledge and technical abilities and enhance communicative competence of the physicians involved.

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**10P 11 Literature and medicine: a problem of assessment methodologies**

Ayelet Kuper (University of Toronto/University Health Network, Faculty of Medicine, Wilson Centre for Research in Education, 200 Elizabeth Street, 1 Eaton South 565, Toronto, Ontario M5G 2C4, CANADA)

**Background:** ‘Literature and medicine’ is increasingly common in medical schools but not within medical education research. This study explored this discrepancy, focusing on the impact of the problem of assessment. I hypothesized that the absence of ‘literature and medicine’ from medical education research may relate to it not being problematizable in the quantitative way in which this psychometrically-oriented research community tends to conceptualize research questions.

**Summary of work:** Databases were searched using relevant keywords. Articles were evaluated using methodologies appropriate to their fields. The resulting information was structured around a framework of assessment methodologies.

**Conclusions:** ‘Literature and medicine’ is intended to develop skills as potential proxy outcomes for important constructs. Proposed tools (e.g. essays, portfolios) to assess these skills are difficult to evaluate using the field’s traditional quantitative framework, and constructs derived from literature and medicine are not amenable to being addressed by the reductionist tools commonly used within medical education research. Methodologies derived from the qualitative tradition offer alternative assessment methods.

**Take home messages:** The medical education research community should take on the challenges presented by ‘literature and medicine’. We run the risk that our dependence on psychometrics will prevent important constructs from being effectively taught and assessed.

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**10P 12 Talking about risk: integrating the teaching of medical statistics with clinical communication**

Angela Hall* and Philip Sedgwick (St George’s University of London, Centre for Medical and Healthcare Education, Room 43, 1st Floor Jenner Wing, Cranmer Terrace, Tooting, London SW17 0RE, UK)

**Aim:** To describe a novel evidence-based medicine (EBM) curriculum for Mayo Clinic Arizona postgraduate medical and surgical trainees.

**Summary of work:** ACGME requires competence in practice-based learning and improvement (PBLI). Residents must “locate, appraise, and assimilate evidence from studies related to their patients’ problems.” To fulfill this, we developed a mentored, trainee-driven, interactive curriculum for residents in medical and surgical disciplines. It is the cornerstone of Mayo Clinic Arizona Evidence Based Clinical Practice, Research, Informatics, and Training (MERIT) Center. A resident identifies knowledge gaps from a clinical encounter, converts them into Patient-Intervention-Co-intervention-Outcome model questions, searches electronic databases, retrieves relevant studies, appraises the evidence, determines its validity, derives quantitative answers, and applies them to the original clinical context. Mentoring is provided by clinical epidemiologists, EBM/informatics librarians, and clinical content experts. During monthly MERIT conferences, the results are showcased with opportunity for commentary. At the conclusion, a critically appraised topic (CAT) is prepared and published.

**Summary of results:** Four departments have conducted 100 conferences and published 50 CATs. Competence in all PBLI steps has been achieved.

**Conclusions:** The MERIT curriculum offers a multi-departmental approach to teaching PBLI in postgraduate medical and surgical programs.

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**10P 13 There is MERIT to evidence based medicine training in residency**

Bart Demaerschalk*, D Wingerchuk, A Budovski, K Welikh, T Young-Fadok, M Grover and R Bailey (Mayo Clinic Arizona, 13400 East Shea Blvd, Scottsdale AZ 85259, USA)

**Aim:** Although medical statistics is a core component of the medical curriculum, many students fail to see its relevance to clinical practice. By integrating with other disciplines such as clinical communication, students can begin to appreciate the application of their teaching. This presentation will address the communication of risk. Traditionally the statistician teaches about probability and risk and how to make population inferences; these ultimately having to be translated to the individual patient. By integrating teaching of statistical methods and communication of risk, students learning can be contextualised.

