AMEE 2002
Approaches to Better Teaching

Programme and Abstracts

in collaboration with

Faculty of Medicine, University of Lisbon
Lisbon, Portugal

29 August to 1 September 2002

Association for Medical Education in Europe
Tay Park House, 484 Perth Road, Dundee DD2 1LR, UK

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Welcome from the Dean of the Faculty of Medicine, University of Lisbon

On behalf of the Faculty of Medicine, University of Lisbon, it is my distinguished privilege to welcome all participants to the AMEE Conference 2002. I wish you a pleasant and memorable stay in our country.

It is sixteen years since the AMEE Conference was held in Portugal. It is a great honour for us to host the 2002 Conference, and also a great responsibility, which we assume with the utmost pleasure. Besides the inherent obligations of all Medical Schools where medical education is continuously evaluated and improved, we would like to take advantage of the opportunity given to our Faculty to receive colleagues from so many countries, to discuss “Approaches to better teaching”.

Let me briefly introduce our Institution, which was founded in 1911, as a development of the Medical-Surgical School of Lisbon, created in 1836 from the previous Real School of Surgery (1825). Nowadays the number of students enrolled in the undergraduate medical curriculum is about 1300, along with further 300 in postgraduate studies. The first five years of the undergraduate programme occur in the main facilities of the Faculty of Medicine, at the Hospital of Santa Maria, whereas the last year of full clinical training is developed in further seven hospital units and a few dozen community clinical centres.

In 2001 the first group of medical students who started the new programme in 1995/96 completed the new reformulated 6th year consisting in a full clinical practice. This new curriculum was designed under recommendations approved by the government in 1993, upon the decision taken on the enlightenment of the Edinburgh Declaration and the Lisbon Initiative, both in 1988. The changes in the content and methodologies were the focus of the first phase of the process, whereas training of teachers more prepared for their role, establishment of new facilities, equipment, and technologies, have now been implemented. We are already launching the second phase, which will certainly take us a step further.

Therefore, to discuss new methodologies, new perspectives and different educational experiences, the intensive routine scheduled each day of AMEE 2002 will be a very important opportunity for all, for a better understanding and to discover new solutions in medical education.

We are grateful to the AMEE Executive Committee, first for accepting our Faculty of Medicine as the host institution for the Conference, secondly for creating this splendid opportunity to discuss once more the latest results, concepts and trends in medical education.

Finally, I would like to recommend to all participants to take some of your free time to visit Lisbon and its neighbourhood. I am sure you will enjoy it.

Have a nice stay in Lisbon.

Prof. J. Martins e Silva
**Students’ Welcome**

The **Students’ Organising Committee** would like to give a warm welcome to all students at the 2002 AMEE Conference.

We are really enthusiastic about the chance of meeting so many medical students from all over the world. It will be a great opportunity to discuss problems, share new ideas and work together towards a better medical education.

We will do our best to make your stay pleasant. We invite all students to join us in the Students’ Programme.

Students will be lodged in a students’ residency of the University of Lisbon, close to the Congress Hall. All students will be together, so the atmosphere will be great!

There will be free transportation on the local public bus network, so you can easily get to anywhere in the city.

We will arrange a special Social Programme so that everyone will have fun! Parque das Nações, Bairro Alto, Baixa, Belém, will be some of our stops.

With the Post-Conference Tour you will enjoy beautiful landscapes and experience the Portuguese hospitality.

Your days in Lisbon will be unforgettable!

If you have any questions please feel free to contact us at amee-students@mail.pt

We look forward to meeting you in Lisbon!

*The Students’ Organising Committee*

**Note: Students please see Section 3 for further information**

**Local Committees**

**HONOUR COMMISSION**
- President of the Portuguese Republic
- Minister of Science and Higher Education
- Minister of Health
- Mayor of Lisbon
- Rector of the University of Lisbon
- President of the Academy of Medicine
- President of the Portuguese Medical Association
- President of the Lisbon Society for Medical Science
- President of the Portuguese Society of Medical Education
- President of the National Association of Medical Students

**FACULTY BOARDS**
- Dean – Professor J Martins e Silva
- President of the Scientific Council – Professor J Lobo Antunes
- President of the Pedagogical Council – Professor M J Forjaz Lacerda
- President of Representatives Committee – Professor A Dinis Gama
- President of Students Association – Anabela Serranito
LOCAL ORGANISING COMMITTEE
Dr Madalena Folque Patricio (Chairperson)
Professor A Vaz Carneiro
Professor Carlota Saldanha
Professor J Guilherme Jordão
Professor Leonor Levy
Professor Lincoln J Silva
Professor Paulo M Costa
Maria do Rosário-Branco

WORKING COMMITTEE
Dra Ana Maria Vaz
Dra Beatriz Rodrigues
Dra Carla Pinto
Dr António Pais de Lacerda
Dra Vanda Lanca
Dr Paulo Seca
Dr Luís Lanca

Cover design: Roberto Barbosa
AMEE is very grateful everyone to listed above for their contribution to the Conference.

AMEE Executive Committee

President: Professor Margarita Barón-Maldonado (Spain)
Secretary/Treasurer: Professor Ronald Harden (UK)
Committee:
Professor Ralph Bloch (Switzerland)
Professor Ioan Bocsan (Romania)
Professor Florian Eitel (Germany)
Dr Madalena Patricio (Portugal)
Professor Dominique Perrotin (France)
Professor Herman van Rossum (Netherlands)
Ex-officio Members:
Professor Hans Karle (WFME)
Dr Jorgen Nystrup (Past President of AMEE)
Administrator: Mrs Pat Lilley (p.m.lilley@dundee.ac.uk)
Secretary: Miss Tracey Martin (t.r.martin@dundee.ac.uk)

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AMEE@dundee.ac.uk _www.amee.org

Conference Sponsors

- Câmara Municipal de Lisboa - Cultura
- Ministério da Cultura - Instituto Português de Museus
- Fundação Amélia da Silva Mello
- IADE - Instituto de Artes Visuais Design e Marketing
- Rathopham, Lda
- Banco Português do Investimento
- Banco Espírito Santo
- Companhia de Seguros tranquilidade, SA
- Companhia Carris de Ferro de Lisboa
**General Information**

**Local Information**

Lisbon is a beautiful and cosmopolitan city and is an ideal location for the AMEE Conference. It offers participants good conference, hotel and transport facilities whilst providing many opportunities to enjoy its culture and long history. Portugal is an attractive holiday destination with its excellent beaches, golf courses and temperate climate. Mainland Portugal is on the same time zone as the United Kingdom, ie, one hour behind European Standard Time.

There are a number of useful websites containing information for visitors:

http://www.cm-lisboa.pt/turismo/
http://www.atl-turismolisboa.pt/
http://www.lisboa-online.com/
http://lisboa.kpnwest.pt/i/lisboa.html

**Passports and Visas**

A valid passport (or identity card for European Union nationals) is required. Visas are not required for citizens of the EU, USA, Canada and most major countries. Please contact your local Portuguese Embassy, Consulate or your travel agency for further information. AMEE can provide letters of invitation to participants on request, to facilitate visa applications.

Vaccinations: With the exception of vaccination certificates for persons coming from areas where yellow fever is endemic, there are no other requirements.

**Weather**

Lisbon enjoys an excellent, temperate climate, with mild Atlantic breezes. Usually at the end of August the weather is warm and dry, with maximum daytime temperatures of around 25°C. The evenings are cooler, and a light jacket or cardigan is recommended.

**Currency Exchange**

The unit of currency in Portugal and most of the other European Union countries is the Euro. At the time of going to press the conversion rate is approximately €1.55 to £1 sterling; and €1.03 to US$1. Major credit cards are accepted in most hotels, shops and restaurants. Travellers’ cheques and currency can be changed at hotels or at banks. Banks are open Monday to Friday from 0830 to 1500 hrs. Cash dispensing machines are widely available.

**Safety**

The crime rate in Portugal is among the lowest in the world. Although it is wise to take sensible precautions, there is no reason to be unduly concerned for your own personal safety or possessions.

**Electrical Supply**

European type 2 pin sockets with 220 volts AC at 50 cycles are used.
**How to get to your hotel**

Most major airlines fly into Lisbon’s international airport, which is only about 15 minutes by taxi from the centre of the city and easily accessible by a frequent bus service to/from the city centre. Taxis are also available outside the terminal (cost approximately €30). Viagens Abreu has arranged a free transfer service between the Airport and the Conference hotels for those booking accommodation through them. This is available only on Thursday 29 August at the following times: 0800, 1000, 1430, 1700, 2100 and 2200. Alternatively, Viagens Abreu can arrange for you to be met personally and taken to your hotel (there is a charge for this service). Viagens Abreu have a desk in the main concourse of Lisbon Airport to the right of the exit from Customs.

**Where to eat**

Lisbon has a wide variety of restaurants. They generally offer good value and you can expect to pay between €15-25 per person, excluding wine. A selection is given below. A further selection of cheaper restaurants will be available at the registration desk.

**City Centre and Historical Quarters**

- **Café Martinho da Arcada**
  Praça do Comercio, 3 – Lisboa
  Portuguese and International cuisine. Literary and business ambience.
  Closed: Sundays.

- **Terreiro do Paço**
  Lisboa Welcome Center – Praça do Comércio
  Portuguese cuisine – market-fresh food.

- **Casa do Leão**
  Castelo de São Jorge 1100 Lisboa
  Within the ramparts of Saint Jorge’s Castle, with a magnificent view over old Lisbon. Portuguese/French cuisine.
  Closes: National Holidays

- **Clara**
  Campo Mártires da Pátria, 49 – 1200 Lisboa
  Elegant ambience. Cocktail bar. Portuguese and international cuisine.
  Closes: Sundays

- **Consenso**
  Rua da Academia das Ciências, 1-1º – Lisboa
  Portuguese and International cuisine
  Closed lunchtime Saturdays, Sunday and holidays

- **Conventual**
  Praça das Flores, 4 – 1000 Lisboa
  Cosy atmosphere. Traditional Portuguese cuisine.
  Closed: Sundays

- **Pap’Açorda**
  Rua da Atalaia, 57 – Bairro Alto – 1200 Lisboa
  Old dairy-shop converted into a pleasant “bistrot”. Traditional Portuguese cooking. One of Lisbon’s gastronomic landmarks.

- **Speedy**
  Rua do Século, 138 – Lisboa
  Traditional Portuguese cuisine with some adventurous touches. Only dinners.
  Closed: Sunday

- **Tágide**
  Largo da Biblioteca, 20 1200 Lisboa
  Elegant decoration, walls with 18th Century tiles. Excellent Portuguese/French cuisine.
  Closed: Saturdays, Sundays and Holidays.
**From Praça do Comércio to Belém**

**A Comenda**  
Praça do Império- Bélem – Inside the Bélem Cultural Centre  
Portuguese and International cuisine  
Closed: Dinnertime Sundays

**Cais da Ribeira**  
Armazém 2, Cais do Sodré – 1200 Lisboa  
Waterfront cozy atmosphere. Fish and grills specialities.  
Closed: Saturdays for lunch/All day Sundays and Holidays

**Café In**  
Avenida de Brasília, 311 – Lisboa  
Portuguese and International cuisine. Fresh fish.

**Estufa Real**  
Jardim Botânico da Ajuda – Calçada do Galvão – Lisboa  
Mediterranean and International cuisine with a “Nouvelle cuisine” touch.  
Lunches only.

**O Cacilheiro**  
Cais da Rocha do Conde d’Óbidos – Lisboa  
Fresh fish barbecues aboard a docked ferryboat.  
Closed: Sundays

**Porão de Santos**  
Largo dos santos, 1 – Lisboa  
Portuguese cooking.

**Tertúlia do Tejo**  
Doca de Santo Amaro, Pavilhão 4 – Lisboa  
Fresh fish and seafood. Portuguese and International cuisine.

**Outback Steakhouse**  
Rua da Cintura do Porto de Lisboa, Armazém 255 Santos - Lisboa  
Australian and American cuisine on the Tagus waterfront.  
Only dinners on Weekdays, Weekends all day.

**Vela Latina**  
Doca do Bom Sucesso, Belém – 1300 Lisboa  
View over the River Tagus yacht and boat marina. Portuguese/International cuisine.  
Closed: Sundays

**From Praça do Comércio to Parque das Nações**

**Bica do Sapato**  
Av. Infante D. Henrique – Armazém B – Cais da Pedra a Santa Apolónia – Lisboa  
The best of “nouvelle cuisine”. Trendy as you can get.  
Closed: Dinnertime Sundays and Mondays.

**Jardim do Marisco**  
Av. Infante D. Henrique, Doca Jardim do Tabaco, Pavilhão A/B  
Seafood

**Mar de Sabores**  
Passeio das Tápidas (Parque das Nações).  
Fresh fish and Seafood.
Restaurants with Fado Show

Bacalhau de Molho
Beco dos Armazéns do Linho, 1(Praça das Cebolas-Santa Apolónia)

Clube de Fado
Rua S. João da Praça, 92/94 – Lisboa

Café Luso Restaurante Típico
Travessa da Queimada, 10

Sr. Vinho (Fado)
Rua do Meio à Lapa, 18

Taverna do Embruçado (Fado)
Beco dos Curtumes, 10

Velho Páteo de Santana
R. Dr. Almeida Amaral, 6
Information about the Conference Venue

How to reach the Conference venue

Lisbon is served by a good Metro system (see map on page 1.18). All Conference hotels are conveniently located near a Metro station, as is the Conference venue. If you are planning to travel by Metro from the city centre to the Conference venue the journey takes approximately 10 minutes. Take the following lines:

**For Aula Magna:** (Opening ceremony and first plenary only)
Line: Yellow
Station: Cidade Universitária

**For Faculty of Science:** (all other sessions including pre-conference workshops)
Line: Yellow or green
Station: Campo Grande

Please see the map on page 1.17 which shows the location of the Conference hotels and the Conference venue.

*For participants booking Conference hotels through Viagens Abreu*, coaches have been arranged between the hotels and the Conference venue on Friday, Saturday and Sunday. Please see the notice in each hotel reception area for details of times. Coach transport will also be available for *pre-conference workshop participants only*, on Thursday. Coach transport is also provided for those attending the evening social events.

In each Conference hotel reception there will be flipcharts with the following information:

- Daily coach departure times to Conference venue;
- Coach departure times for social and accompanying persons programme;
- Contact information for Conference venue and Abreu Travel Agency;
- Map of the Metro system;
- Conference academic programme summary.

Location of the Conference sessions

*The Conference will take place at:*

Faculty of Science of the University of Lisbon (Faculdade de Ciências da Universidade de Lisboa)  
Campo Grande 1249 -016  
Lisboa, Portugal  
Email: amee.lisbon@fm.ul.pt  

This email is operational now, and may be used until the close of the Conference. A telephone number will be available at a later date. Please do not use this e-mail for queries about registration or accommodation/tours.

The specific location of the various sessions is given below:

**Thursday 29 August:**
Opening Ceremony: Aula Magna of the University of Lisbon  
Reception: City Museum

**Friday 30 August:**
Plenary Session 1: Aula Magna of the University of Lisbon  
Sessions 2-5: Faculty of Science, Buildings C3, C8 and C1

**Saturday 31 August/Sunday 1 September:**
Sessions 6-10: Faculty of Science, Buildings C3, C8 and C1

Lunch each day will be served in the Student Refectory and coffee each morning and afternoon in the Courtyard outside building C8 (see plan on page 1.20)
Registration Information

Please register at the AMEE desk on arrival. On Wednesday and Thursday the desk is located in Building C3 room 3.1.15 (marked ‘Secretariat’ on plan on page 1.21). On Friday and for the remainder of the Conference the AMEE desk will move to Building C8 in the exhibition area (marked ‘AMEE desk’ on plan on page 1.20). The desk is open at the following times:

- **Wednesday:** 1400-1730  
  - Building C3, floor 1, room 3.1.15
- **Thursday:** 0830-1700  
  - Building C3, floor 1, room 3.1.15
- **Friday:** 0745-1745  
  - Building C8, floor 2, Exhibition area
- **Saturday:** 0800-1715  
  - Building C8, floor 2, Exhibition area
- **Sunday:** 0800-1400  
  - Building C8, floor 2, Exhibition area

Several registration points are provided to minimise queueing. Please follow the signs and choose the appropriate line.

Viagens Abreu will have a representative on site in the Exhibition area in Building C8 at times indicated on the desk. They will provide assistance with hotel arrangements, social events and tours, and can provide general information about Lisbon and Portugal in general.

CME Accreditation and Certificates of Attendance

The Conference has been awarded 21 CME points by the Royal Colleges in the UK. Certificates of attendance will be available for collection from the AMEE desk from 1030 hrs on Sunday 1 September.

Language

All Conference sessions will be conducted in English.

Dress Code

- **Conference sessions:** casual
- **Opening Ceremony:** smart casual (please note that the Reception following the ceremony is in the open air, and a light jacket is advisable)
- **Xabregas Palace:** smart casual
- **Centro Equestre at Leziria:** casual.

Smoking Policy for Conference

Smoking is forbidden by law in public transportation and in closed public areas. The buildings to be used for the Conference are strictly no smoking areas. We are unable to guarantee that social events will be totally smoke-free, but will ensure that some no-smoking tables are provided.

Parking facilities on Campus

Very limited parking facilities are available. Please contact the AMEE Office in advance of the Conference if you wish to make arrangements to park at the campus.

Disabled participants

Transport on campus can be arranged for participants who have difficulty in walking. Please contact the AMEE Office in advance of the Conference.

Conference noticeboard and messages

Please check the noticeboard by the Registration Desk for up-to-date information on the Conference. Participants may leave messages on the participants’ board.
Information on the Academic Programme

This year’s programme is fuller than ever, with a record number of 13 pre-conference workshops, 2 plenary sessions, 5 large group sessions, 37 conference workshops 314 short communications and 220 poster presentations. As many of the presentations take place in simultaneous sessions, we have tried in the overview on pages 1.12 to 1.15 to make the programme as clear as possible. Please ask at the AMEE desk if you need clarification on any point.

Plenary Presentations

These are scheduled for sessions 1 and 10. Session 1 only will take place in Aula Magna of the University of Lisbon. At the end of the plenary participants should go to Building C8 where coffee will be served in the Courtyard. All the remaining sessions will take place at the Faculty of Science, Buildings C8 and C3, including the closing plenary, Session 10.

Large Group Sessions

Five simultaneous large groups are scheduled in session 5. The format of these will vary, but audience participation is encouraged.

Short Communications

Thirteen simultaneous groups are scheduled for session 2, and twelve each in sessions 6, 8 and 9. The room in which each group will take place is indicated in the grid on page 1.13. We have tried very carefully to group relevant presentations together and encourage you to stay for a whole session and take part in the discussion at the end. Each presenter has been allocated a 10 minute presentation followed by 5 minutes for discussion. A 15 minute period has been allocated at the end of most sessions for a general discussion, led by an opening discussant. Each session will also have a chairperson.