**Summary of work:** An integrated teaching approach will be described. Each tutor has familiarity with the other’s discipline and acknowledges the utility of that discipline. A variety of teaching methods will be described such as supporting methodological notes, self-assessment statistical exercises, video trigger tape plus whole and small group exercises.

**Take home messages:** It is helpful for students to appreciate how different parts of the curriculum fit together even if at first glance they do not appear to have much in common. Teaching needs to be integrated both into the curriculum as a whole and also across disciplines. We encourage teachers to look for common ground and think creatively.
10P 14 Medicine meets linguistics: skill development of students with language backgrounds other than English for an integrated written assessment
Helen Fraser*, Ted Cleary, Carole Gannon and Ray Peterson (University of Adelaide, Faculty of Health Sciences, Medicine Learning and Teaching Unit, Frome Road, Adelaide 5005, AUSTRALIA)
Implementation of integrated curricula in medical schools requires integrated assessment, including of reasoning. The undergraduate medical course has 25% of student intake with language backgrounds other than English (LBOTE). One written examination, the reasoning, learning and explanation (RLE) exam, is based on a case analysis, with this format: Stage 1: an initial case analysis question; Stage 2: research on learning issues; Stage 3: re-analysis of initial hypotheses and mechanisms; further explanations of symptoms, signs etc. A comparative analysis of the reasoning characteristics of successful and unsuccessful answers to this exam in two consecutive years was completed. Twelve local and LBOTE student papers were selected in categories: excellent, satisfactory and fail. Two different years were chosen because in one year the diagnosis was withheld and in the following year it was given. Approaches to the re-analysis differed widely – those focussing on key symptoms died well; those focussing on diseases less well; narrative approaches were generally unsuccessful. In the further explanations, consistency and coherence played a key role in demonstrating relevant knowledge. The findings have been used in the development of a program for international students in Year 2, but the outcomes in reasoning ability are relevant to all students.

10P 15 Research experience in the second year of the medical curriculum
S Reinsch*, P Kube and J Pelz (Charité, Prodekanat Studium und Lehre, Schumannstr 20-21, Berlin 10117, GERMANY)
Tomorrow’s Doctors recommends that medical students should gain experience in and understanding of scientific methods and conducting research. The Reformed Curriculum track of the Charité fosters an obligatory research elective for the 2nd year medical students. They may participate in a facultative seminar on scientific methods and have to prepare a written report about a short research project conducted during a 4 week period in an optional research unit of the Charité. In many cases students became part of the research team. We analysed 100 of these research reports and collected data on predefined criteria about good (clinical) research principles, on publication standards and on statistical methods.

The majority of students received efficient support from their supervisors to produce a ‘state of the art’ report – in-depth analysis revealed flaws in presentation and internal consistency of some studies. In general the research elective is a valid and feasible way to enable students to understand research methods and standards and to get a first impression how research is conducted. The theory and practice of scientific methods is upgraded and expanded during the 4th year in a one week block on study design.

10P 16 Sequential probability estimation during the diagnostic process: performance of students versus professionals
A E R Arnold* and A B Bijnen (Free University Medical Centre, Institute of Medical Education, v.d. Boechorststraat 7, Amsterdam 1081 BS, NETHERLANDS)
Background: Previously we reported large interdoctor variation in medical advice and large differences in how likely doctors estimate the presence of disease in patients. We postulated an even larger variation within students, but that even short training can improve this variation.

Summary of work: A case vignette of a 36 year old female with atypical chest pain was presented to 43 5th and 6th year students, 84 cardiologists and 29 cardiology-fellows.

Probability of coronary artery disease was estimated after each diagnostic step: risk profile, normal ECG, normal troponin, normal ergometry and reversible defect on scintigraphy. Likelihood ratios were calculated for each step. In the group of students the procedure was repeated after one hour instruction.

Summary of results: Variations of disease probabilities and likelihood ratios were largest for students before instruction and smallest for the same students after one hour instruction.

Conclusions: Estimation of the probability of disease varies widely within professionals and even more within students. However, after a one hour instruction, students performed even better than professionals.

10P 17 Evidence based medicine in nutrition education: a structured teaching experience of Florence Medical School, Italy
Gian Franco Gensini, Maria Luisa Masini, Maria Renza Guelfi * and Andrea A Ganti (Università degli Studi Firenze, Dipartimento di Area Critica Medico Chirurgica, Fondazione Don Carlo Gnocchi, IRCCS Firenze, Centre Italiano per la Medicina Basata sulle Prove, Viale Morgagni 85, Firenze I-50134, ITALY)
Background: Evidence Based Medicine (EBM) has only in very recent times been introduced in shared scientific health knowledge. To promote the dissemination of EBM at the level of the degree course in Dietetics, a specific education activity was planned and carried out by the authors (a clinician GFG, an epidemiologist AAC, and a dietitian MLM) over the last three academic years.

Summary of work: A 12-hour course of frontal lessons was developed in the context of the degree course in Dietetics of the Faculty of Medicine (University of Florence – Italy). The frontal lessons consisted of interactive presentations of the basic concepts of Evidence Based Dietetics and Medical Nutrition Therapy. An additional 10 hours were dedicated to the guided electronic search, on the part of the students, for biomedical information relating to EBM, and another 8 hours were left for personal home learning activities, for a total of 30 hours.

Conclusions: The course, demanding preliminary certified competence in English language, basic informatics and clinical epidemiology, recorded a very high level of appreciation among the students involved, who also achieved satisfactory results in pertinent examinations.

Take home messages: A structured course in “EBM applied to the Professional Practice of Dietetics” proved to be feasible and useful in pro-actively introducing methodological, clinical and epidemiological elements into the degree course in Dietetics.

10P 18 How is our search situation?
Shirin Irandar, Mahvash Ranjbar* and Koorosh Hamzehee (Kermanshah University of Medical Sciences, Research Affairs, #2 building, Shaheed Beheshti Blvd, Kermanshah, IRAN)
Aim: This study was carried out to determine the types of research carried out in Kermanshah university of Medical sciences in 1995-2004.

Summary of work: A descriptive cross-sectional study was carried out. All research proposals between 1995-2004 were studied. An information form was used to collect data, containing variables such as: researcher position, researcher degree, research methods, etc. The data were analyzed by descriptive statistics.

Summary of results: 350 research proposals were studied. 4.3% of research was done by associate professors, 62.9% by assistant professor and 20.7% by others. 94.8% of the research was applied, 64% was descriptive and the rest of it was analytical and experimental methods. There was a significant correlation coefficient between researchers’ degree and type of research.
10P 19 Evaluation system: an effective mechanism monitoring achievement
Ahmad Sabouri Rashana*, Sanyia Soheili and Zinat Nadiat Hatimi (Tehran University of Medical Sciences, 111, 321 St Enghelab Avenue, Mehrshahr, Karg, Tehran 3185815711, IRAN)

A comparison between the learning achievements of elementary and intermediate groups of medical students on English courses under two different evaluation systems is revealing. The close monitoring of TUMS language center evaluation system plays a key role for the novice learner’s achievement while hardly contributing to higher motivation of the more advanced. At the same time, the alternative evaluation system of subjective teacher-made tests and the students’ self-evaluation on a tentative English teaching project proved disastrous to the beginner learners and insignificant to the intermediate. In fact, a set of correlations between the performance of students on standardized tests and national exams for different groups of students of medicine proved different students to be differently affected by the evaluation system. The more mature learners apparently require a more comprehensive and advanced evaluation system while the novice learner benefits from a more concentrated and objective test system. Moreover, less concentrated monitoring systems, and more active roles for the student as the learner and evaluator should come with more maturity and responsibility on the learner’s side. On the other hand the learner’s maturity and responsibility is more likely to come about in a less concentrated and more democratic educational atmosphere. The apparent paradox may find an answer in Vygotsky’s Zone of Proximal Development.