Information for presenters of short communications:

1. Please arrive at least 15 minutes before the scheduled start of the session.
2. Keep strictly to the time allotted for your presentation. The Chairperson will remind you when your time limit has expired and will then ask the audience for questions.
3. Please speak slowly and clearly.
4. Ensure your overheads and slides are clear, that there is not too much text to read in the limited time available and that the type is large enough to be legible for those sitting at the back of the room.
5. Whilst not obligatory, a single page hand-out, giving the key messages from your presentation, is always appreciated. As a rough indication you could expect about 50 participants in the audience.
Audio-visual arrangements for short communications

OHP, 35mm slide projection and data projection will be provided *where these have been requested either on the abstract submission form or subsequently to the AMEE Office.*

**Slide projection:** Carousels for slides are available and should not be collected until the session prior to the presentation and returned as soon as possible afterwards.

**Computer projection:** A laptop computer will be provided as well as the data projector. Presenters are requested to bring presentations either on CD-ROM or floppy disk clearly marked with the presenter’s name, session and presentation number (which can be found in this programme, eg 6M2). One copy of the CD-ROM or disk should be handed in at the AMEE Registration Desk to be loaded in advance onto the laptop, and the second copy should be retained by the presenter as a back-up. PowerPoint presentations should be saved in Office 97 for Windows 98.

**Macintosh users** with a PowerPoint presentation are asked to email their presentation to Pat Lilley by 14 August at the latest to ensure that the presentation is compatible with the Lisbon PCs. Please contact p.m.lilley@dundee.ac.uk for further information.

**Technical assistance during the sessions:** A student will be available in each of the presentation rooms, and technicians are available to answer queries or solve any problems.

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### Role of the Opening Discussant in the Short Communications Sessions

| 1 | Introduce the topic in the context of the papers presented and highlight the key points for discussion arising from the papers. This should take no more than 5 minutes. |

### Role of the Chairperson in the Short Communications Sessions

| 1 | Before the session starts, check that the speakers and opening discussant (if appropriate) are present; |
| 2 | Introduce each speaker according to the programme, and tell him/her when the allotted 10 minute presentation period is over (a timer will be provided); |
| 3 | Allow 5 minutes for discussion between presentations; |
| 4 | If a speaker is not present, arrange for the 15 minute period to be used for further discussion; the next presentation should not start until the scheduled time. If the last speaker is not present, discussion may start at that point; |
| 5 | Ask the opening discussant to lead off the discussion at the end of the session; |
| 6 | Draw the session to a close and thank participants. |

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### Posters

There will be 15 themed groups of posters on show throughout the Conference in the Poster Hall (Building C3, 2nd floor). Details are given in Section 2 of the programme. The identification number, name(s) of the author(s) and title of the poster will be clearly labelled on each poster board.

Poster presentations will take place in session 3 on Friday 30 August from 1400-1530 hrs. The sessions will start *in the room designated for the presentations* as indicated in the programme. Each presenter will have two minutes to introduce him/herself and to point out the main features to look for in the poster. A chairperson will introduce each presenter. Following the short introductions, the group will move to the relevant posters for further discussion.
Information for presenters of posters:

1. Posters should be a maximum of 100 cm wide and 150 cm high and may be mounted at the following times (fixing materials will be provided):
   - Wednesday 28 August: 1400-1730 hrs
   - Thursday 29 August: 0830-1700 hrs
   - Friday 30 August: 0745-1330 hrs

2. Poster presenters should meet in the room allocated to the session at 1345 hrs on Friday 30 August and make themselves known to the chairperson.

3. Presenters are allowed a maximum of 2 minutes to introduce themselves and the key aspects to look out for in the poster (no audio-visuals permitted).

4. After all the short presentations have been made, the group will go to the poster area allocated.

5. Presenters should be prepared to answer questions about their poster. It is useful to have some photocopied handouts (about 50) for distribution, with the key messages of the poster.

6. It is helpful if the presenter can indicate on his/her poster board an alternative time when he/she will be available (eg a lunch or coffee break) in case anyone who cannot attend the session would like to discuss the poster.

**Role of the Chairperson in the Poster Sessions**

1. Before the session starts, check that the presenters have arrived;

2. Introduce each presenter and allow a maximum of two minutes for each presentation. Do not allow discussion between presentations which should take up to 30 minutes, depending on the number in the group.

3. At the end of the presentations lead the group to the poster area;

4. Allow the group to look at the posters and invite questions for discussion.

**Medical Teacher Poster Prize**

Taylor and Francis Ltd, the publisher of Medical Teacher, has generously agreed once again to sponsor a prize of £150 to be awarded for the best poster at the Conference. Posters will be judged, by a Committee, on the following criteria:

- How well are the key messages communicated through the poster?
- Does the poster arouse the interest of the viewer?
- Is the poster attractive?

The winner will be announced at the end of the final plenary session on Sunday 1 September. In addition to the prize money, the winner will receive one year’s individual membership of AMEE, which includes a personal copy of Medical Teacher.

**Poster Quiz**

For the first time this year there will be poster quiz. Each poster presenter has been asked to provide to the AMEE Office (by 9 August) a question that can be answered by reading the poster. A list of selected questions will be included in each Conference pack. The winner (name to be drawn from a hat in the event of a tie) will be announced at the end of the final plenary session, the prize being free registration for next year’s AMEE Conference in Bern, Switzerland (31 August-3 September).
Pre-Conference Workshops

Pre-booking of Pre-Conference Workshops via the AMEE Secretariat is essential, and a charge is made. At the time of going to press almost all the pre-conference workshops are full.

Conference Workshops

A list of workshops scheduled is included in section 2 of the programme and the abstract in Section 4. An overview is given on pages 1.14 - 1.15.

Enclosed with this programme is a Selection Form. One of the items relates to workshop choice. Many of the workshops have maximum numbers that will be strictly adhered to. Pre-booking of conference workshops offers a better chance of attending your first choice. Please complete the information requested and either return the form to the AMEE Office or email your choices to AMEE@dundee.ac.uk There is no charge for attending conference workshops. A list of workshops and attendees will appear on the notice board adjacent to the Registration area with an indication of any places remaining. Tickets will be issued for the workshops.

Exhibits

A range of exhibitors – commercial and academic – have stands located in the Exhibition area in Building C8, close to the Courtyard where coffee is served.

Exhibits may be mounted from 1400 hrs on Wednesday 28 August and should be removed by 1400 hrs on Sunday 1 September. Poster boards and tables are labelled with the name of the exhibitor. Fixing materials for posters are provided. Please register first at the AMEE desk.
List of Exhibitors

ABIM Foundation, USA
Alliance for Continuing Medical Education
Association for Medical Education in Europe
Association for the Study of Medical Education, UK
Best Evidence Medical Education (BEME)
Blackwell Science, UK
Centre for Medical Education, University of Dundee, UK
Croatian Association for Medical Education
Faculty of Medicine, University of Lisbon, Portugal
Finnish Association for Medical Education
German Association for Medical Education
Gold Standard Multimedia, USA
IAMSE, USA
IVIMEDS – An International Virtual Medical School
Learning & Teaching Support Network, UK
Limbs and Things
Medical Teacher
Meducator
National Association of Clinical Tutors (NACT), UK
Netherlands Association for Medical Education
Nordic Federation for Medical Education - NFME
Ottawa Conference
Pinto Leite Comercial Textil
Spanish Association for Medical Education - SEDEM
Swedish Association for Medical Education
Taylor & Francis Ltd, UK
University of Hong Kong, IDEAL Project
University of Lisbon, Portugal
University of Wales College of Medicine
Viagens Abreu, Lisbon
World Federation for Medical Education
<table>
<thead>
<tr>
<th>DATE</th>
<th>TIME</th>
<th>SESSION NO.</th>
<th>SESSION TYPE</th>
<th>LOCATION</th>
</tr>
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<tbody>
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<td>Thursday 29 August</td>
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## Short Communication Sessions: Summary

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<td>1045-1230</td>
<td>Clinical Assessment</td>
<td>Assessment - OSCE</td>
<td>International Medical Education</td>
<td>Clinical Skills</td>
<td>Multiprofessional Education</td>
<td>Students and Curriculum Evaluation</td>
<td>CME: Physician Appraisal</td>
<td>PRHO Training</td>
<td>Use of Simulators</td>
<td>E-learning</td>
<td>Teaching &amp; Learning</td>
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<td>Saturday</td>
<td>1615-1745</td>
<td>Computer-based Assessment</td>
<td>The Curriculum</td>
<td>International Medical Education</td>
<td>Communication Skills</td>
<td>The Student including Career Choice</td>
<td>Curriculum integrating Basic Science &amp; Clin Medicine</td>
<td>CME General</td>
<td>Postgraduate &amp; GP/FM</td>
<td>Staff Development</td>
<td>Use of Simulators</td>
<td>Teaching &amp; Learning Styles</td>
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<td>Written Assessment &amp; Progress Test</td>
<td>Assessment General</td>
<td>Teaching EBM &amp; Critical Thinking</td>
<td>The Patient</td>
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<td>Curriculum Planning</td>
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## Poster Sessions: Summary

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<tr>
<td>SESSION 3</td>
<td>Friday</td>
<td>1400-1530</td>
<td>Curriculum Planning</td>
<td>Management/ Admin &amp; Responding to Change</td>
<td>Problem-based Learning</td>
<td>Teaching &amp; Learning/Multiprofessional</td>
<td>Clinical Teaching</td>
<td>New Learning Technologies</td>
<td>Basic &amp; Clinical Sciences</td>
<td>Special Subjects</td>
<td>Postgraduate Education</td>
<td>Continuing Professional Development</td>
<td>Assessment</td>
<td>The OSCE</td>
<td>Students &amp; Trainees</td>
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## Workshop/Mini-Thematic Sessions: Summary

<table>
<thead>
<tr>
<th>Session</th>
<th>Building</th>
<th>Room</th>
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<tr>
<td>4.1</td>
<td>C8</td>
<td>8.2.11</td>
<td>Improving your effectiveness as a teacher</td>
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<td>4.2</td>
<td>C8</td>
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<td>Clinical operative test – a test of practical skills</td>
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<td>4.3</td>
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<td>8.2.06</td>
<td>Developing professional attitudes in training – putting it into practice</td>
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<td>4.4</td>
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<td>The best of the Ottawa Conference 2002</td>
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<td>8.2.13</td>
<td>Educational Governance: an essential component of clinical governance?</td>
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<td>4.6</td>
<td>C8</td>
<td>8.2.03</td>
<td>Students’ research experiences as a learning strategy</td>
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<td>4.7</td>
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<td>8.2.15</td>
<td>Ensuring that the competent are really competent: setting defensible performance standards on OSCEs and Standardized Patient examinations</td>
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<td>4.8</td>
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<td>8.2.38</td>
<td>Examining the instructional designer – subject matter expert relationship in the design and development of e-learning projects in medical education</td>
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<td>8.2.19</td>
<td>‘Lab coat pocket knowledge’: Personal Digital Assistant as an aid to medical and teaching decision making</td>
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<td>4.10</td>
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<td>Emotional Intelligence: how relevant is it for health leadership today?</td>
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<td>From Clinical Skills Centre to Day Surgery Unit - implications of developing an integrated programme in ambulatory care</td>
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<td>Maintaining quality in Residency Education: applying the evaluation standards of the Royal College of Physicians and Surgeons of Canada (RCPSC)</td>
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<td>4.16/1</td>
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<td>1545-1640: The Global Classroom: multimedia digital libraries as a new learning environment</td>
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<td>1645-1745: Fostering Professionalism and Humanism in Medical Education</td>
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### Workshop/Mini-Thematic Sessions: Summary

#### Session 7: Saturday 1400-1600

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<td>Integrating Standardized Patient teaching and assessment activities into medical professional education</td>
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<td>8.2.15</td>
<td>Faculty rewards and incentives in medical education</td>
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<td>How to build better Multiple Choice Questions</td>
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<td>Training and assessment of intimate/pelvic examination technique</td>
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<td>What is the key role of a physician in society?</td>
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<td>The bachelor-master structure and medical education in Europe</td>
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**Mini-thematic sessions**

| 7.17/1  | C3 | 3.2.14 | 1400-1455 hrs: IVIMEDS – An International Virtual Medical School |
| 7.17/2  | C3 | 3.2.14 | 1500-1600 hrs: The use of IDEAL (International Database for Enhancement Assessments and Learning) as an aid for assessing medical students |
**Personal Diary**

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**Note:** While you are free to move between short communication and poster sessions, we hope you will stay in one session and join in the discussion.
Lisbon Map

Scale (approximate)
2 inches = 1 mile
5 cm = 2 km
For the Faculty of Science Campus (Buildings C3 and C8) please use the Campo Grande (1) station (yellow or green line) – 5 minutes walk, or the Cidade Universitária (2) station (yellow line) – 10 minutes walk.

For the Aula Magna and Refectory please use the Cidade Universitária (2) station (yellow line) – 2 minutes walk.
Plan C8 - 2nd Floor
<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
</table>
| 0930-1730 | **BEME Steering Group Meeting** (Invitation only)  
                Hotel Tivoli Jardim |
| 1400-1730 | **Conference registration and setting up of Posters** (Building C3, floor 1)  
                      (see plans on pages 1.19 - 1.22) **and Exhibits** (Building C8 Foyer) |
<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>0815 (approx)</td>
<td>Buses leave Conference hotels for Conference Venue. See notice in each Conference hotel reception for exact departure time. Please note: this service is for pre-conference workshop participants only</td>
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<tr>
<td>0830-1715</td>
<td>Conference registration and setting up Posters building C3, floor 1 and Exhibits building C8 (see plans on pages 1.18 - 1.21)</td>
</tr>
<tr>
<td>0930-1700</td>
<td>Pre-conference workshops: Pre-registration for the workshops is essential and a charge is made (see below). Lunch and coffee is included for all pre-conference workshop participants.</td>
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<tr>
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<td>Attendance at one half-day workshop: £55/Euro 88</td>
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<tr>
<td></td>
<td>Attendance at two half-day workshops: £95/Euro152</td>
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<td></td>
<td>Attendance at one full-day workshop: £95/Euro152</td>
</tr>
</tbody>
</table>

**Full-day Workshops**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>0930-1700</td>
<td><strong>PCW1</strong>  (Places still available) Celebration of the OSCE Location: Building C3: Room 3.2.14 Organisers: Professor Margarita Barón-Maldonado, Dr Graham Buckley, Dr Margery Davis, Professor Miriam Friedman Ben-David, Professor Fergus Gleeson, Professor Ronald Harden, Professor Ian Hart, Professor Richard Reznick, Professor Cees van der Vleuten, Professor Herman van Rossum</td>
</tr>
<tr>
<td>0930-1700</td>
<td><strong>PCW2</strong>  Creating, Using and Managing Online Reusable Learning Objects Location: Building C1: Room 1.2.26 Organisers: Dr David Davies, Nick Ross, Andrea Bolshaw; University of Birmingham, UK; and Dr Megan Quentin-Baxter, University of Newcastle-upon-Tyne, UK</td>
</tr>
<tr>
<td>0930-1700</td>
<td><strong>PCW3</strong>  The assessment of poorly performing doctors Location: Building C8 Room 8.2.11 Organisers: Professor Lesley Southgate, CHIME, London, Dr Peter McCrorie, St George’s Hospital Medical School, London, and Professor Pauline McAvoy, Newcastle-upon-Tyne, UK</td>
</tr>
</tbody>
</table>

**Morning Workshops**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>0930-1230</td>
<td><strong>PCW4</strong>  Curriculum change: planning the transition process Location: Building C8 Room 8.2.13 Organisers: Professor Herman van Rossum, Free University Amsterdam and Dr Janke Cohen-Schotanus, Groningen University, The Netherlands</td>
</tr>
<tr>
<td>0930-1230</td>
<td><strong>PCW5</strong>  Humour as an instructional defibrillator Location: Building C8 Room 8.2.06 Organiser: Ronald A Berk, The Johns Hopkins University School of Nursing, Baltimore, USA</td>
</tr>
<tr>
<td>0930-1230</td>
<td><strong>PCW6</strong>  Basic Skills Faculty Development Location: Building C8 Room 8.2.17 Organiser: Dr Anita Duhl Glicken, University of Colorado, USA</td>
</tr>
</tbody>
</table>
PCW7  Descriptive evaluation of medical students on clinical rotations: state of the art
Location: Building C8 Room 8.2.15
Organisers: Dr Paul Hemmer and Dr Louis Pangaro, Uniformed Services University of the Health Sciences, Bethesda, USA

PCW8  The roles of the teacher
Location: Building C8 Room 8.2.10
Organisers: Jennifer Laidlaw and Anne Hesketh, Education Development, Scottish Council for Postgraduate Medical and Dental Education, Dundee, UK

Afternoon Workshops

1400-1700
PCW9  Humour in course tests and web sites: www.hilariouscourse.yeaehright/ Location: Building C8 Room 8.2.06
Organiser: Ronald A. Berk, The Johns Hopkins University School of Nursing, Baltimore, USA

1400-1700
PCW10  How can we teach critical appraisal skills?
Location: Building C8 Room 8.2.30
Organiser: Dr Geoff Norman, McMaster University, Canada

1330-1700
PCW11  (Note earlier start for this workshop)
Orchestrating successful curriculum change: assessment, teacher development, leadership development, integration and governance
Location: Building C8 Room 8.2.13
Organiser: Dr Stewart Mennin, University of New Mexico, Albuquerque, USA

1400-1700
PCW12  The professional and organisational culture of medical education: an exploratory workshop in the context of an interactive exhibition
Location: Building C3 Room 3.1.11
Organisers: Dr Elizabeth Kachur, Medical Education Development, New York, USA, Dr Hannah Kedar, Hebrew University, Jerusalem, Israel and Dr Kei Mukohara, Nagoya University Hospital, Japan

1400-1700
PCW13  Medical school of the future: strategies for success
Location: Building C8 Room 8.2.47
Organiser: Wayne Hodgins, Autodesk Inc, San Francisco, USA

1715
Coaches leave Faculty of Science for Conference hotels. Please note: this service is for pre-conference workshop participants only

1845 (approx)
Coaches leave Conference hotels for Opening Ceremony,
See notice in each Conference hotel reception for exact departure time

1930-2030
Opening Ceremony in Aula Magna of the University of Lisbon, with a welcome from the President of the Portuguese Republic, Dr Jorge Sampaio (included in registration fee for participants and registered accompanying persons). See page 3.1 for details.

2030-2300
Transfer to City Museum for open-air reception and buffet meal
(included in registration fee for participants and registered accompanying persons).
Note: Coaches are available for the 2 minute drive between Aula Magna and City Museum. Participants wishing to walk will be directed by students

2200-2300
A shuttle coach service is provided from City Museum to Conference hotels between 2200-2300 hrs.
Friday 30 August

0745 (approx)

**Coaches leave Conference hotels for Aula Magna**
(see plan on page 1.17). See notice in each Conference hotel reception for exact departure time

0745-1745

**Conference registration and setting up Posters** (building C3 floor 1) and **Exhibits** (building C8) - see plans on pages 1.20 - 1.21.

0830-1005

**Session 1: Plenary**

**New learning technologies**

**Location:** Aula Magna (see plan on page 1.19)
**Chairperson:** Professor Ronald Harden, General Secretary, Association for Medical Education in Europe

**Introductions**

1/1 **Virtual reality in medical education – real or science fiction?**
*Professor Sir Alfred Cuschiere, Professor of Surgery, Dept of Surgery and Molecular Oncology, University of Dundee, UK*

1/2 **Into the future: bringing the next generation of learning into focus for the medical profession**
*Wayne Hodgins, Strategic Futurist, Director of Worldwide Learning Strategies, Autodesk Inc., San Francisco, USA*

0945-1005

**Discussion**

1005-1045

**Coffee**

Participants should make their way to the Courtyard of Building C8 (see plan on page 1.20) where refreshments will be served.

1045-1230

**Session 2: Short Communications 1**

Thirteen simultaneous, themed sessions on a range of topics. (* = presenter)

**Clinical Assessment**

**Chairperson:** Dr Robert Galbraith, USA
**Opening Discussant:** Professor Cees van der Vleuten, Netherlands
**Room:** Building C3 Room 3.2.13

1045-1100

2A1 **Evaluation of a pilot portfolio for Public Health Medicine in the UK**
*Stephen Brigley*, Eva Elliot, Cindy Johnson and Iain Robbe
University of Wales, College of Medicine, Cardiff, Wales, UK

1100-1115

2A2 **Standardization of the evaluation system: workshop for faculty**
*Leticia Elizondo M*, Jesus Ibarra, Claudia Hernandez, Antonio Davila, Leal Felicito and Ismael Piedra ITESM, Escuela de Medicina Ignacio A Santos, Monterrey, Mexico
1115-1130  2A3  Portfolio assessment in undergraduate medical education: is it a reliable method of summative assessment?
Charlotte Rees* and Charlotte Sheard
Peninsula Medical School, Plymouth, UK

1130-1145  2A4  Reliability of logbook data
H M J Raghoebar-Krieger*, D Th Sleijfer, W Bender, R E Stewart and R Poppin
Faculty of Medical Education, University of Groningen, Groningen, Netherlands

1145-1200  2A5  Reliability and validity of the Integrated Direct Observation Clinical Encounter Examination (iDOCEE) for the assessment of final year medical students
H Hamdy*, K Prasad and R Williams
Arabian Gulf University, College of Medicine & Medical Sciences, Manama, Bahrain

1200-1215  2A6  Beyond the OSCE: comprehensive assessment at the University of Rochester
R M Epstein*, L Henson, E Dannefer, S Schultz, A Nofziger, M A Courtney, N Jospe, L Conard and E M Hundert
University of Rochester School of Medicine, Rochester, USA

1215-1230  Discussion

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Assessment – OSCE

Chairperson: Dr John Boulet, USA
Room: Building C3 Room 3.2.15

1045-1100  2B1  Standard setting for OSCE examinations in the undergraduate curriculum: a trial of the borderline approach
S M Kilminster* and T E Roberts
School of Medicine, University of Leeds, Leeds, UK

1100-1115  2B2  The development of a high-stakes OSCE to assess student competence
Paula S Smith, Stephen B Leapman* and Susan H Ballinger
Indiana University School of Medicine, Indianapolis, USA

1115-1130  2B3  Is the OSCE truly objective? The effect of racial origin on performance in an undergraduate OSCE
Inam Haq* and Jane Dacre
University College London, Royal Free and University College Medical School (RFUCMS), London, UK

1130-1145  2B4  Factor analysis is a useful tool in OSCE construction and in the measurement of student OSCE performance
A M S Chesser*, M R Laing, Z Miedzyrodzka, J Brittenden and S D Heys
University of Aberdeen, Undergraduate Teaching Centre, Inverness, UK

1145-1200  2B5  The Catalan Family Physician OSCE: its validity as a certification tool
C Blay, R Vilatimó, C López, S Juncosa, J M Martínez-Carretero and J Arnau*
Institute of Health Studies, Barcelona, Spain
International Medical Education

Chairperson: Dr Marina Mrouga, Ukraine
Opening Discussant: Dr Andrzej Wojtczak, USA
Room: Building C8 Room 8.2.06

1045-1100

2C1 International medical graduates in Canada: what do we know?
S Banner*, R A Cnitcher and O Szafrań
Canadian Resident Matching Service - CaRMS, Ottawa, Canada

1100-1115

2C2 Integration of Eastern European medical schools into the European medical educational system
R Khetsuriani and Z Avaliani*
Tbilisi State Medical University, Tbilisi, Georgia

1115-1130

2C3 Communication skills training in foreign language for medical students in exchange programmes
Charlotta Zacharias* and O Ortwein
Berlin Biomedical Exchange Office, Charité, Humboldt University, Berlin, Germany

1130-1145

2C4 CME can improve perinatal health outcomes - a Macedonian experience
Heather E Jeffery*, Marina Pop-Lazarova, Fimka Tozija, Kirsty Foster, David Hill, Mirjana Kocova and Dragan Djordjev
Royal Prince Hospital and the University of Sydney, Camperdown, Australia

1145-1200

2C5 Colombian physician brain drain
Diego Rosselli* and Andres Otero
Universidad Militar Nueva Granada, Facultad de Medica, Bogota, Colombia

1200-1215

2C6 Development of a plan to modernise health professions education in Colombia
J Romá*, M L Vázquez, L F Giacometti, D Rosselli, M V Ocampo, G Romero, D España, J Fornells, X Cleries and A Mejía
University of Barcelona, Barcelona, Spain

1215-1230

Discussion
# Clinical Skills

**Chairperson:** Dr Nancy Gary, USA  
**Opening Discusssant:** Professor John Cookson, UK  
**Location:** Building C8 Room 8.2.10

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Authors</th>
<th>Institution</th>
</tr>
</thead>
</table>
| 1045-1100| 2D1     | **A clinical teaching enhancement programme: the importance of an academic spine in clinical skills** | Paul Bradley*, Pamela Bradley* and John Bligh  
Peninsula Medical School, Plymouth, UK |                                                     |
| 1100-1115| 2D2     | **Introducing students to clinical skills - a constructivist approach** | J Ker*, J Dent, P Preece and B Klaassen  
University of Dundee, Clinical Skills Centre, Dundee, UK |                                                     |
| 1115-1130| 2D3     | **Influence of a reformed curriculum in internal medicine on self-efficacy in clinical skills of medical students** | J Juenger*, D Schellberg, M Benkowitsch, S Schaefer, A Zeuch, C Roth, C Nikendei, T Mueller, B Auler and W Herzog  
University of Heidelberg Medizinische Klinik, Heidelberg, Germany |                                                     |
| 1130-1145| 2D4     | **Exploring myths: learning clinical and communication skills in simulated settings** | Della Freeth and Heather Fry*  
ICCED, Imperial College Seminar and Learning Centre, London, UK |                                                     |
| 1145-1200| 2D5     | **Integration of paper-cases and role-plays in skills-lab training in internal medicine** | C Nikendei*, C Roth, P Dieckmann, D Schellberg, D Schaefer, B Auler, W Herzog and J Juenger  
University of Heidelberg, Medizinische Universitätsklinik, Heidelberg, Germany |                                                     |
| 1200-1215| 2D6     | **Consolidating clinical competencies: preparing senior student nurses for practice** | Lesley J Mole*, Lee Bracher and Jean S Ker  
University of Dundee, Clinical Skills Centre, Dundee, UK |                                                     |
| 1215-1230|         | **Discussion**                                                        |                                                                         |                                                     |

# Multiprofessional Education

**Chairperson:** Professor Margarita Barón-Maldonado, Spain  
**Opening Discussant:** Dr Marilyn Hammick, UK  
**Location:** Building C8 Room 8.2.11

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Authors</th>
<th>Institution</th>
</tr>
</thead>
</table>
| 1045-1100| 2E1     | **Karolinska Hospital Educational Centre for inter-professional training** | G Bolinder*, B Fagrell and C Hägglund  
Institute of Medicine, Karolinska Institute, Stockholm, Sweden |                                                     |
| 1100-1115| 2E2     | **Multiprofessional training in Obstetric emergencies using on-site simulation** | Sarah Thompson*, Shona Neal and Vicki Clark  
St John's Hospital, Livingston, Scotland, UK |                                                     |
<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Authors/Institutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1115-1130</td>
<td>2E3</td>
<td>Improving multidisciplinary education in a District General Hospital</td>
<td>Alistair Thomson*, Hazel Greenwood, Carol Henshaw and Gill Newall&lt;br&gt;South Cheshire Postgraduate Medical Centre, Leighton Hospital, Crewe, UK</td>
</tr>
<tr>
<td>1130-1145</td>
<td>2E4</td>
<td>A comparison: medical students vs. paramedic students’ decision-making processes in treating a medical emergency case</td>
<td>H Eshach*, G Bar-Joseph, O Melitz, Z Feigenberg, H Bitterman and M Halberthal&lt;br&gt;Technion - Israel Institute of Technology, The Bruce Rappaport Faculty of Medicine, Haifa, Israel</td>
</tr>
<tr>
<td>1145-1200</td>
<td>2E5</td>
<td>Authentic learning and the power to change</td>
<td>Magnus Lindahl&lt;br&gt;Uppsala University Hospital, Uppsala, Sweden</td>
</tr>
<tr>
<td>1200-1215</td>
<td>2E6</td>
<td>Education of teamwork approaches for preclinical medical students</td>
<td>Masami Tagawa* and Masahiro Tanabe&lt;br&gt;Chiba University Hospital, Chiba, Japan</td>
</tr>
<tr>
<td>1215-1230</td>
<td>Discussion</td>
<td></td>
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<tr>
<td>1045-1100</td>
<td>2F1</td>
<td>Identifying the strengths and weaknesses of a new curriculum by means of the DREEM Inventory</td>
<td>Hettie Till*, Sue Roff and Sean McAleer&lt;br&gt;Canadian Memorial Chiropractic College, Toronto, Canada</td>
</tr>
<tr>
<td>1100-1115</td>
<td>2F2</td>
<td>Students’ evaluation of tutors in tutorials</td>
<td>Christina Eintrei, Tommy Sundqvist* and Margaretha Behrbohm-Fallsberg&lt;br&gt;Faculty of Health Sciences, Linköping University, Linköping, Sweden</td>
</tr>
<tr>
<td>1115-1130</td>
<td>2F3</td>
<td>Pre-Registration House Officers (PRHOs) assess their undergraduate education through focus groups</td>
<td>Simon Wattmough*, Anne Garden and David Graham&lt;br&gt;University of Liverpool, Curricular Development Unit, Liverpool, UK</td>
</tr>
<tr>
<td>1130-1145</td>
<td>2F4</td>
<td>Self-evaluation of the teaching programme by medical students: Cracow experiences</td>
<td>Beata Tobiasz-Adamczyk&lt;br&gt;Medical Faculty, Jagiellonian University, Cracow, Poland</td>
</tr>
<tr>
<td>1145-1200</td>
<td>2F5</td>
<td>Evaluation of medical studies by 6th year students</td>
<td>R Tomás*, N Brito, S Costa, B Heleno, I Pereira and P Vita&lt;br&gt;Associação Nacional de Estudantes de Medicina, Portugal</td>
</tr>
</tbody>
</table>
2F6 Evaluation of the Undergraduate General Practice Training Programme in the sixth year at the University of Lisbon
José Guilherme Jordão* and Luís Rebolo
Faculty of Medicine, University of Lisbon, Lisbon, Portugal

Discussion

2G Continuing Medical Education: Physician Appraisal

Chairperson: Dr Karen Mann, Canada
Opening Discussant: Professor Lesley Southgate, UK
Location: Building 8 Room 8.2.30

1045-1100 2G1 Assessing the applied knowledge of General and Family Practice Doctors: a Canadian collaboration
University of British Columbia, Vancouver, Canada

1100-1115 2G2 A Nova Scotia pilot study of the Alberta Physician Achievement Review Program (NSPAR)
Joan Sargeant*, Jean Gray, Karen Mann, Donald Langille and Suzanne Ferrier
Faculty of Medicine, Dalhousie University, Halifax, Canada

1115-1130 2G3 “It’s a reality check” - the contribution of 360-degree feedback in consultant appraisal
Markus Kuehl
APU, Centre for Organisational Research, Danbury, UK

1130-1145 2G4 Evaluation of an appraisal system for UK specialists
K H Matheson* and S Wilkinson
West Suffolk Hospital, Bury St Edmunds, UK

1145-1200 2G5 General Practitioner characteristics and the outcome of Significant Event Analysis (SEA) submitted for educational peer review
Paul Bowie*, John McKay and Murray Lough
Department of Postgraduate Medical Education, University of Glasgow, Glasgow, UK

1200-1215 2G6 Attitudes and barriers to incident reporting and significant event analysis (SEA): a postal survey of principles in General Practice in Greater Glasgow
John McKay*, Paul Bowie and Murray Lough
Dept of Postgraduate Medical Education, University of Glasgow, Glasgow, UK

Discussion
Pre-Registration House Officer Training

Chairperson: Dr James Hallock, USA
Opening Discussant: Dr Stephen Field, UK
Location: Building C8 Room 8.2.47

1045-1100

2H1 A Scottish evidence base for Pre-Registration House Officer outcome-based education
L A Paterson*, E A Hesketh and R M Harden
Educational Development Unit, Dundee, UK

1100-1115

2H2 A first year house surgeon run in a New Zealand district general hospital does not give adequate exposure to practising clinical procedures
Iwona Stolarek
Wellington School of Medicine, Otago University, Wellington, New Zealand

1115-1130

2H3 Learning strategies of PRHOs in the hospital setting
Ann-Helen Henriksen* and Charlotte Ringsted
Bispebjerg Hospital, Postgraduate Mediciniske Institut, Copenhagen, Denmark

1130-1145

2H4 An evaluation of the use of the logbook for pre-registration training
Stefan Qjas* and Asa Granquist
Swedish Medical Association, Stockholm, Sweden

1145-1200

2H5 Pre-Registration House Officers' Appraisal and Assessment System: the PHAST appraisal
D Snadden* and M Friedman Ben-David
Tayside Centre for General Practice, University of Dundee, Dundee, UK

1200-1230

Discussion

Use of Simulators

Chairperson: Dr Martin Fischer, Germany
Opening Discussant: Dr Barry Issenberg, USA
Location: Building C8 Room 8.2.39

1045-1100

2I1 Evaluation after training in the procedicus endoscopic simulator: a study among undergraduate medical students
Torsten Wredmark*, Li Felländer-Tsai, Pär Strom, Ann Kjellin, Ericka Johnson Karolinska Institutet, Center for Advanced Medical Simulation, Stockholm, Sweden

1100-1115

2I2 Integrating virtual reality with communication skills - an innovative approach to learning flexible sigmoidoscopy
R L Kneebone*, D Nestel, P Taylor, K Moorthy, S Bann and A Darzi
Imperial College of Science, Technology and Medicine, London, UK

1115-1130

2I3 Does training of medical students using professional patients improve technical skills? - an assessment using the “epelvis”
M S Marsh*, P Baraitser, J Rymer, S Pickard and C Pugh
GKT Medical School, Academic Dept of Obstetrics & Gynaecology, London, UK
<table>
<thead>
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<th>Institution</th>
<th>Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>1130-1145</td>
<td>2I4</td>
<td>One for One - skill model/low-cost model for intravenous line access</td>
<td>B Marschall*, T Ganslandt and R Nippert</td>
<td>Institute of Education and Student Affairs (IfAS), Westf. Wilhelms Universität</td>
<td>Münster, Germany</td>
</tr>
<tr>
<td>1145-1200</td>
<td>2I5</td>
<td>A prospective evaluation of 19 EASIE-team-training workshops on endoscopic hemostasis for 487 doctors and nurses</td>
<td>J Maiss*, A Naegel, S Tex, E G Hahn and J Hochberger</td>
<td>Department of Medicine I, University of Erlangen-Nuremberg, Erlangen, Germany</td>
<td>Germany</td>
</tr>
<tr>
<td>1200-1215</td>
<td>2I6</td>
<td>Benefit of hands-on training in therapeutic endoscopic techniques: learning curves of four important endoscopic hemostasis techniques on the compact EASIS-simulator</td>
<td>J Hochberger, K Matte, J Maiss*, S Cohen, D Greenwald, E G Hahn and J Cohen</td>
<td>Department of Medicine I, University of Erlangen-Nuremberg, Erlangen, Germany</td>
<td>Germany</td>
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<tr>
<td>1215-1230</td>
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<td>Discussion</td>
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<tr>
<td>1045-1100</td>
<td>2J1</td>
<td>A new Spanish multimedia tool as the basis of an improved Primary Care physicians’ training programme to handle drug abuse related problems: clinical management and communication skills</td>
<td>Javier Jáidez*, Eusebio Megías, José Pérez de los Cobos, José Antonio Prados, Pedro Cuadrado and Beatriz Juanes</td>
<td>Fundación de Ciencias de la Salud, Madrid, Spain</td>
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<tr>
<td>1100-1115</td>
<td>2J2</td>
<td>MedicCaseML - a new instrument in web-based medical education</td>
<td>Ch Schwarz*, A-K Merz, F Rockman and C-M Reng</td>
<td>University of Regensburg, Regensburg, Germany</td>
<td></td>
</tr>
<tr>
<td>1115-1130</td>
<td>2J3</td>
<td>How to make educative video CD/digital video</td>
<td>A Chiado and A Pereira da Silva*</td>
<td>Faculty of Medicine, University of Lisbon, Portugal</td>
<td></td>
</tr>
<tr>
<td>1130-1145</td>
<td>2J4</td>
<td>Changes in student learning strategies with the introduction of e-learning</td>
<td>Helge I Stromso*, Ger Grottum and Kirsten H Lycke</td>
<td>University of Oslo, Faculty of Education, Oslo, Norway</td>
<td></td>
</tr>
<tr>
<td>1145-1200</td>
<td>2J5</td>
<td>Discussion group using asynchronous learning network during a clinical rotation in Paediatrics</td>
<td>B De Wever*, M van Winckel, J Kerkhof and M Vandeke</td>
<td>University of Ghent, Gent, Belgium</td>
<td></td>
</tr>
</tbody>
</table>
2J6  Evolution or revolution of graduate curriculum design and teacher training at Monterrey Tech with the aid of cyberspace
Jesus Ibarrá-Jiménez*, María de los Ángeles Jiménez-Martínez, Víctor M Uscanga-Vicarte and Martín M Hernández-Torre
ITESM, Nuevo León, Mexico

Discussion

Teaching and Learning

Chairperson: Mr John Dent, UK
Opening Discussant: Professor John Simpson, UK
Location: Building C8 Room 8.2.13

1045-1100  2K1  One-on-one tutorials: a new form of medical teaching
Ruedi Isler*, Klaus Bally* and Peter Tscheddi*
Basel University Medical School, Basel, Switzerland

1100-1115  2K2  Medics in primary schools - an innovative Special Study Module
W McClune, C Murphy and M Boohan*
Queen’s University of Belfast, Medical Education Unit, Belfast, Northern Ireland, UK

1115-1130  2K3  Evaluation of an interactive course comparing the acceptability of self-directed learning, video, role play and tutorials to year 1 medical students, and to identify reasons for attendance
D Dodwell*, C Wiskin and J R Skelton
University of Birmingham Medical School, Birmingham, UK