10P 20 Research methodology in medical student dissertations in Kermanshah University of Medical Sciences, Iran 2001
J Koohboomi*, F Azizi and H Volareh (Pelake 1 Nabshe Koucheh 16, Khiabane, Kashani, Elahiyeh, Kermanshah, IRAN)

Aim: This study evaluates the research methodology in medical students’ dissertations.

Summary of work: This is an analytical-descriptive study. During three periods in twelve years, 157 medical students’ dissertations were selected randomly. 91 items including title, abstract, introduction, literature review, aims, methods, findings, discussion, conclusion and references were evaluated. The total score for each dissertation was assumed 20. Dissertations were evaluated based on a Likert scale. Means of scores were compared in three periods. T-student and chi-square tests were used.

Summary of results: In dissertations, title was very strong. Findings were strong. Problem Statement and Abstract were moderate and the rest were weak and very weak. Mean of scores in the second and third period compared to the former have been increased. T student showed a significant difference.

Conclusion: There has been a trend towards improvement in research methodology. This appears to be due to factor time, to change of the dissertation writing rules, to participation of tutors in workshops and availability of databanks.

Workshop
10Q Educating for Professionalism across the Generations: bridging differences, building on common ground

Yvonne Steiner, Sharon Johnston, Sylvia Cruess and Richard Cruess (Centre for Medical Education, Faculty of Medicine, McGill University, Montreal, Canada)

Description of Topic and Rationale: Maintaining a strong medical profession united by shared core values requires the development of professionalism among faculty, medical students and residents. Educating for professionalism is an important part of the socialization of younger physicians and physicians in training, and can be both challenging and rewarding as each new generation of physicians brings a different perspective to, and demonstration of, the values of professionalism. This workshop will provide participants with an opportunity to discuss: generational differences that can have an impact on the teaching and learning of professional values and behaviors; commonalities which serve as the foundation of professionalism and are shared across the generations; and educational strategies and approaches to teaching professionalism, strengthening common values and bridging identified differences.

Objectives: By the end of this small group discussion, participants will be able to: (1) Identify commonalities and explore differences between the generations that may have an impact on teaching and learning and are most critical to professionalism; (2) Discuss educational approaches and strategies that will strengthen commonalities and bridge differences; (3) Examine methods to address these issues in their own settings.

Intended Audience: Medical educators, program directors, clinicians, and teachers responsible for teaching professionalism at all levels of the curriculum.

Level of workshop: All levels.

Workshop
10R Work based assessment: Practical lessons from experience with a large national work based assessment programme

Helena Davies (University of Sheffield, UK), Julian Archer (Sheffield Childrens Trust, UK), Lesley Southgate (University of London, UK) and John Norcini (FAIMER, Philadelphia, USA)

Background: The UK is currently undergoing a radical revision of postgraduate training. Central to this is the implementation of a two year post graduation Foundation. The programme is competency based and progression dependent on demonstration of satisfactory performance using work based assessment. The work based assessment programme consists of 4 tools, a multisource feedback tool (mini-PAT), case based discussion, mini-CEX and direct observation of procedural skills (DOPS). Prior to full implementation of the Foundation programmes in August 2007 a pilot of the assessment tools was undertaken and from August 2005 to August 2006, 5000 Foundation trainees are participating in a centrally run assessment programme using these tools.
The Panamerican Federation of Associations of Medical Schools, PAFAMS’s mission is to maintain and develop excellence at the Schools of Medicine of the Continent. Recently, in April 2006 some 450 medical schools affiliated to PAFAMS reported to the XVII Panamerican Conference of Medical Education and Council programs on the following priorities to be further discussed in this session:

I. International Accreditation: Two phenomena have affected deeply the panorama of the Latin American Medical Education: 1) The uncontrolled proliferation of medical schools some of them with a commercial character; 2) Reforms of the health systems based on privatization and the financial intermediation that harms the practice of medicine. PAFAMS’ proposal is to develop a process of International Accreditation based in the already national experiences added with external evaluations. International Accreditation as a process is needed also for CME/CPD programs.