1130-1145  2K4  Symptom - vs disease-oriented lectures - assessment of teaching quality by medical students
Martina Kadmon, Sabine Schürer, Nina B Latham*, A Merhabi, E Gazyakan, J Schmidt and F Kallinowski
Department of General Surgery, University of Heidelberg, Heidelberg, Germany

1145-1200  2K5  Computer-Based Training (CBT) for medical education: evaluation of the Pediatric main lecture at the LMU Munich, Germany
S Handl*, H Küster, M Fischer and A Roscher
University Children’s Hospital, LMU Munich, München, Germany

1200-1215  2K6  Developing and introducing a Special Study Module (SSM) in teaching clinical method
Deborah Gill*, Jane Richardson and Johnathan Cartledge
Royal Free and University College Medical School, London, UK

Discussion
**Professionalism**

**Chairperson:** Dr Harry Kimball, USA  
**Opening Discussant:** Dr Stewart Petersen, UK  
**Location:** Building C3 Room 3.2.16

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**2L**

1045-1100  
2L1 **Teaching leadership and professional values to medical students: an outcomes study**  
Janine C Edwards, James Deegar, Thomas K Burdenki Jr and Richard A DeVaul*  
Texas A & M University College of Medicine, College Station, Texas, USA

1100-1115  
2L2 **Teaching medical software: how to develop professional attitudes and skills**  
Roger Karlsson*, Stefan O Emdin, Mari Norgen and Erik A Nilsson  
Department of Family Medicine, Umeå University Hospital, Umeå, Sweden

1115-1130  
2L3 **Higher professional development courses for health professionals: evaluation issues**  
C. Osonaya, K. Osonaya, E. Van Der Pool*, C. Harris, R. Jesudass-Roberts and K. Bonner  
United Medical Education College, London, UK

1130-1145  
2L4 **Medical errors and self-criticism: an educational intervention**  
Leeanne Ramdin, Allan Cumming* and Pamela Baldwin  
University of Edinburgh Medical School, Edinburgh, UK

1145-1200  
2L5 **Professionalism in General Practice**  
Kalinka van de Camp*, Myrrha Vernooij and Ben Bottema  
UMC St Radboud, HSV/VOHA, Nijmegen, Netherlands

1200-1215  
2L6 **Medical students’ views about trustworthiness (Withdrawn)**  
J Benson, A J S White, J Perry and T Males  
University of Cambridge, Institute of Public Health, Cambridge, UK

1215-1230  
**Discussion**

---

**Postgraduate Education**

**Chairperson:** Dr Dale Dauphinée, Canada  
**Opening Discussant:** Dr Charlotte Ringsted, Denmark  
**Location:** Building C8 Room 8.2.15

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**2M**

1045-1100  
2M1 **Do the UK Royal College curriculum statements guide assessment and learning for Specialist Registrars?**  
David Wall*, Sarah Wakefield and Alison Bullock  
West Midlands Deanery, PMDE, Birmingham, UK

1100-1115  
2M2 **360° assessment of personal and professional behaviour in SHOs**  
A B Whitehouse*, M Wolzman and D W Wall  
West Midlands PMDE, Birmingham, UK

1115-1130  
2M3 **An evaluation of the annual review process for Specialist Registrars in the Mersey Deanery**  
John Bache*, Jeremy Brown and David Graham  
Mersey Deanery, Liverpool, UK
1130-1145 2M4 Improving the educational process in Canadian Postgraduate Medical Education: the internal university review
P Catto* and S Tallett
University of Toronto, Toronto, Canada

1145-1200 2M5 Residents’ perceptions of their intensive care training process and outcomes
António Pais de Lacerda* and Carlos França
Hospital de Santa Maria, Lisbon, Portugal

1200-1215 2M6 Training for educational supervisors: reconciling the needs of trainees and trainers
Carole Allan*, Gillis Bagnall* and Elizabeth Campbell
NHS Education for Scotland - West of Scotland Deanery, Glasgow, UK

1215-1230 Discussion

1230-1400 Lunch in Student Refectory (see plan on page 1.19)

1400-1530 Session 3: Posters

Twelve simultaneous, themed sessions
Please meet in the rooms listed below. Participants each have two minutes to introduce themselves and to state briefly the topic of the poster. The groups will then move to the poster exhibition area for further discussion.

Curriculum Planning
Chairperson: Dr William Burdick, USA
Room: Building C8 Room 8.2.30

3A1 Outcomes for students of the Faculty of Medicine of University of Barcelona, Catalonia, Spain
Jorge Palés*, J A Bombi, F Cardellach, C Gomar, A Gual, M T Jimenez de Anta, J Ordi, F Pons, S Suso and M T Estrach
University of Barcelona/SEDEM, Faculty of Medicine, Barcelona, Spain

3A2 What are you going to be and to do as a doctor?
Joaquim Pinto-Machado
School of Health Sciences, University of Minho, Braga, Portugal

3A3 Reforming the undergraduate curriculum in the Medical Faculty Skopje, Macedonia
J Saveski*, M Soljakova, K Boskoski and Z Gucev
Medical Faculty Skopje, Macedonia

3A4 Core curriculum and Special Study Modules in the undergraduate curriculum at the Medical Faculty in Skopje
Z Gucev*, M Soljakova, K Boskoski and J Saveski
Medical Faculty Skopje, Macedonia
3A5 Innovation in medical education in Bulgaria: the Pleven Model
Z Radionova* and N Narlieva
University School of Medicine - Pleven, Bulgaria

3A6 Designing and implementing a spiral curriculum for community oriented medical education
Niall Byrne*, Ian Johnson and Barbara McRobb
University of Toronto, Faculty of Medicine, Toronto, Canada

3A7 Undergraduate studies at the Faculty of Medicine Masaryk University
Eva Taborska
Faculty of Medicine, Masaryk University in Brno, Brno, Czech Republic

3A8 A new strategy of medical education in the Amazon Region, Brazil
R A C Carvalho, S N Pennini, W D Alectrim, M V Guerra, B C Albuquerque and N F Bonfim
University of Amazon State, Manaus, Brazil

3A9 Innovations in the curriculum at the Medical Faculty University of Latvia
Ingrida Rumba and Uldis Vikmanis
Medical Faculty, University of Latvia, Riga, Latvia

3A10 Heidelberg Curriculum Medicinale - HeiCuMed - a significant curricular change in students’ surgical education
N B Latham*, E Gazyakan, M Kadmon, A Mehrabi, F Kallinowski, M W Büchler and J Schmidt
Department of Surgery, Heidelberg University, Heidelberg, Germany

3A11 Undergraduate medical studies in the Medical School of University of Beira Interior of Portugal
Montserrat Fonseca*, Isabel Neto, Manuela Campos, Ana Macedo, Rui Costa, Leonor Goveia and Pedro Sousa
Universidade da Beira Interior, Facultade de Ciências da Saúde, Covilhã, Portugal

3A12 New approach in undergraduate medical studies in the Medical School at the University of Castilla-La Mancha
M T Alfonso-Roca*, P Serrano, M Fonseca and J Fernoso
Medical School of the University of Castilla-La Mancha, Albacete, Spain

3A13 The elective year in the Zurich medical curriculum: a survey of students’ choices, activities and attitudes
W Gerke*, W Vetter and C Schirlo
Medical Faculty, University of Zurich, Zurich, Switzerland

3A14 Evaluation of an innovative teaching-learning process in the fifth year Medicine Urology class at Universidad de Chile
Justo Bogado*, Ilse Lopéz, Enrique Mandiola, Teresa Miranda and Fernando Hidalgo
Universidad de Chile, Las Condes, Chile

3A15 Learning objectives in Pediatric surgery in the core curriculum for surgery in Japan
Masahiro Tanabe
Chiba University Hospital, Chiba, Japan
Management and Administration/Responding to Change

Chairperson: Professor Frank Sullivan, UK
Room: Building C8 Room 8.2.06

3B1 Managing the apprehension of educational change with the Invisible Point of No Return Model
Stefan O Emdin*, Mari Nogren, Roger Karlsson and Erik A Nilsson
University Hospital, University of Umed, Umed, Sweden

3B2 Building a base of ownership for change: Curriculum 2001
Angel Cid*, Leticia Elizondo M, Claudia Hernandez, Graciela Medina and Jesus Ibarra
ITESM, Escuela de Medicina Ignacio A Santos, Monterrey, Mexico

3B3 Adaptation of management methods and methodological innovation in medical education
Manuela Campos Duarte*, Montserrat Fonseca, Mário Ratposo and Júlio Fermoso
Faculdade de Ciências da Saúde, Universidade da Beira Interior, Covilhã, Portugal

3B4 Implementation of a new teaching method in the current curriculum
Guidal Yezbyrak and Niltifer Kosku
Yeditepe University, School of Medicine, Istanbul, Turkey

3B5 Opinions of faculty members and graduate students about the roles of Professors of Medicine (medical teachers)
M L V Rodrigues*, J F C Figueiredo, C E Piccinato, M F A Colares, A R L Camofone and L E A Tromcon
Faculdade de Medicina de Ribeirao Preto, Ribeirão Preto, Brazil

3B6 The quest for change
Naira Al Awqati and Samim Al-Dabagh
Health and Allied Sciences, Ministry of Health, Iraq

3B7 Pursuing perfection in healthcare - implications for medical education
Carl A Patow
University of Minnesota, School of Medicine, Minneapolis, USA

3B8 Tbilisi State Medical University - on the way from the Soviet model of medical education
R Khetsuriani and I Mezjava*
Tbilisi State Medical University, Tbilisi, Georgia

3B9 Teaching governance: further exploratory research
I J Robbé
University of Wales College of Medicine, Cardiff, UK

3B10 Work relationships in the School of Medicine of Ribeirao Preto, University of Sao Paulo (FMRP USP), Brazil
H L A L Furtado
Faculdade de Medicina de Ribeirao Preto, Ribeirao Preto, Brazil

3B11 The cost of a Geriatric clerkship for medical students
Beni Habot*, Idel Aloni, Emily Lubart, Shlomo Dagan, Beni Nadler and Arthur Leibovitz
“Shmuel-Harofe” Hospital, Geriatric Medical Centre, Beer-Yaakov, Israel
3B12  A study of non cognitive aspects of student selection for entry to medical school
Flavia Riggione*, B Alarcón de Noya and M Requesens
Facultad de Medicina, Universidad Central de Venezuela, Caracas, Venezuela

3B13  An educational experience - matching student to house officer post
Clive Roberts* and Kathy Feest
University of Bristol, Clinical Deans Office, Bristol, UK

3B14  Medical dissertation in Germany: a survey among students
M Dewey
Charité, Humboldt University Berlin, Campus Charité Mitte, Berlin, Germany

Problem Based Learning

Chairperson: Dr Per Hultman, Sweden
Room: Building C8 Room 8.2.38

3C1  How to introduce students into a PBL curriculum
Wolfgang Blaum*, Nicolas Ziegenhagen, Claudia Kiesling, Rita Leidinger and Kai Schnabel
Charité, Humboldt University of Berlin, Berlin, Germany

3C2  How to improve Problem Based Learning for workshadow (A Level) students in Accident and Emergency
Carole Ann Johnson* and Peter Thomas
Milton Keynes General Hospital, Milton Keynes, UK

3C3  The role of the Problem Based Learning tutor
Anne-Marie Eeg-Olofsson
Faculty of Health Sciences, Linköping University, Linköping, Sweden

3C4  Do we need guidelines on how to write paper cases in a PBL curriculum?
Susanne Pruskel* and Alexander Drandarevski
Charité, Humboldt University Berlin, Berlin, Germany

3C5  Opinions of tutors about the problem-based learning process at Dokuz Eylul University School of Medicine
Cahit Taskiran*, Berna Musal and Nepe Atabay
Dokuz Eylul University, School of Medicine, Izmir, Turkey

3C6  Students’ self study process in Dokuz Eylul University School of Medicine
Arif Tanı, Yucel Gursel*, Cahit Taskiran, Sema Ozan and Berna Musal
Dokuz Eylul University, School of Medicine, Izmir, Turkey

3C7  Comparison of assessment methods among Dokuz Eylul University School of Medicine students
Sema Ozan, Cahit Taskiran*, Yucel Gursel, Berna Musal and Ilgı Semin
Dokuz Eylul University, School of Medicine, Izmir, Turkey
3C8  Training of doctor/patient-communication in interdisciplinary PBL courses
V Kollner*, F Einsel, C Haag, I Nitsche, U Ravens, P Joraschky
Universitätsklinik Dresden, Dresden, Germany

3C9  Case design for PBL and evaluation of an example
Nicolas Ziegenhagen*, Wolf Blaum and Claudia Kiessling
Charité, Humboldt University of Berlin, Berlin, Germany

3C10 New media in PBL-cases
Kai Sostmann*, Alexander Drandarevski* and Claudia Hahn
Charité, Humboldt University of Berlin, Berlin, Germany

3C11 Written test (like progress test) analysis is important to reduce the anxiety of the students in PBL
Demetrio Arcos-Camargo*, Enrique F J Martínez-Gómez, Graciela Medina-Aguilar, Jorge E Váldez García and Ricardo Trevino-González
Monterrey Tech School of Medicine, Monterrey, Mexico

3C12 Students’ perceptions of newly implemented PBL sessions
Melih Elcin, Orhan Oğabası and Iskender Sayek*
Hacettepe University, Faculty of Medicine, Ankara, Turkey

3C13 Problem-based lecture - advantages for a better medical education
E Gazyan*, N B Latham, M Kadmon, A Mehrabi, S Schürer, F Kallinowski and J Schmidt
Department of Surgery, Heidelberg University, Heidelberg, Germany

Teaching and Learning/Multiprofessional Education

Chairperson: Professor Hossan Hamdy, Bahrain
Room: Building C8 Room 8.2.39

3D1  Portfolio technique for better clinical teaching of students in Sports Medicine
German E Clénin
Institute of Sport Sciences, Federal Office of Sport, Magglingen, Switzerland

3D2  Portfolio of Ambulatory Pediatrics
Luisa Schönau
Facultad de Medicina, Universidad de Chile, Santiago, Chile

3D3  Community-oriented recreational activities in medical teaching: educational aspects
Maria Vaz-Pato*, Mário Kirzner, F Kirzner, L Taborda-Barata and I Verde
Universidade da Beira Interior, Departamento de Ciencias Medicas, Covilhã, Portugal

3D4  The role of discussion in learning
Jean McKendree
LTSN-01, University of Newcastle, Newcastle-upon-Tyne, UK
3D5  Using dictated recall for reflection on Precepting in the Presence of Patients (PITPOP)  
Randy Barker  
Johns Hopkins Bayview Medical Center, Baltimore, Maryland, USA

3D6  A student’s perception about a pedagogic methodology in medicine that encourages self-learning  
Cecília Vilaça*, Madalena Serra, João Marinho, Raquel Veiga, Joana Couto, Sara Machado, Silvestre Cruz, Joana Sanches, Liane Carreira, Pedro Fernandes and Ana Filipa Azevedo  
Faculdade de Ciências da Saúde, Universidade da Beira Interior, Covilhã, Portugal

3D7  An activating instruction approach - a practicable learning strategy to teach ethics to Geriatric health care professionals  
Ingrid Randers* and Anne-Cathrine Mattiasson  
H.M. Queen Sophia University College of Nursing, Bromma, Sweden

3D8  Administration of practical periods in the medical curriculum at the Faculty of Medicine, University of Oslo  
Jens Andreas Wold  
Medical Faculty, University of Oslo, Oslo, Norway

3D9  The MacDonalds principle (withdrawn)  
David Thomas  
Greater Manchester Workforce Development Confederation, Manchester, UK

3D10  Using the arts and humanities to improve the communication skills of Specialist Registrars in Palliative Medicine  
Rachel McCoubrie and David Jeffrey  
3 Counties Cancer Network, Cheltenham General Hospital, Cheltenham, UK

3D11  The effects of a regular poetry slot on a multiprofessional chart round  
S Gugliani* and K Benstead  
Cheltenham General Hospital, Gloucestershire Oncology Centre, Cheltenham, UK

3D12  The influence of multidisciplinary faculty on multidisciplinary learning  
K Collings*, J Ehmann, M Hendy and H R Dalton  
Postgraduate Centre, Royal Cornwall Hospitals Trust, Truro, Cornwall, UK

3D13  From multiprofessional towards transprofessional education: the experiences of the teachers  
Karolinska Institutet, and H.M Queen Sophia University College of Nursing, Stockholm, Sweden

3D14  HSPICE: A Successful, Evolving Multiprofessional Student/Faculty Collaboration  
Dana P Hammer, Douglas C Schaad, Pamela H Mitchell and Bertine Easterling  
University of Washington Center for Health Sciences Interprofessional Education and Research, Seattle, USA
Clinical Teaching

Chairperson: Dr Ronald Epstein, USA
Room: Building C8 Room 8.2.10

3E1 Continuous quality development in clinical skills during medical school and internship
Christine Dichmann
Videreuddannelsen, Odense, Denmark

3E2 How do we teach communication and interaction skills to medical students?
P Terzioglu*, C Kiesling, M Helle, S Krautzberger, D Worthmann and U Schwantes
Trainingszentrum für ärztliche Fertigkeiten, Humboldt University, Berlin, Germany

3E3 Experiences with a sign language course in medical school
D van Wijngaarden* and A Lama
Universidad San Sebastián, Facultad de Medicina, Concepción, Chile

3E4 Educational problems in practice teaching of clinical skills
Lydia Pandova* and Neda Markovska
University P J Safarik, Faculty of Medicine, Kosice, Slovak Republic

3E5 Contribution of student assistants to a Skills Lab
Nora Berger, Heidi Limmen* and Charlotta Zacharias
Trainingszentrum für ärztliche Fertigkeiten, Humboldt University, Berlin, Germany

3E6 Participative teaching methodologies in a group of students with low marks in evaluations in Pedodontics
Andrea Munoz M* and Gisela Zillman G
Dental School, Universidad de Chile, Santiago, Chile

3E7 The Russian nesting doll (matryoshka) as a model in clinical teaching
B Wolf and F Scheele
St Lucas Andreas Ziekenhuis, Amsterdam, Netherlands

3E8 The development of an inventory to assess clinical reasoning skills based on Illness Script Theory
Gandes R Rahary* and Sean McAleer
Centre for Medical Education, University of Dundee, Dundee, UK

3E9 Prioritising training needs for simulated patients in multiprofessional undergraduate clinical skills teaching
Gillian Dewar*, Claire L Stewart, Paul E Preece and Jean S Ker
University of Dundee, Clinical Skills Centre, Dundee, UK

3E10 Patient partners with back pain: results of a medical student focus group
Joan Fuller*, Inam Haq, Jonathan Cartledge, Jennifer Worrall and Jane Dacre
University College London, Royal Free and University College Medical School (RFUCMS), London, UK
3E11 Surgical training of students from the specialisation course in Ophthalmology - Medical School of Ribeirão Preto, University of Sao Paulo, Brazil
Erasmo Romão*, Roberto Pinto Coelho and Argeniro Lauretti Filho
Medical School of Ribeirão Preto, São Paulo, Brazil

3E12 The art of empathy: an innovative approach to developing empathic skills in medical students
Karen Nielsen* and Susan Bentley
Michigan State University, Birmingham, Michigan, USA

3E13 Ability to read X-rays: does level of education predict skill?
Stephen A Margola*, Karl Anders Nilsson and Richard Reed
United Arab Emirates University, Al Ain, United Arab Emirates

3E14 Clinical skills learned in a community setting
Carlos Rojas Mora
ITESM, Escuela de Medicina Ignacio A Santos, Monterrey, Mexico

New Learning Technologies
Chairperson: Professor Ralph Bloch, Switzerland
Room: Building C3 Room 3.2.14

3F1 Learning outcomes in e-learning: the role of usability. An interactive poster
B Grether
Faculty of Veterinary Medicine, University of Zurich, Zurich, Switzerland

3F2 Web-based Otology skills training
Andrés Sampedro*, Jose L Llorente, Cesar Álvarez-Marcos, Ángel Martínez-Nistal, Henar Pérez and Raquel A Martínez
University of Oviedo, Servicio de Proceso de Imágenes, Oviedo, Spain

3F3 Computers and volunteerism improve the teaching environment
E Schoenengerber*, I Petruschke, A Lasch, E Zimmerman, S Major and M Dewey
Charité, Humboldt University Berlin, Berlin, Germany

3F4 3D Embryo: a visualization learning tool
H Reuterborg*, D Örtoft, I Masiello, M Nikkola, J Frisén, U Lendahl and K Lonka
Karolinska Institutet, Stockholm, Sweden

3F5 Communication training by distance learning on a windows based terminal
P M Bloemendaal* and S Eggermont
Leiden University Medical Center, Leiden, Netherlands

3F6 Nurse practitioners in minor surgery - an innovative approach to training
R L Kneebone*, D Nestel, S Martin, J Ramaswathy, J Kidd, K Moorthy, S Bann and A Darzi
Imperial College of Science, Technology and Medicine, London, UK

3F7 3D models of pathology specimens
J McClure
University of Manchester, Directorate of Laboratory Medicine, Manchester, UK
3F8  Patterns of interaction on a supported online programme for medical trainers
Andrew Sackville* and David Brigden
Edge Hill College of Higher Education, Ormskirk, UK

3F9  Rapid change in physician behaviour in response to early electronic release of journal articles: the power of pre-release
Simon Jackson* and Jaffra Cox on behalf of the ICONS investigators
QE II Health Science Center, Dalhousie University, Halifax, Nova Scotia, Canada

3F10  Multimedia educational material as a support to training in Nephrology
Safwan Escaif*, Francisco Lupiáñez, María Milans, Raquel Martínez and Andrés Sampedro
Servicio de Proceso de Imágenes, Hospital Central de Asturias, Oviedo, Spain

3F11  How can we involve the information and communication technologies in the medical education process?
Rui Costa*, Pedro Sousa, Leonor Gouveia, Montserrat Fonseca, Isabel Neto, Manuela Campos, Anna Macedo
Faculdade de Ciências da Saúde, Universidade da Beira Interior, Covilhã, Portugal

3F12  CAMPUS-Pediatrics: An interactive case-oriented, web-based training programme for graduate and postgraduate education in pediatrics
S Kopf, S Huwendieke*, B Hocker, R Singer, J Riedel, F J Leuen, G F Hoffmann and B Tonshoff
University Children’s Hospital Heidelberg, Im Neuenheimer Feld 150,69120 Heidelberg, Germany

3F13  PAEDIATOP: distance education for Pediatricians and General Practitioners
I Axellson* and L Csáky
Mid Sweden University, Department of Health Sciences, Östersund, Sweden

Basic and Clinical Sciences

Chairperson:  Dr Sharon Krackov, USA
Room:  Building C8 Room 8.2.11

3G1  A new view of “Molecules and Cells” as a basis of Molecular and Cellular Medicine in the Medical Course of the University of Minho
C Leão*, F Rodrigues, F Schmitt, F Sansonetty, I Palmeirim, T A Roca and J Pinto-Machado
University of Minho, Braga, Portugal

3G2  An example guided overview of the cell cycle and cell differentiation for first year medical students
Jordi Altimiras, Isabel Neto*, Ana Macedo and Ignacio Verde
Universidade da Beira Interior, Covilhã, Portuga

3G3  A favourable model of teaching provides better relationship in the universe of education
Leonor Paixão, Ana Macedo* and Isabel Neto
Universidade da Beira Interior, Covilhã, Portugal
3G4  New methodologies of university teaching - the Anatomy case  
J Afonso* and F Ferreira  
Faculty of Veterinary Medicine, University of Lisbon, Lisbon, Portugal

3G5  Should we teach Abernethy and Zuckermandl?  
Andreas Winkelmann  
Charité Medical School, Humboldt University, Berlin, Germany

3G6  A new approach to learning cell biology in Universidade da Beira Interior, Portugal  
Ignacio Verde, Isabel Neto*, Ana Macedo and Jordi Altimiras  
Universidade da Beira Interior, Covilhã, Portugal

3G7  The integrated learning of Biochemistry at the innovative Medical Faculty of Universidade da Beira Interior, Portugal  
Isabel Neto*, Jordi Altimiras, Ana Macedo and Ignacio Verde  
Universidade da Beira Interior, Covilhã, Portugal

3G8  Teaching Molecular Biology to medical students  
M Gama-Carvalho*, N Custódio, C Carvalho, T Carvalho and J Ferreira  
Faculdade de Medicine de Lisboa, University of Lisbon, Portugal

3G9  Evaluation of adult learning in an advanced course on Applied Biochemistry  
J Martins e Silva, Nuno C Santos* and Carlota Saldanha  
Faculdade de Medicine de Lisboa, University of Lisbon, Lisbon, Portugal

3G10  “Organic and Functional Systems”: a case of successful negotiation between contents and educational strategy in the Medical Course of the University of Minho  
M A F Tavares*, A Almeida, J Correia-Pinto, J Pêra, N Sousa, T A Roca and J Pinto Machado  
Medical School, University of Porto, Porto, Portugal

3G11  The educational challenge in integrating basic and clinical approaches in a program of Neurobiology in health sciences  
M C Prudêncio*, L de Sousa and M A F Tavares  
Porto High School of Health Technologies, Porto, Portugal

3G12  From Medical Microbiology to Pathobiology: a 10-year experience of change in an old university setting  
Torgny Hallberg  
Lund University, Department of Laboratory Medicine, Lund, Sweden

3G13  Planning and implementation of introduction to Clinical Medicine  
Yaraghj Mohammad Garak and Vahid Ashoorion*  
Isfahan University of Medical Sciences, Isfahan, Iran

3H  Special Subjects

Chairperson:  Dr Chris Hughes, Australia  
Room:  Building C8 Room 8.2.13

3H1  Human Genetics in the medical curriculum  
Ute Tautenhahn*, Jörg Pelz  
Charité, Humboldt University, Berlin, Germany
3H2 Lectures for students
Gabriela Vera, Matilde Pulgar and Ilse López*
Unidad de Psiquiatría Occidente, Universidad de Chile, Santiago, Chile

3H3 Human relationship centered curriculum
Antonio Barbosa
University of Lisbon Faculty of Medicine, Lisboa, Portugal

3H4 Terminal care teaching: pre and postgraduate experience
Antonio Barbosa
University of Lisbon Faculty of Medicine, Lisboa, Portugal

3H5 Cultural competency curriculum in the medical school at Lund University
Margareta Trochin* and Caroline Wachtler
Lund University, Department of Community Medicine, Malmö, Sweden

3H6 Cultural awareness teaching for undergraduate medical students
Jane Coutte
Ilkley, UK3

3H7 What medical students expect from their Social Service
Nancy E Fernandez-Garza
Facultad de Medicina, Universidad Autónoma de Nuevo Leon, Monterrey, Mexico

3H8 Smoking cessation education for undergraduate medical students
Jennifer Cleland*, James Friend, Gillian Lee and Leisl Osman
University of Aberdeen, Department of General Practice and Primary Care, Aberdeen, UK

3H9 Teaching of health promotion at the Medical Faculty of Szeged
Katalin Barabás
Hungarian Association of Medical Education, SZTE Psichiatriai Klinika, Szeged, Hungary

3H10 Risk of bioterrorism and its influence upon medical teaching
R Prymula*, K Antos, M Prochazka and B Jezek
Punkyne Military Medical Academy, Hradec Kralove, Czech Republic

3H11 How the history of medicine can enhance medical education
Mark Harper
London, UK
Postgraduate Education

Chairperson: Dr John McKay, UK
Room: Building C8 Room 8.2.47

311 The Swedish Medical Association logbook for the pre-registration training
Asa Granquist* and Stefan Quas
Swedish Medical Association, Stockholm, Sweden

312 Is there a future for pre-registration house officers (PRHOs) in general practice in the UK?
Ann M Campbell*, Joe Wilton, Jo Vallis and Barbara Stewart
GP Unit, The Lister Postgraduate Institute, Edinburgh, UK

313 Critical moments in trainee education: the telling space
Jill Schostak* and John Schostak
University of East Anglia, Centre for Applied Research in Education, Norwich, UK

314 New system of postgraduate medical training in Hungary
Gabor Bíró*, Anna Bukovinszky, Tibor Ertl and Árpád Gögl
University of Pécs Medical Center, Pécs, Hungary

315 Developing a national Residency in Family Medicine: a Kyrgyzstan model for the Central Asian Republics
Kathleen Conaboy*, Trudy Larson and Orolazy Uzakov
University of South Florida Health Sciences Center, Tampa, USA

316 A survey of postgraduate (PG) activities in the Department of Medicine in order to improve postgraduate teaching
Kamath Sandhya and Dahanukar Sharadini
Topiwala National Medical College, Department of Medicine, Mumbai, India

317 Goals for postgraduate training in Gynaecology: the missing link
W M van Baal*, F Scheele, B Wölf, J Th M van der Schout
St Lucas Andreas Hospital, Amsterdam, Netherlands

318 Bioethical Centre activities of the Lisbon Faculty of Medicine
João Ribeiro-da-Silva*, António Barbosa, Fernando Vale and Teresa Ribeiro-da-Silva
Bioethical Center Lisbon, Faculdade de Medicina de Lisboa, Lisbon, Portugal

319 Changing attitudes in Oncology and Palliative Care: from a “baton” to a “three-legged” race
K Benstead*, C Candish, S Gugliani, D Jeffery, L Pugsley and D Reid
Cheltenham General Hospital, Gloucestershire Oncology Centre, Cheltenham, UK

310 When is postgraduate education happening?
K Bested*, H Mandle and N Barlev
Vejle Hospital, Department of Anaesthesiology, Vejle, Denmark

311 AHA!
I Fog*, K Bested, E Ejlersen, K Vinding, H Mandle and P W Kristensen
Vejle Hospital, Department of Anaesthesiology, Vejle, Denmark

312 Higher specialist training in Geriatric Medicine, North West Deanery
Helen Duff* and Paul Baker
University of Manchester, Department of Postgraduate Education and Dentistry, Manchester, UK
3J13  Morning report: an analysis of curricular content and comparison with national guidelines
S Durning*, J Sweet and L Cation
Uniformed Services University, Wright Patterson Air Force Base, Ohio, USA

3J14  Vocational training for dentists - moving forward
Gary Thomas*, Shalin Mehra and Jude Carroll
Institute of Education, Oxford Brookes University, Oxford, UK

Continuing Professional Development

Chairperson: Dr Lewis Miller, USA
Room: Building C3, Room 3.2.13

3J1  Results of a needs assessment survey in Psychiatry
Anne-Marie Bouchard*, Jean Hébert and Robert Thivierge
Institut Philippe-Pinel de Montréal, Montréal, Québec, Canada

3J2  Assessing continuing education need of Pharmacists
F Jaffary, M A Yarmohammadian and T Sharifi
Isfahan University of Medical Sciences, Isfahan, Iran

3J3  Continuing Medical Education network in Isfahan University of Medical Sciences, a solution to overcome shortage of human and financial resources and improve the quality indicators
Tahereh Changiz
Isfahan University of Medical Sciences and Health Services, Isfahan, Iran

3J4  New evidence supporting the use of SCRIPT Concordance Tests in small group CME activities
Martin Labelle, Robert Thivierge*, Louis-George Sainte-Marie, Réjean Laprise and Robert Gagnon
University of Montréal, Montréal, Québec, Canada

3J5  Learning opportunities for academic specialists
Linda Snell* and Réjean Laprise
McGill University, Québec, Canada

3J6  Parallelism and complementarity learning in continuing education
P Raîche*, J M Turgeon, L Roy and R Dutu
Fédération des Médecins Omnipraticiens du Québec, Montréal, Québec, Canada

3J7  CME Department of the College of Physicians of Barcelona: evolution of activities and participants’ profile
Alex Ramos*, Raquel Dolado, Maitza Martínez and Helios Pardell
College of Physicians of Barcelona, Centre of Studies, Barcelona, Spain

3J8  Peer appraisal in General Practice - a UK view of how and why
Diana Jolley* and Tim van Zwanenberg
University of Newcastle, Collingwood Health Group, North Shields, UK

3J9  What do General Practitioners think about annual appraisal? A questionnaire based cross-sectional study in SE Scotland
Brian McKinstry, Johnstone Shaw*, Lisa McGilrrey and Lesley Skinner
GP Unit SE Scotland NHS Education Scotland, Edinburgh, UK
3J10 Evaluation of medical doctors before appointment as consultants at Danish hospitals
Gitte Wienholtz* and Karsten Bech
The National Board of Health, Copenhagen, Denmark

3J11 Changing physician behaviour: the dramatic effect of the HOPE trial on Ramipril prescribing
Karen Tu*, Muhammad M Mamdani, Robert M Jacka, Natalie J Forde, Deana M Rothwell and Jack V Tu
ICES, Toronto, Ontario, Canada

3J12 Women’s ways of learning for CME
Jane Tipping* and Jill Donahue
Markham, Ontario, Canada

3J13 Best practices in CHE
Consortium for Health Education, François Goulet, Robert L Thivierge, Céline Monette, Gilles Lachance* and André Jacques
College des médecins du Québec, Montréal, Québec, Canada

3J14 Teenage depression: how to be aware of the initial symptoms. The story of a CME workshop
André Jacques*, François Goulet, Diane Clavet, Patricia Garel, Robert Trudeau, Louis Warren, Alain Pavilans, Doris Adem, Pierre Bégin and Réjean Ménard
College des médecins du Québec, Montréal, Québec, Canada

3J15 The Québec Council in Continuing Medical Education; a joint action organisation
André Jacques*, François Goulet, Robert L Thivierge, Marianne Xhgnesse, Melvin Schols, Pierre Rathe, Gilles Hudon, Wilhelm Pellemans, Jean Victor Patenaude, Suzanne Gagnon and Céline Monette
College des médecins du Québec, Montréal, Québec, Canada

Assessment
Chairperson: Dr Clarke Hazlett, Hong Kong
Room: Building C3 Room 3.2.15

3K1 Evidence based Multiskill Assessment Method
Carlota Saldanha* and Rui Mesquita
Faculty of Medicine of Lisbon, Lisbon, Portugal

3K2 Quality of MCQ tests set for medical students taking biochemistry at the Faculty of Medicine, Khon Kaen University, Thailand
T Khamtipak*, T Khunthong, P Thuwajit, C Thuwajit, S JirakulSomchok, P Areeritraesorn and N Limratana
Khon Kaen University, Faculty of Medicine, Khon Kaen, Thailand

3K3 Evaluation of results from ethics questions in the Progress Test
E R Tomic, I M Benseñor, R Chebabo, I F C Tibério*, P L Bellodi and M A Martins
Faculty of Medicine, University of São Paulo, São Paulo, Brazil

3K4 Perception of assessment by the IMU Faculty
Hla Yee Yee
The International Medical University, Kuala Lumpur, Malaysia
3K5 Length (number of questions) and validity of the exams
Jorge Pérez*, Laura Mateu, Eva Baillès and Ramon Sarrias
Universitat Pompeu Fabra, Faculty of Health and Life Sciences, Barcelona, Spain

3K6 Continuous assessment: fixed days vs random days
Juana Diez, Neus Ferrer and Jorge Pérez*
Faculty of Health and Life Sciences, Universitat Pompeu Fabra, Barcelona, Spain

3K7 Performance of final year medical students in cognitive skills according to different curricular structures at the Faculty of Medicine of Ribeirao Preto, University of Sao Paulo, Brazil - FMRP-USP
Faculty of Medicine of Ribeirao Preto, University of Sao Paulo, Ribeirao Preto, Brazil

3K8 Preliminary results of a new approach to assessment in medical education at Universidade da Beira Interior
Anna Macedo*, Isabel Neto, Jordi Altimiras and Ignacio Verde
Universidade da Beira Interior, Faculdade de Ciências da Saúde, Covilhã, Portugal

3K9 Ethical competence in medical school applicants
Maura Mhic Iomhair and Peter Cantillon*
National University of Ireland Galway, Clinical Science Institute, Galway, Ireland

3K10 A pilot test to assess the formative programme for Family Medicine Residents in Catalonia
D Forés, A Martín-Zurro, M Bundó, M Ezquerra, J M Cots, S Juncosa, A Casasa, F Cordón, L Gràcia, J M Fornells and J MMartínez-Carretero*
Institute of Health Studies, Barcelona, Spain

3K11 Assessing clinical competence during the Internship
Heriberto Larrios, María Teresa Cortés* and Juan Andrés Trojo
Facultad de Medicina, UNAM, Mexico DF, Mexico

3K12 Comparison of grades for case reports when reviewed by one or three reviewers
W M Molenaar*, J J Reinders, M D Talsma and S A Koopmans
Institute of Medical Education, University of Groningen, Groningen, Netherlands

3K13 Record of In-Training Assessment for SHOs - evaluation of a pilot study in West of Scotland
Gellisse Bagnall* and Elizabeth Dalgetty
NHS Education for Scotland, West of Scotland Deanery, Glasgow, UK

3K14 Assessment of doctors in training, for Senior House Officers
J S Sprigge*, B L Rice, M Stacey, L Tofield, J Higgins and D Graham
Wirral Postgraduate Medical Centre, Clatterbridge Hospital, Wirral, Merseyside, UK

3K15 Developing nationwide written examinations for professional Psychotherapists
K Mayer, D Neumann and J Neuser*
German Institute for Medical and Pharmaceutical Examination, Mainz, Germany

3K16 Certification examination for foreign medical graduates
Jana Krejciкова
Institute for Postgraduate Medical Education, Prague, Czech Republic
The OSCE

Chairperson: Professor Fergus Gleeson, Ireland
Room: Building C3 Room 3.2.16

3L1 OSCE! Three variations on a theme by Harden
Brian Hodges
Department of Psychiatry, University of Toronto, Toronto, Canada

3L2 Computer-based OSCE-station - does it work?
Ulrich Woermann* and Rainer Hofer
Institute of Medical Education, University of Bern, Bern, Switzerland