II. Continuing Medical Education and Continuing Professional Development CME/CPD through its Project Globe Consortium which includes partnerships to provide Quality CPD for Generalist Physicians working in Primary Health Care Services through: a) GP/FP Educational Development Needs from selected countries; b) Identification and work in pilot countries in which effective methods, tools and resources could be applicable to deliver CME-CPD; and c) Development of a core-curricula and learning experiences focusing on emerging critical areas and problems, for the evidence based education of GPs and FPs.

III. @HEALTH alternatives: Identification of @health best practices. PAFAMS is fostering the exchange of ideas and experiences among members, associations and affiliated medical schools and other institutions operating in the field to identify the best practices on the application of IT on Health to stimulate cooperation, technology transfer and joint Research Projects through specific programs to improve quality, safety and efficiency in their healthcare systems, like an ongoing cooperative project with the European Commission.

These initiatives give support to medical education projects, improve quality in health services and enhance capability of partners through coordination and consensus building. Likewise, in Ibero America the ultimate goal of medical education is to improve the health of the population served.
11.1 Where are we with assessment and where are we going?
Cees van der Vleuten (University of Maastricht, Department of Educational Development and Research, Maastricht, NETHERLANDS)
Currently there is a growing need to use assessment in a broader sense than for selection or certification. In educational settings the use of assessment to achieve desirable learning and teaching effects and the notion that assessment must form an integral part of the educational process is becoming increasingly popular. This trend requires a holistic or non-reductionistic approach to assessment with less focus on the (psychometric) value of individual instruments. In this presentation a plea will be held for the integral and inseparable role of assessment in education. This view has many practical, methodological and research consequences, many of which we are not accustomed to in our current and most dominating approach to assessment.

Cees van der Vleuten has been trained as a psychologist and has a PhD in education. In 1982 he came to the University of Maastricht to become involved in medical education. In 1996 he was appointed as a Professor of Education at the Faculty of Medicine from University of Maastricht and chair of the Department of Educational Development and Research. His area of special expertise is in the assessment of competence, including modern methods of assessment (progress testing, OSCEs, portfolio) and strategies for designing assessment programmes.

11.2 A new spin on 360° multi-source assessment of teaching/clinical effectiveness
Ronald A Berk (The Johns Hopkins University, Baltimore, USA)
For nearly 60 years, 360° assessment has been used in the military and management/industry to provide feedback to employees for self-improvement and promotion and pay raise decisions. Over the past decade, this method has been applied to the health professions for quality control and improvement of health care delivery and to identify poorly performing physicians. This presentation will be a fun-filled romp through these previous applications, plus an extension to medical education, where the focus is on the assessment of teaching and clinical effectiveness of critical job-related behaviours and outcomes, including cognitive knowledge, skills and abilities (KSAs), interpersonal skills, and professionalism.

Ronald A Berk, PhD, has recently retired as Professor of Biostatistics and Measurement at the School of Nursing, The Johns Hopkins University, where he has served 31 years of a lifetime term. His most recent book is Thirteen Strategies to Measure College Teaching. Ron’s 9 books and more than 325 journal publications/presentations reflect his life-long commitment to mediocrity and his professional motto: “Go for the Bronze!” He will now concentrate on writing and presenting.
A date for your diary

AMEE 2007
25-29 August
Trondheim, Norway

To be held at
Trondheim Spektrum Conference Centre
and
Norwegian University of Science and Technology (NTNU)

Local hosts
Faculty of Medicine, NTNU

Suggestions for topics, speakers, pre-conference workshops