3L3 OSCE and oral examination. What do teachers think?
Carlos Carvajal*, Marco Bustamante, Justo Bogado and Ilse López
Universidad de Chile, Facultad de Medicina, Santiago, Chile

3L4 Comparing two evaluation methods of practical skills in clerkship
Iolanda Tibério*, David Kasahara, Dulce Brito, José Atta, Paulo Silveira and Milton Martins
Sao Paulo University School of Medicine, Sao Paulo, Brazil

3L5 Comparison of pelvic examination technique assessment in an OSCE station using a standard pelvic mannequin and the “epelvis”
M S Marsh* and C Pugh
GKT Medical School, Academic Dept of Obstetrics & Gynaecology, London, UK

3L6 OSCE as an effective assessment tool for clinical skills
Sun Kim*, Moo Sang Lee and Seung Ho Kim
Yonsei University College of Medicine, Department of Medical Education, Seoul, Korea

3L7 New trends in the syllabus and educational approach in a Japanese private medical school
T Shimura*, A Teramoto and T Aramaki
Nippon Medical School, Neurosurgical Department, Tokyo, Japan

3L8 The confidence of undergraduate medical students in performing pelvic examination is not always related to their ability
C Pugh* and M S Marsh
Stanford University School of Medicine, Stanford, California, USA

3L9 Evaluating self-assessment skills in an OSCE context
Joan Fraser*, George Pachev and Gordon Page
University of British Columbia, Vancouver, Canada

3L10 Do students’ self-assessments of competence on Objective Structured Clinical Examinations correlate with examiners’ assessment of student performance?
Lory Laing* and Ernest N Skakun
University of Alberta, Faculty of Medicine, Edmonton, Canada
3L11 Inter-examiner reliability in the assessment of psychomotor skills: the problem and a way forward  
K Ross, D Bereznick and G Till*  
Canadian Memorial Chiropractic College, Toronto, Canada

3L12 The Cusum analysis - a technique for assessment of competence  
Lisbet Isenborg Ravn*, Michael Sprehn and Carsten Boe Pedersen  
Hvidovre Hospital, Department of Anaesthesia, Hvidovre, Denmark

3L13 Assessment of faculty staff performance using generalisability theory in dental skills assessment  
T J B Kropmans*, K Cosic, A van Nek and R P Zwierstra  
Faculty of Medical Sciences, University of Groningen, Groningen, Netherlands

3L14 Does a short and intensive course for the medical interview make a difference to medical students' performance in OSCE?  
Kei Mukohara*, Hideki Wakabayashi, Kazuya Kitamura and Nobutaro Ban  
Nagoya University Hospital, Nagoya, Japan

Students and Trainees

Chairperson:  Professor John Hamilton, UK  
Room:  Building C8 Room 8.2.15

3M1 Questionnaires concerning study conditions of final-year medical students  
Völkhard Fischer  
Hannover Medical School, Hannover, Germany

3M2 Mentorship in medical education: an experience in Iran  
Saeed Asafzadeh*, Masoud Sharifi and Hamidreza Javadi  
Qazvin University of Medical Sciences & Health Services, Qazvin, Iran

3M3 Some pre-examination habits explored in first year medical students  
Carlos E de la Garza-González*, Ma Esthela Morales Pérez, Norberto López Serna and José Manuel Ramírez Aranda  
Facultad de Medicina, Universidad Autónoma de Nuevo León, Monterrey, Mexico

3M4 The new university student's life  
Fernando Ferreira and Joao Afonso*  
Faculty of Veterinary Medicine, Lisbon, Portugal

3M5 Student support by students  
Heidi Lindland  
University of Oslo, Postboks 1018 Blindern, 0315 Oslo, Norway

3M6 How to handle a phase of transition: comparison between first year students’ perspectives in a reformed and a traditional track at Charité, Berlin  
Claudia Kiessling*, Benjamin Schubert and Dieter Scheffner  
Arbeitsgruppe Reformstudiengang Medizin, Charité, Humboldt University of Berlin, Berlin, Germany
**3M7** What kind of theory is needed? Experiences with a course on epistemology in medicine at the Charité Medical School of the Humboldt University in Berlin
Rita Leidinger, Claudia Kiessling and Walter Burger
Arbeitsgruppe Reformstudium Medizin, Charité, Humboldt University of Berlin, Berlin, Germany

**3M8** Specialty choices of women doctors in Kuwait - 1974 to 1998
I G Premadasa* and Khaled Al-Jarallah
Kuwait Institute for Medical Specialization, Safat, Kuwait

**3M9** Stressful academic events in first year students of the Medical School of Universidad de Chile
Cristian Fuentes Flores*, Joaquín Otarola Iturriaga, Claudia Otarola Urrutia, Maria Jesús Pacheco Parada, Jovanka Pablóv Norambuena, Marcela Pérez Araya and Gabriela Vera
Facultad de Medicina, Universidad de Chile, Santiago, Chile

**3M10** Science-based evaluation of well-being, self-control, and learning effectiveness among younger doctors
Hans Henrik Knoop
The Danish University of Education, Odense, Denmark

**3M11** A description of cognitive development from a constructivist perspective
Gunilla Petersson
Karlofiska Institutet, Centre for Cognition, Understanding and Learning, Stockholm, Sweden

**3M12** Medical students' cognitive styles based on Multiple Intelligences Theory
Z Al-Rawahi
College of Medicine, Sultan Qaboos University, Sultanate of Oman

**3M13** Sociodemographic characteristics and expectations of undergraduate training and of the medical role from the medical students of the first level of the University of Chile
Ana Marchandon A*, Andreas Berrios P and Leonor Villacura A
Facultad de Medicina, Universidad de Chile, Santiago, Chile

**3M14** Sources of stress, cognitive and behavioural coping strategies among 1st and 2nd year medical students
M Elzebër* and P Badrinath
United Arab Emirates University, Faculty of Medicine and Health Sciences, Al-Ain, United Arab Emirates

**3M15** Mentoring: a therapy for medical education?
Maria Eugenia Vanzolini* and Patrícia Lacerda Bellodi
University of Sao Paulo Medical School, Sao Paulo, Brazil

**3M16** A mentor for what? Investigation of themes and needs in a group of medical students
Patrícia Lacerda Bellodi, Bianca Massaroppe, Tânia Martinho and Milton of Arruda Martins
University of Sao Paulo Medical School, Sao Paulo, Brazil

**3M17** Twenty students' experience of gender discrimination in medical school in Uppsala
Karin Grave
University of Uppsala, Sweden
**A preferential access program to a Faculty of Medicine for outstanding socially disadvantaged students: preliminary findings**

*Veronica Gaete, Gloria Riquelme, Jorge Las Heras*

Faculty of Medicine, University of Chile, Santiago, Chile

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### Staff Development/International Aspects of Medical Education

**Chairperson:** Dr David Stern, USA  
**Room:** Building C8 Room 8.2.17

#### 3N1  Training of PBL tutors - the Dresden Curriculum

*F Einsle*, V Kölhner, N Lorenz, S Bergmann, P Dieter  
Universitätsklinikum Carl Gustav Carus, TU Dresden, Dresden, Germany

#### 3N2  How we can involve faculty in the medical education process at the innovative medical school at University of Beira Interior, Portugal

*Pilar Ruiz de Gaeta and Montserrat Fonseca*  
Faculdade de Ciências da Saúde, Universidade da Beira Interior, Covilhã, Portugal

#### 3N3  Teaching the teachers course attendance: motivations and barriers

*Jane Richardson*, Jonathan Cartledge and Deborah Gill  
Royal Free and University College London, London, UK

#### 3N4  Will the implementation of systematic appraisal for consultants throughout the NHS improve teaching?

*P Belfield*, M Ward, C Robinson, K Garner and A Catto  
Leeds Teaching Hospitals NHS Trust, Leeds, UK

#### 3N5  Peer participant observation of teaching as an approach to tutor development

*Al Dowie*, Rebecca Duffy, Jon Dowell  
University of Dundee, Tayside Centre for General Practice, Dundee, UK

#### 3N6  Developing the teaching instinct at the click of a button

*E Anne Hesketh and J M Laidlaw*  
Education Development Unit, NHS Education for Scotland, Dundee, UK

#### 3N7  Introducing undergraduate medical students to educational research

*Angel M Centeno* and Alejandra M Blanco  
Faculty of Biomedical Sciences, Universidad Austral-Medicina, Buenos Aires, Argentina

#### 3N8  Continuous Medical Education (CME) - Perinatal training programme in Skopje, Macedonia

*Marina Pop-Lazarova* and Blagica Isakowska  
Skopje, Macedonia

#### 3N9  Medical education for refugee doctors: enabling their return to practice in the UK

*Maeve Keane*, P Luthra and S Agius  
University of Manchester, Department of Postgraduate Medicine and Dentistry, Manchester, UK
3N10  Experience with a geographical department in a multicampus medical school  
G Hendrix*, A Pensick and E Johnson  
Medical University of South Carolina, Charleston, USA

3N11  A problem-based and communication-centered preparatory course for immigrant physicians  
Sören Berg* and Mats Hammar  
Heart Centre, University Hospital, Linköping, Sweden

3N12  E-learning course “Man and Planet Earth: situations of adaptive challenge”  
M R Fenoll Brunet*, J López-Recinos and J Legarreta  
Universitat Rovira I Virgili, Facultat de Medicina i Ciencies de la Salut, Reus, Spain

3N13  A comparison between educational aim and its coordination with offered courses and the patterns used in medical students’ curriculum of Iran and the rest of the world  
Nasrin Asghari and Omid Safa*  
Hormozgan Medical University, Office of Vice-Chancellor for Education and Research, Hormozgan, Iran

3N14  Teaching Primary Care physicians rational drug prescribing  
S P Tofovic*, D Gjorgjev, T Demjaha, M Gulija and R A Branch  
University of Pittsburgh School of Medicine, Pittsburgh, USA

3N15  Towards international standards in postgraduate medical education  
Hans Karle and Jorgen Nystrup*  
World Federation for Medical Education, and Roskilde County Psychiatric Hospital, Copenhagen, Denmark

3N16  Compulsory didactic education for the Medical Faculty in Innsbruck  
H G Kraf* and M R Kalksics  
Institute for Med. Biology, Innsbruck, Austria

Curriculum Evaluation

Chairperson:  Professor David Levison, UK  
Room:  Building C8 Room 8.2.19

3O1  Students’ evaluation of education at Jessenius Medical Faculty of Comenius University in Martin - Slovak Republic  
L Plank*, J Danko, P Galajda, E Rozborilova and K Dokus  
Jessenius Faculty of Medicine, Comenius University, Martin, Slovak Republic

3O2  Students’ perceptions about the teaching in the eight schools of health sciences in the University of Chile  
Ilse López*, Zulema Vivanco, Enrique Mandiola and Teresa Miranda  
Facultad de Medicina, Universidad De Chile, Santiago, Chile

3O3  Students' opinion about methodological changes  
Lexia Palomer Jiménez* and Ilse López Bravo  
Facultad de Medicina, Universidad de Chile, Santiago, Chile
304 Results of a student survey regarding the role and place of Infectious Diseases discipline in the undergraduate medical curriculum at the Iuliu Hatieganu University of Medicine and Pharmacy, Cluj-Napoca, Romania
I Cioca*, I S Bocan and D Carstina
Iuliu Hatieganu University of Medicine and Pharmacy, Cluj-Napoca, Romania

305 Challenges of using students’ views on lecturers’ teaching quality in faculties of Tabriz University of Medical Sciences and Health Services, Iran
Aboulghasem Amini, Abdolreza Shagarghi*, Hasan Salami and Farhad Hatami
Educational Development Center, Tabriz, Iran

306 Students’ reflection about the new learning and teaching method in medicine
Diana Afonso, Filipa Amorim, Ana Filipe Azevedo, Silvestre Cretz, Catarina Ferreira, Joao Marinho, Sónia Menezes, Luis Monteiro, Ana Rita Rodrigues and Cecília Vilaça*
Faculdade de Ciências da Saúde, Universidade da Beira Interior, Covilhã, Portugal

307 The evaluation of the student’s assessment questionnaire of medical education
Nilüfer Kosku* and Guldal Yzyryak
Yeditepe University School of Medicine, Istanbul, Turkey

308 Web-based evaluation instrument developed for the Faculty of Medicine, University of Helsinki
Frank Sjöblom, Niina Paganus, Juha Nieminen, Kaarlo Simojoki and Kirsti Lonka*
R & D Unit, Faculty of Medicine, University of Helsinki, Finland, and Karolinska Institutet, Stockholm, Sweden

309 Internet-based evaluation by students of their internships
M van Winckel*, B Morlion and A Derese
University of Ghent, University Hospital, Gent, Belgium

310 How does the hub work? An evaluation of a process of continuous improvement
Suzanne Johansson* and Nicolas Karlsson
Göteborg, Sweden

311 The courses of medicine in the context of the Brazilian National System of Evaluates
Vânia Lucía Fonseca Mendoza* and Homero Gustavo Correia Rodrigues
Universidade Federal da Paraíba, Paraíba, Brazil

312 Achievement of educational objectives in different curricular structures - Faculty of Medicine of Ribeirão Preto - University of Sao Paulo (FMRP-USP), Brazil
C E Piccinato*, J F C Figueiredo, L E A Troncon, L C Peres, A R L Ciamflone, M F A Colares and M L V Rodrigues
Faculty of Medicine of Ribeirão Preto, University of Sao Paulo, Ribeirão Preto, Brazil

313 Reforms of undergraduate medical training in Ukraine: a national evaluation
Maryna Bilynska* and Ivan Solonenko
Ukrainian Academy of Public Administration, Kiev, Ukraine
3O14  Medical students’ achievement in Microanatomy: the impact of quality assurance  
Malivalaya Namking*, Worawut Worrapataporn, Pornthip Boonrangsri and Malee Buranarugs  
Khon Kaen University, Faculty of Medicine, Khon Kaen, Thailand

3O15  The effect of educational media on a course programme evaluation  
Jorge Lima*, Leyre Zabal, Carlota Saldanha  
Faculdade de Medicina de Lisboa, Lisboa, Portugal

Coffee served in the Courtyard of Building C8

Session 4: Workshops and Mini-Thematic Sessions 1

Please see Section 4 - Abstracts for details of the workshops. Attendance at Conference workshops is free of charge, but pre-registration is essential. Please complete the selection form mailed with this programme and return to the AMEE Office. Numbers for some workshops are strictly limited. If places remain, participants may sign up for these on the notice board by the AMEE desk. Tickets for workshops will be issued (Participants may choose to look at posters rather than attend a workshop.)

4.1  Improving your effectiveness as a teacher  
Location: Building C8 Room 8.2.11  
Organisers: Professor Herman van Rossum, Freie University of Amsterdam, Dr Janke Cohen-Schotanus, University of Groningen, and Professor Joke Denekens, Belgium

4.2  Clinical operative test – a test of practical skills  
Location: Building C8 Room 8.2.10  
Organisers: joy Crosby and Dr Sarah Rennie, Faculty of Medicine, Dentistry and Nursing, University of Dundee, UK

4.3  Developing professional attitudes in training – putting it into practice  
Location: Building C8 Room 8.2.06  
Organiser: Professor Amanda Howe, University of East Anglia, Norwich, UK

4.4  The best of the Ottawa Conference 2002  
Location: Building C3 Room 3.2.14  
Organiser: Professor Ian Hart, Ottawa, Canada

4.5  Educational Governance: an essential component of clinical governance?  
Location: Building C8 Room 8.2.13  
Directors of Postgraduate Medical Education Group  
Organiser: Dr Alistair Thomson, South Cheshire Postgraduate Medical Centre, Crewe, UK

4.6  Students’ research experiences as a learning strategy  
Location: Building C8 Room 8.2.03  
Organisers: Sandra Garcés, Tiago Santos, António Francisco, Bruno Picarra, Professor João Martins e Silva and Professor Carlota Saldanha; Faculty of Medicine, University of Lisbon, Portugal
4.7 Ensuring that the competent are really competent: Setting defensible performance standards on OSCEs and Standardized Patient examinations
Location: Building C8 Room 8.2.15
Organisers: Dr André de Champlain, National Board of Medical Examiners, and Dr Jack Boulet, Education Commission for Foreign Medical Graduates, Philadelphia, USA

4.8 Examining the instructional designer – subject matter expert relationship in the design and development of e-learning projects in medical education
Location: Building C8 Room 8.2.38
Organisers: Peter Cantillon and Ben Kanagaratnam, Clinical Science Institute, National University of Ireland, Galway, Ireland

4.9 ‘Lab coat pocket knowledge’ Personal Digital Assistant (PDA) as an aid to medical and teaching decision-making
Location: Building C8 Room 8.2.19
Organisers: Professor Antonio Vaz Carneiro, Faculty of Medicine, University of Lisbon, Portugal

4.10 Emotional Intelligence: how relevant is it for health leadership today?
Location: Building C8 Room 8.2.23
Organiser: Chris Skinner, Edith Cowan University, Joondalup, Australia

4.11 Exploring the role, contribution and preparation of doctors involved in health management
Location: Building C3 Room 3.1.10
Organisers: Dr Robert Palmer, John Clark Dr Steven Field and Professor Peter Spurgeon; Postgraduate Medical and Dental Education, and University of Birmingham, UK

4.12 East/Central European Task Force
Location: Building C3 Room 3.2.15
Organisers: Professor Ioan Bocan, Iuliu Hatieganu University of Medicine & Pharmacy, Cluj-Napoca, Romania, and Dr Stewart Mennin, University of New Mexico, Albuquerque, USA

4.13 From Clinical Skills Centre to Day Surgery Unit - implications of developing an integrated programme in ambulatory care
Location: Building C8 Room 8.2.02
Organiser: John A. Dent, University Department of Orthopaedic and Trauma Surgery, Ninewells Hospital and Medical School, Dundee, UK

4.14 Developing mentoring skills for GPs
Location: Building C3 Room 3.1.06
Organisers: Dr Sandra Sedgwick and Dr Peter Harbord; The Kent, Sussex and Surrey Deanery, UK

4.15 Maintaining quality in Residency education: applying the evaluation standards of the Royal College of Physicians and Surgeons of Canada (RCPSC);
Location: Building C8 Room 8.2.39
Organisers: Margaret Kennedy and Dr Nadia Mikael, Royal College of Physicians and Surgeons of Canada; and Dr Pamela Catton, University of Toronto, Canada
Mini-Thematic Sessions

Note: These sessions run at the same time as the workshops

1545-1640

4.16/1 The Global Classroom: multimedia digital libraries as a new learning environment
   Location: Building C8 Room 8.2.30
   Organiser: Dr Sharon Krackov and Dr Matthew J Weiner, University of New York School of Medicine, New York, USA

1645-1745

4.16/2 Community Coalition Building: A Challenge for Medical Schools
   Location: Building C8 Room 8.2.30
   Organiser: Dr B Salafsky, University of Illinois College of Medicine at Rockford, USA

1545-1640

4.17/1 A Charter on Medical Professionalism for the New Millennium
   Location: Building C8 Room 8.2.47
   Organisers: Linda Blank and Dr Harry Kimball, American Board of Internal Medicine, USA, and Dr Daniel Sereni, European Federation of Internal Medicine

1645-1745

4.17/2 Fostering Professionalism and Humanism in Medical Education
   Location: Building C8 Room 8.2.47
   Organiser: Dr Sharon Krackov, University of New York School of Medicine, New York, USA

1800

Coaches depart Faculty of Science for Conference hotels

1930

Coaches depart from Conference hotels for Xabregas Palace

2000-2300

Dinner at Xabregas Palace
   (Optional social event – not included in registration fee)
   See page 3.2 for details
Saturday 31 August

0745 (approx)  Coaches leave conference hotels
0800-1715  Registration desk open
Location: Building C8, Exhibition area

0815-0945  Session 5: Simultaneous Large Group Sessions

5.1  Best Evidence Medical Education: approaches to better teaching
Presenters:  Dr Barry Issenberg, University of Miami, USA
Dr Josep Maria Martinez-Cardero, IES, Barcelona, Spain
Dr Karen Mann, Dalhousie University, Canada
Dr Angel Centeno, Universidad Austral, Argentina
Professor Hassam Hamdy, Arabian Gulf University, Bahrain
Dr Elizabeth Kachur, Medical Education Devt, New York, USA
Dr Tim Dorman, University of Manchester, UK
Professor Antonio Vaz Carneiro, University of Lisbon, Portugal
Chairperson:  Professor Ian Hart
Location:  Building C3 Room 3.2.14

5.2  Epidemiology of Physician Learning
Presenter:  Dr Henry Sloutnick, University of Wisconsin, USA
Chairperson:  Professor Margarita Baron-Maldonado
Location:  Building C8 Room 8.2.47

5.3  Standard Setting
Presenters:  Dr Ronald Berk, Johns Hopkins University School of Nursing,
Baltimore, USA
Dr Miriam Friedman Ben-David, Israel
Dr John Norcini, Foundation for Advancement of International
Medical Education and Research, Philadelphia, USA
Professor Cees van der Velde, Maastricht, Netherlands
Chairperson:  Dr Robert Galbraith, National Board of Medical Examiners,
Philadelphia, USA
Location:  Building C8 Room 8.2.30

5.4  Does PBL Work? Evidence of strengths and weaknesses
Dr Geoff Norman, McMaster University, Canada
Location:  Building C3 Room 3.2.13

5.5  Continuing Medical Education
Presenters:  Dr Linda Casebeer, University of Alabama School of Medicine;
Ms Kathleen Hinkle, Duke University School of Medicine; Dr
Lewis A Miller, GAME/Intermedica Inc; Dr Pablo Pulido,
FEPAFEM/PAFAMS; Dr Howard Strasberg, Skolar Inc;
and Dr Dennis Wentz, American Medical Association
Location:  Building C3 Room 3.2.16

0945-1015  Coffee served in the Courtyard of Building C8
Session 6: Short Communications 2

Twelve simultaneous, themed sessions on a range of topics

Communication Skills Assessment

Chairperson: Dr Allan Cumming, UK
Opening Discussant: Dr Elizabeth Kachur, USA
Room: Building C3 Room 3.2.13

1015-1030 6A1 Dilemmas in assessing communication skills in the Plab OSCE
L Southgate*, P McCroie, A Cushing, P Tombsdon and A Hall
University College London Medical School, London, UK

1030-1045 6A2 Assessment of communications skills at four stages in an undergraduate curriculum: a developmental system
Tom Stewart, Paul Flood*, Campbell Miller and Earl Dunn
Faculty of Medicine, United Arab Emirates University, Al Ain, United Arab Emirates

1045-1100 6A3 A reliable assessment of physicians’ competence to break bad news to patients
Gilad E Amiel*, Lea Unger, Mordechai Alperin, Zvi Baharir, Robert Cohen and Shmuel Reis
Technion Institute of Technology, Department of Urology, Haifa, Israel

1100-1115 6A4 Qualitative analyses of OSCE station in Oncology: breaking the bad news
L Niemi-Murola, P Heasman, N Paganus, N Pitkälä and K Lonka*
Karolinska Institutet, Centre for Cognition, Understanding and Learning (CUL), Stockholm, Sweden

1115-1130 6A5 Feasibility and reliability of computer-assisted assessment of communication skills for pre-clinical medical students
R L Hulsman*, E D Mollema, A M Hoos, J C J M De Haes and J D Dommison-Speijer
Academic Medical Centre, Department of Medical Psychology, Amsterdam, Netherlands

1130-1145 6A6 Do patients and expert doctors agree on the assessment of consultation skills?
B McKinstry, J Walker, D Blaney*, D Heaney and D Begg
The Lister Institute, Edinburgh, UK

1145-1200 6A7 Video teaching package for third year medical students’ history taking exam
Kelly Smith*, Celia Popovic and Fidelma Durnn
University of Birmingham, School of Medicine, Birmingham, UK

1200-1215 Discussion
Assessment of Practical Procedures/OSCE

Chairperson: Dr David Blackmore, Canada
Opening Discusant: Dr Margery Davis, UK
Room: Building C3 Room 3.2.15

1015-1030

6B1  Show us how - the use of the Objective Structured Clinical Examination (OSCE) as a performance exam for evaluation and assessment of sub-specialty Fellows in Neonatal/Perinatal Medicine
B Simmons*, A Jefferies, D Tabak and M Skidmore
Sunnybrook & Women's College Health Science Centre, Toronto, Canada

1030-1045

6B2  Seeking authentic assessment for clinical practice - the case for the OSCE in nurse education
Marian Traynor
School of Nursing and Midwifery, Queen University Belfast, Belfast, Northern Ireland

1045-1100

6B3  OSCE pilot in Psychiatry
Sultan Qaboos University, Department of Behavioural Medicine, Sultanate of Oman

1100-1115

6B4  OSCE experience in Postgraduate Education
Teresa Miranda Méndez*, Miguel Gasic Franci, Ilse López Bravo and Enrique Mandiola Cerda
Facultad de Medicina, Universidad de Chile, Independencia 1027, Santiago, Chile

1115-1130

6B5  Visuospatial ability correlates with efficiency of hand motion and successful performance on a Reconstructive Surgery procedure
Kyle R Wanzel, Stanley J Hamstra*, Marco F Caminiti, Dimitri J Anastakis, Ethan D Grober and Richard K Reznick
University of Toronto, Department of Surgery, Toronto, Canada

1130-1145

6B6  Assessment of procedural skills in medical students
D Nestel*, R Kneebone and J Kidd
Imperial College School of Medicine, London, UK

1145-1200

6B7  An evaluation of a method of operative competence assessment for surgical trainees
C G Burt*, E Chambers, M Maxted, J R Grant, N Markham, H Watts and D C Wilkins
Dept of General Surgery, Plymouth, UK

1200-1215

Discussion
International Medical Education – Assessment

Chairperson: Professor Ioan Bocsan, Romania
Opening Discussant: Dr John Nicholls, Hong Kong
Room: Building C8 Room 8.2.06

1015-1030

6C1 Accreditation standards for MD programmes in the Americas
Alberto Galofré
Saint Louis University School of Medicine, Office of Curricular Affairs, St Louis, USA

1030-1045

6C2 Assessment of physician competence in France and Canada
Brian Hodges* and Christophe Seguin
Toronto General Hospital, University of Toronto, Toronto, Canada

1045-1100

6C3 Clinical instruction and assessment in international medical schools
Danette W McKinley*, John R Boulet, Gerald P Whelam, William P Burdick and Marta van Zanten
Educational Commission for Foreign Medical Graduates, Philadelphia, USA

1100-1115

6C4 English language proficiency and academic achievement by international students in a Master of Public Health course
Elma Avedi
University of Melbourne, School of Medicine, Melbourne, Australia

1115-1130

6C5 The educational programme for foreign doctors in the Netherlands
H E M Dachmans*, J J S van de Kreeke, H H van der Hem-Stokroos and M B M Soethout
VU Medical Centre, Skillstraining Department, Amsterdam, Netherlands

1130-1145

6C6 Comprehensive assessment of medical student skills in France: an overview of the performance of a sample of medical students on a pilot examination developed by the National Board of Medical Examiners and a Consortium of French Medical Schools
André De Champlain*, Jean-Paul Fournier, Raja Subhiyah, Daniel Benchimol, Donald Melnick and Patrick Rampal
National Board of Medical Examiners, Philadelphia, USA

1145-1200

6C7 Comprehensive assessment of medical student skills in France: a collaboration between the National Board of Medical Examiners and a Consortium of French Medical Schools
Daniel Benchimol*, Patrick Rampal, Donald Melnick, André De Champlain, Jean-Paul Fournier and Peter Scoles
National Board of Medical Examiners, Philadelphia, USA

1200-1215

Discussion
Clinical Skills

Chairperson: Dr Peter Harris, Australia
Opening Discussant: Professor Fergus Gleeson, Ireland
Room: Building C8 Room 8.2.10

1015-1030 6D1  The acceptability, credibility and perceived level of challenge of role-play communication skills teaching for undergraduate dental students at Birmingham Dental School
Phil Croft*, Connie Wiskin* and Debbie White
School of Dentistry, University of Birmingham, Birmingham, UK

1030-1045 6D2  The clinical learning environment - as perceived by medical students
Ova Emilia* and Arie Rotem
Gadjah Mada University, Jogjakarta, Indonesia

1045-1100 6D3  Physiotherapy students’ perceptions of an innovative approach to clinical practice orientation
Mary Faure*, Marianne Unger and Marlette Burger
Stellenbosch University, Faculty of Health Sciences, Tygerberg, South Africa

1100-1115 6D4  Developing teaching opportunities in Ambulatory Care
John A Dent*, Amir W Hanna and David I Rowley
University of Dundee, Department of Orthopaedic Surgery, Dundee, UK

1115-1130 6D5  Structured encounter forms add value to outpatient teaching
Leslie Borset-Kanter*, Sara Hamel, Dianna Ploof and Steven Kanter
University of Pittsburgh, School of Medicine, Bradfordwoods, USA

1130-1145 6D6  Learning from Simulated “Patient Satisfaction”
Claire I L Stewart*, Paul E Preece and Jean S Ker
University of Dundee, Clinical Skills Centre, Dundee, UK

1145-1215 Discussion

Multiprofessional Education

Chairperson: Professor Antonio Barbosa, Portugal
Opening Discussant: Dr Gary Mires, UK
Room: Building C8 Room 8.2.11

1015-1030 6E1  Evaluation of multiprofessional education and crossvalidation of the Readiness of Inter-Professional Learning Scale (RIPLS, Parsell and Bligh, 1998)
Chris Aubry* and Jo Goedhuys
Skills Lab, Faculty of Medicine, Katholieke Universiteit Leuven, Leuven, Belgium

1030-1045 6E2  Readiness for interprofessional learning
J Agsteribbe* and J Cohen-Schotanus
Faculty of Medical Sciences, University of Groningen, Groningen, Netherlands

1045-1100 6E3  Multiprofessional education - the advantages and challenges of studying together on a CPD programme
David Bridgen* and Andrew Sackville
Mersey Deamery, Liverpool, UK
6E4 One year on: the effect of a pre-qualification interprofessional education programme on medical and nursing students
Sue Morison* and Mairead Boohan
Queen's University Belfast, School of Nursing & Midwifery, Belfast, UK

6E5 Residential multiprofessional exposure
Sudhamshu Sharma* and George Kurian
B P Koirala Institute, Dharam, Nepal

6E6 Interprofessional education in Medical Ethics
Gerald Neitzke* and Dorte Gloj
Dept of History, Ethics & Theory of Medicine, Hannover Medical School, Hannover, Germany

6E7 Grooving the night away - a web based IPE project on-line tutoring; the trials and tribulations
Janet MacDonald
University of Wales College of Medicine, Cardiff, Wales, UK

Discussion

6F

Curriculum Evaluation

Chairperson: Professor Ala’aldin Al-Hussaini, Sultanate of Oman
Opening Discussant: Dr Gordon Page, Canada
Room: Building C8 Room 8.2.38

6F1 A model to evaluate a curriculum
Roy Remmen*, Joke Denekens, Albert Scherpbier, Anselm Derese and Cees van der Vleuten
University of Antwerp, Department of General Practice, Baarle Hertog, Belgium

6F2 Ongoing evaluation of the medical student curriculum: ten years’ experience with an innovative model
Steven L Kanter
University of Pittsburgh, School of Medicine, Bradfordwoods, USA

6F3 Direct effects of the first accreditation tour in Polish Medical Faculties
Jadwiga Mirecka
Department of Medical Education, Medical College of Jagiellonian University, Krakow, Poland

6F4 Accreditation in Chile: an instrument for quality improvement in health care learning
E Rosselot*, Maria J Lemaitre and G Zapata
University of Chile, School of Medicine, Santiago, and the National Commission for Accreditation of Undergraduate Education, Chile

6F5 Accreditation process and curriculum changes in Argentina’s medical educational programmes
Adriana Caillon
National Commission for University Evaluation and Accreditation, Buenos Aires, Argentina
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<td>1130-1145</td>
<td>6F6</td>
<td><strong>Evaluation strategy in the Medical Faculty Freiburg, Germany</strong></td>
<td>K Müller*, G Valerius, J Ahrends, L Schärer, N Freudenberg and M Berger</td>
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<td><strong>Studiendekanat der Medizinischen, Fakultät Freiburg, Freiburg, Germany</strong></td>
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<td>1145-1215</td>
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<td><strong>Discussion</strong></td>
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<td>1015-1030</td>
<td>6G1</td>
<td><strong>Comparing Virtual Internet Patient Simulation (VIPS) and simulated-patient OSCE stations in CME sessions</strong></td>
<td>M A Raeto, R J Gagnon, R L Thivierge and A Bonneau</td>
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<td><strong>University of Montreal, Faculty of Medicine, Montreal, Canada</strong></td>
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<td>1030-1045</td>
<td>6G2</td>
<td><strong>Basic surgical skills in primary care - evaluating an interactive, computer-based learning program</strong></td>
<td>J C Carter*, R L Kneebone and V A Wood</td>
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<td><strong>Department of Medical Sciences, University of Bath, Bath, UK</strong></td>
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<td>1045-1100</td>
<td>6G3</td>
<td><strong>E-teaching of psychomotor skills in an undergraduate medical curriculum</strong></td>
<td>I Treadwell</td>
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<td><strong>University of Pretoria, Faculty of Health Sciences, Pretoria, South Africa</strong></td>
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<td>1100-1115</td>
<td>6G4</td>
<td><strong>Improving the educational effectiveness of a programme</strong></td>
<td>N McManus*, M Ginn, R M Harden, J M Laidlaw and W Finegan</td>
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<td><strong>NHS Education for Scotland, Dundee, UK</strong></td>
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<td>1115-1130</td>
<td>6G5</td>
<td><strong>Development of a computer-based interactive programme for teaching and learning manifestations of infectious diseases</strong></td>
<td>Anders Thalme*, Agnete Philipson, Uno Fors and Patrik Jonsson</td>
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<td><strong>Karolinska Institutet, Huddinge University Hospital, Stockholm, Sweden</strong></td>
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<td>1130-1145</td>
<td>6G6</td>
<td><strong>Protocol analysis for a computer-aided program in the training of Ecmo/HFOV High Frequency Oscillatory Ventilation</strong></td>
<td>Abdulla Al Than*, Y Wickramasinghe, C A S Melville, K S Palmer and J Alexander</td>
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<td><strong>Keele University/North Staffs Hospital, School of Postgraduate Medicine, Stoke on Trent, UK</strong></td>
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<td>1145-1200</td>
<td>6G7</td>
<td><strong>Use of a DVD reference library in a health professions programme</strong></td>
<td>Fotinos S Panagakos* and Cecile A Feldman</td>
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<td><strong>UMDNJ-NJ Dental School, Newark, USA</strong></td>
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<td>1200-1215</td>
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Postgraduate Education

Chairperson: Professor William Egerton, Australia
Opening Discussant: Dr Gellisse Bagnall, UK
Room: Building C8 Room 8.2.47

1015-1030 6H1 The use of storytelling in postgraduate education
A M Carson
North-East Wales Institute of Higher Education, Department of Medical Education, Health Sport and Sciences, Wrexham, UK

1030-1045 6H2 Researching with focus groups - tool or trade off?
Lesley Pugsley
University of Wales College of Medicine, Cardiff, Wales, UK

1045-1100 6H3 Non-clinical competences that might be expected of Specialist Registrars
R G Palmer*, S Field, D W Wall
West Midlands Postgraduate Deanery, Postgraduate Medical and Dental Education, Birmingham, UK

1100-1115 6H4 More than a ‘wish list’: supporting the development of personal qualities through teaching in clinical contexts
Kath Green
Postgraduate Medical and Dental Education, The KSS Deanery, London, UK

1115-1130 6H5 Using SHOs’ verbalisation of competencies and learning needs
M Skaarup*, A Henriksen and C Ringsted
CHC Postgraduate Medical Institute, HSPMI Bisperbjerg Hospital, Copenhagen, Denmark

1130-1145 6H6 Learning competence in everyday clinical situations
Hans Boie* and Thorkil Soholm
Grenaa Central Hospital, Grenaa, Denmark

1145-1200 6H7 Win - win?: Specialist Registrars as SHO Educational Supervisors
Ann Cadzow
NHS Education for Scotland, Medical School, Aberdeen, UK

1200-1215 Discussion

Problem-based Learning

Chairperson: Dr Marvin Dunn, USA
Opening Discussant: Professor Herman van Rossum, Netherlands
Room: Building C8 Room 8.2.39

1015-1030 6I1 The importance of exemplarity in PBL problems
Charlotte Silén
Faculty of Health Sciences, Linköping University, Linköping, Sweden

1030-1045 6I2 Introduction of “Furikaeri Sheet” to promote PBL at Kurume University
Ichiro Yoshida*, Masato Moguchi, Seiya Okuda, Toshikazu Kaniwa, Koichi Kuwano, Hiroshi Shoji, Makoto Yoshino, Munehiko Yamamoto, Kenkichi Kanmiya, Tatsuya Isitake, Masayoshi Kage and Tetsuo Inokuchi
Kurume University, School of Medicine, Kurume, Japan
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<tr>
<td>1045-1100</td>
<td>Students' profile and their perception of PBL: a Malaysian view</td>
<td>V D Nadarajah*, G Pornudurai and Y S Chen, International Medical University, Kuala Lumpur, Malaysia</td>
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<td>1100-1115</td>
<td>A drift from “Mixed Economy” of educational strategies to a “Hybrid PBL Curriculum” in the Faculty of Medicine and Health Sciences (FMHS), Universiti Malaysia Sarawak</td>
<td>Alam Sher Malik* and Rukhsana Hussain Malik, Faculty of Medicine and Health Sciences, Universiti Malaysia Sarawak, Kuching, Sarawak, Malaysia</td>
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<td>1115-1130</td>
<td>Does PBL work? Does music?!</td>
<td>Brian Bailey, Napier University, School of Community Health, Edinburgh, UK</td>
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<td>1130-1145</td>
<td>The 2001 “Pathomechanisms” course - the second run of the 9-week integrative and problem-based learning oriented course within the 3rd year of the curriculum at the Dresden Medical Faculty</td>
<td>O Tiebel*, I Nitsche, G Baretton and A Deussen on behalf of the Core Planning Group, Medical Faculty Carl Gustav Carus, TU Dresden, Dresden, Germany</td>
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<td>1145-1200</td>
<td>Peer assessments of students’ attitudes in social learning situations</td>
<td>Are Holen, Medisinsk teknisk forskningsenter, Norwegian University of Science and Technology, Trondheim, Norway</td>
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<td>1200-1215</td>
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<td>6J</td>
<td><strong>E-learning: Virtual Learning Environment</strong></td>
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<td>1015-1030</td>
<td>6J1 Using a VLE to support a CPD programme in teaching and learning in Clinical Practice</td>
<td>Andrew Sackville* and David Brigden, Edge Hill College of Higher Education, Teaching and Learning Development Unit, Ormskirk, UK</td>
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<tr>
<td>1030-1045</td>
<td>6J2 Why VMLE? An educationally focussed case study of Virtual Managed Learning Environment implementation in medical education</td>
<td>Stephen Greenwood*, Julian Cook and Ros O’Leary, Centre for Medical Education, University of Bristol, Bristol, UK</td>
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<td>1045-1100</td>
<td>6J3 Transnational E-learning Observatory in Medicine (TEOMED)</td>
<td>Andrés Sampredo*, María R Fenoll, Raquel A Martínez, Esperanza Granda, Francisco Lujiñámez and Angel Martinez-Nistal, Universidad de Oviedo, Servicio de Proceso de Imágenes, Oviedo, Spain</td>
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<td>Integration of interactive case-based training into e-learning environments</td>
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<td>6J7</td>
<td>Docs ‘n drugs: Integration of e-learning environments in medical education</td>
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<td>1230-1245</td>
<td>6K</td>
<td>Community-based Education</td>
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<td>1015-1030</td>
<td>6K1</td>
<td>Managing ‘Learning from Lives’</td>
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<td>1030-1045</td>
<td>6K2</td>
<td>The development of online tutorial support and distance learning resources for medical students outback</td>
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<td>1045-1100</td>
<td>6K3</td>
<td>Curriculum ownership in a distributed medical school: different pathways, common outcomes</td>
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<td>1100-1115</td>
<td>6K4</td>
<td>Do learning experiences in rural health centres affect management of Pediatric patients by medical interns?</td>
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<td>1115-1130</td>
<td>6K5</td>
<td>Competence and learning site: hospital and/or community-clinics learned competencies</td>
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</table>
6K6  **Rural Community Internship for medical students: a significant learning experience**


Facultad de Medicina, Universidad de Chile, Santiago, Chile

1145-1200  
**Discussion**

**6L**  

**Outcome-based Education**

**Chairperson:** Professor Reuben Gerling, Japan  
**Opening Discussant:** Dr Judith Armbruster, USA  
**Room:** Building C3 Room 3.2.16

1015-1030  
**6L1  Implementing outcome-based education**

Joy Crosby  
University of Dundee, Curriculum Development Office, Dundee, UK

1030-1045  
**6L2  Transition from final year medical student to Pre-Registration House Officers (PRHOs)**

Heidi Lempp*, Mac Cochrane, Mary Seabrook and John Rees  
Department of Medical and Dental Education, Guy’s Hospital, London, UK

1045-1100  
**6L3  Do we have a common agenda? Differences between learning objectives, teachers’ intentions and students’ perceptions**

Caroline Wächter* and Margareta Troen  
Lund University, Department of Community Medicine, Malmö University Hospital, Malmö, Sweden

1100-1115  
**6L4  Are Residents being taught the Royal College of Physicians and Surgeons of Canada CANMeds 2000 roles?**

Arthur Rothman* and Jerry Tenenbaum  
University of Toronto, Department of Medicine, Toronto, Canada

1115-1130  
**6L5  The formation of the Central Asian Council of Rectors**

Kathleen Conaboy* and Zhamilya Nugmanova  
University of South Florida Health Sciences Center, Tampa, USA

1130-1145  
**6L6  Improving the transition from medical school to medical specialist training: an interview study**

H E Westerveld*, E W M T ter Braak, ThB Vooom and Th J ten Cate  
School of Medical Sciences, University Medical Center Utrecht, Utrecht, Netherlands

1145-1200  
**Discussion**

1215-1315  
**Lunch in Student Refectory**

1320-1350  
**AMEE General Assembly – for AMEE members**

Location: Building C8 Room 3.2.16
Session 7: Workshops and Mini Thematic Sessions 2

Please see the Section 4 Abstracts for details of the workshops. Attendance at Conference workshops is free of charge, but pre-registration is essential. Please complete the selection form mailed with this programme and return to the AMEE Office. Numbers for some workshops are strictly limited. If places remain, participants may sign up on the lists on the notice board by the AMEE desk. Tickets will be issued for workshops. (Participants may choose to look at posters rather than attend a workshop)

7.1 Integrating Standardized Patient teaching and assessment activities into medical professional education
Location: Building C8 Room 8.2.06
Organiser: Dr Graceanne Adamo; Uniformed Services University of the Health Sciences, National Capital Area Medical Simulation Center, Bethesda, USA

7.2 Faculty rewards and incentives in medical education
Location: Building C8 Room 8.2.15
Organisers: Dr Sharon Krackov, New York University School of Medicine, New York, USA, and Dr Mona Eriksson, Lund University Faculty of Medicine, Lund, Sweden

7.3 How to build better Multiple Choice Questions
Location: Building C3 Room 3.1.10
Organiser: Dr Pedro Herskovic, University of Chile, Faculty of Medicine, Santiago, Chile

7.4 Training and assessment of intimate/pelvic examination technique
Location: Building C8 Room 8.2.10
Organisers: Dr Michael Marsh, GKT Medical School, Academic Dept of Obstetrics & Gynaecology, London, UK and Dr Carla Pugh, Stanford University School of Medicine, Stanford, USA

7.5 What is the key role of a physician in society?
Location: Building C8 Room 8.2.11
Organiser: Professor Jamsheer Talati, The Aga Khan University, Karachi, Pakistan

7.6 Case-based learning environments
Location: Building C1 Room 1.2.26
Organisers: Dr Martin Fischer, University of Munich, Germany and Dr Raphael Bonvin, University of Lausanne, Switzerland

7.7 Portfolio assessment
Location: Building C8 Room 8.2.13
Organiser: Dr Margery Davis, Centre for Medical Education, University of Dundee, UK

7.8 Peer Education: International Federation of Medical Students’ Associations
Location: Building C8 Room 8.2.30
Organisers: Nikola Borojevic and Dr Peter McCrorie, St George’s University Medical School, London, UK

7.9 Flex Care: healthcare communication using personality type
Location: Building C8 Room 8.2.23
Organiser: Judy Allen, Herefordshire, UK
7.10 Ibero-American Group Workshop
Location: Building C3 Room 3.2.15
Organiser: Professor Margarita Barón-Maldonado, Association for Medical Education in Europe

7.11 Usability in Computer-Assisted Learning (CAL) programmes
Location: Building C8 Room 8.2.17
Organiser: Dr Brigitte Grether, University of Zurich, Faculty of Veterinary Medicine, Zurich, Switzerland

7.12 The bachelor-master structure and medical education in Europe
Location: Building C8 Room 8.2.19
Organisers: Professor Olle ten Cate, University Medical Centre Utrecht, and Professor Herman van Rossum, Free University of Amsterdam, Netherlands

7.13 Admission to medical education: new students - new criteria. A Swedish outlook with international implications
Location: Building C8 Room 8.2.47
Organisers: Dr Torgny Hallberg, Lund University, and Dr Per Hultman, Faculty of Health Sciences, University of Linköping, Sweden (on behalf of Swedish Association for Medical Education)

Note: The workshop is open to everyone, and the Organisers welcome participation from a wide range of countries.

7.14 Uncertainty and decision-making
Location: Building C3 Room 3.1.08
Organisers: Dr Howard Tandeter, Ben Gurion University of the Negev, Beer Sheva, Israel and Dr José Ramon Loayssa, Servicio Navarro de Salud, Pamplona, Spain

7.15 Young Educators’ Group
Location: Building C8 Room 8.2.39
Organiser: Professor Miriam Friedman Ben-David, Tel Aviv, Israel

7.16 Personal Learning Plans
Location: Building C8 Room 8.2.03
Organiser: Dr Joanna Thomsen, Hjallerup, Denmark

Mini-Thematic Sessions

1400-1500

7.17/1 IVIMEDS – An International Virtual Medical School
Location: Building C3 Room 3.2.14
Organisers: Professor Ronald Harden, Centre for Medical Education, University of Dundee, UK and Professor Ian Hart, Ottawa, Canada

1500-1600

7.17/2 The use of IDEAL (International Database for Enhancement Assessments and Learning) as an aid for assessing medical students
Location: Building C3 Room 3.2.14
Organiser: Dr John Nicholls, University of Hong Kong

1545-1615

Coffee served in the Courtyard of Building C8
Session 8: Short Communications 3

Twelve simultaneous, themed sessions on a range of topics

**Computer-based Assessment**

Chairperson: Professor Angel Centeno, Argentina  
Opening Discussant: Dr Rosalie Ber, Israel  
Room: Building C3 Room 3.2.13

8A1 Moving from a paper and pencil examination to a computer-based examination: lessons learned  
David E Blackmore*, David R Miller, Andree-Phillippe Boulais and W Dale Dauphiné  
The Medical Council of Canada, Ottawa, Canada

8A2 The challenges of creating a computer program designed to administer a high-stake licensing examination  
David R Miller*, David E Blackmore, Andre-Phillippe Boulais and W Dale Dauphiné  
The Medical Council of Canada, Ottawa, Canada

8A3 Comparative study of a postgraduate exam using computerised and printed test  
Maria Eugenia Ponce de Leon*, Armando Ortíz and María Del Carmen Ruiz  
Universidad Nacional Autonoma de Mexico, Mexico

8A4 Evaluation of high stakes patient management through performance-based clustering using artificial neural networks  
Adrian M Casillas  
UCLA, School of Medicine, Los Angeles, USA

8A5 A computerised adaptive test as an element of the final assessment of General Practitioners in Flanders: a standard setting procedure  
A Roex* and J Degryse  
Internuniversitary Centre for Vocational Training in General Practice (ICHO), Brussels, Belgium

8B Linking faculty development to the preventive health of vulnerable children  
Linda Z Nieman* and Kathleen Becan-McBride  
University of Texas Houston Health Science Center, Houston, USA

Discussion

Session 8B: The Curriculum

Chairperson: Neena Natt, USA  
Opening Discussant: Dr Clair du Boulay, UK  
Room: Building C3 Room 3.2.15

8B1 Linking faculty development to the preventive health of vulnerable children  
Linda Z Nieman* and Kathleen Becan-McBride  
University of Texas Houston Health Science Center, Houston, USA
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<tr>
<td>1630-1645</td>
<td>8B2</td>
<td>Enhancing the health of medical students</td>
<td>Craig Hassed, Monash University, Department of General Practice, Victoria, Australia</td>
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<tr>
<td>1645-1700</td>
<td>8B3</td>
<td>What about videotaped communication with simulated patients?</td>
<td>S Krautzberger*, D Worthmann*, H Ortevin, P Terzioglu and C Kiessling</td>
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<td>Reformed Medical Curriculum, Faculty of Medicine, Humboldt University</td>
<td>of Berlin, Berlin, Germany</td>
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<td>1700-1715</td>
<td>8B4</td>
<td>Evidence-based curriculum changes: when their impact may not be</td>
<td>C B Hazlett*, J C Y Cheng, D Chung, R Kay, P Lai, J J Y Sung and C A van Hasselt</td>
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<td>be enough</td>
<td>Chinese University of Hong Kong, Shatin, New Territories, Hong Kong</td>
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<td>1715-1730</td>
<td>8B5</td>
<td>Fragmentation or integration of knowledge? A paradigm shift for</td>
<td>Regina Pontes* and Stewart Memin</td>
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<td>teachers and leaders in medical education</td>
<td>University of New Mexico School of Medicine, Albuquerque, USA</td>
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<td>1730-1745</td>
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<td>Discussion</td>
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<td>International Medical Education</td>
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<td>1615-1630</td>
<td>8C1</td>
<td>International cooperation as a strategy to improve medical</td>
<td>Roy Souza*, Martin Fischer, Fernando Menezes and Tim Muller</td>
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<td>education</td>
<td>Federal University of Roraima, Boa Vista-Roraima, Brazil</td>
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<td>1630-1645</td>
<td>8C2</td>
<td>Presentation of International Federation of Medical Students’</td>
<td>Rita Tomaj* and Nikola Borjuc*</td>
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<td>1645-1700</td>
<td>8C3</td>
<td>Case-based comparison of health care delivery systems: from an</td>
<td>Martin R Fischer*, Stefan Lindgren*, Mona Eriksson, Ole Winding, Oliver Fein,</td>
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<td>international student exchange programme towards curricular</td>
<td>and Elisabeth Armstrong</td>
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<td>integration</td>
<td>University of Munich, Munich, Germany</td>
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<td>1700-1715</td>
<td>8C4</td>
<td>Development of an on-site/on-line program for international</td>
<td>W P Burdick*, P S Morahan, L M Johnson, G P Whelan and J A HallockECFMG, Philadelphia,</td>
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<td>faculty development</td>
<td>USA</td>
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<td>1715-1730</td>
<td>8C5</td>
<td>Balancing education needs with service obligations: a French/US</td>
<td>Judith Arnbruster*, Christophe Segouin and Marie Jo Déal</td>
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<td>comparison</td>
<td>ACGME, Chicago, USA</td>
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<td>1730-1745</td>
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<td>Discussion</td>
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## Communication Skills

**Chairperson:** Dr Roy Remmen, Belgium  
**Opening Discussant:** Professor Paul Bradley, UK  
**Room:** Building C8 Room 8.2.10

### 1615-1630

**8D1** The improvement of communication skills and how it can be measured  
H Brandes*, M Helle, W Georg and H Ortwein  
Humboldt University (Charité) Berlin, Berlin, Germany

### 1630-1645

**8D2** Ensuring pre-clinical medical students have appropriate communication skills to progress to clinical training  
Jon Dowell and John Dent*  
University of Dundee, Department of Orthopaedic Surgery, Dundee, UK

### 1645-1700

**8D3** Fractal metaphors:...visual dialogues  
Phil Croft* and John Skelton  
Department of Primary Care and General Practice, University of Birmingham, Birmingham, UK

### 1700-1715

**8D4** Inter-physician communication training with patient simulations: a pilot study  
S Eggermont*, P M Bloemendaal, P E Schenck, E Schoonderwaldt, S J Hogerzeil, R Sijstermans and J D Donnison-Speyer  
Leiden University Medical Center, Leiden, Netherlands

### 1715-1730

**8D5** Personality differences between doctors and their patients may be a barrier to effective communication  
Gillian B Clack*, Derek Cooper and John O Head  
King’s College London, GKT School of Medicine, London, UK

### 1730-1745

**Discussion**

## The Student including Career Choice

**Chairperson:** Dr Janke Cohen-Schotanus, Netherlands  
**Opening Discussant:** Dr Stephen Brigley, UK  
**Room:** Building C8 Room 8.2.11

### 1615-1630

**8E1** Factors that inform the career choice of medical students: a longitudinal survey  
S S M Hussain*, M Ranta and R Patel  
University of Dundee, Department of Otolaryngology, Dundee, UK

### 1630-1645

**8E2** Determinants of Dutch first year medical students’ career preferences  
M B M Soethout*, Th J ten Cate, M G H Nieuwhof and G van der Wal  
Vrije Universiteit Medical Centre, Amsterdam, Netherlands

### 1645-1700

**8E3** Scientific output of medical students at the start of their professional career: a five year follow-up of participants of the Students Congress Groningen  
Faculty of Medical Sciences, State University Groningen, Groningen, Netherlands
8E4  Does choice of medical school influence students' scores on national examinations?
Ara Tekian* and Laura Hruska
University of Illinois at Chicago, Department of Medical Education, Chicago, USA

8E5  Personal Learning Plans (PLP) in Denmark
Lisbeth Errebo-Knudsen and Jonna Thomsen*
Hjallerup, Denmark

Discussion

The Curriculum Integrating Basic Science and Clinical Medicine

Chairperson: Dr David Wiegman, USA
Opening Discussant: Dr Peter McCrorie, UK
Room: Building C8 Room 8.2.38

8F1 Identifying skills to teach an integrated curriculum
Nehad El-Sawi* and Karen Marcdante
University of Health Sciences, Kansas City, USA

8F2 CASK: a clinically oriented interactive multi-learning approach to anatomy
O Paul Gobée, Arnold C G Wenink*, Robert E Poelmann and Adriana C Gittenberger-de Groot
Leiden University Medical Center, Department of Anatomy, Leiden, Netherlands

8F3 A new medical curriculum, U2000, at Umeå University, Sweden: activation, integration and life-long learning
Mari Norgren, Stefan Emdin, Roger Karlsson and Erik Nilsson*
Department of Microbiology, Umeå University, Umeå, Sweden

8F4 Demonstrating the relevance of Basic Science using index cases
S Gull*, R Godwin, J Clark and P Siklos
University of Cambridge, West Suffolk Hospital, Bury St Edmunds, UK

8F5 Differences in students' academic profile influence gains in experimental courses in Biochemistry
João Martins e Silva, Rui Mesquita and Carlota Saldanha*
Institute of Biochemistry, Faculty of Medicine of Lisbon, Lisbon, Portugal

Discussion
CME General

Chairperson: Dr Kwee Matheson, UK
Opening Discussant: Dr Pamela Catton, Canada
Room: Building C8 Room 8.2.30

1615-1630

8G1 Inducing change in clinical daily practice: impact of a CHE comprehensive programme aimed at optimal use of medication in patients with arthrosis
Martin Labelle*, Carl Fournier, Daniel Paquette, Robert L Thivierge, Michele Beaulieu, Louis Bessette and Denis Choquette
University of Montréal, Faculty of Medicine, Montréal, Canada

1630-1645

8G2 Consultants as educators - The CasE Project
John Schostak* and Jill Schostak
University of East Anglia, Centre for Applied Research in Education, Norwich, UK

1645-1700

8G3 Career grade CPD - how does this fit with organisational learning needs?
Cindy Johnson
University of Wales College of Medicine, Cardiff, Wales, UK

1700-1715

8G4 Higher professional education in General Practice - ascertaining learners' needs
Glynis Buckle*, Derek Gallen* and Ed Peile
Oxford-PGME, Oxford, UK

1715-1730

8G5 Using internet technology to produce a multidisciplinary electronic journal
Martin Wood*, Joan Hunter, Nirmal Kakani and Roy Hunter
West Suffolk Hospital, Clinical Resource Centre and Library, Bury St Edmunds, UK

1730-1745

Discussion

Postgraduate and GP/FM

Chairperson: Dr David Leach, USA
Opening Discussant: Dr John Pitts, UK
Room: Building C8 Room 8.2.47

1615-1630

8H1 Family Practice as a specialty - philosophy, requirements, accreditation
Mary Alice Parsons
ACGME, Chicago, USA

1630-1645

8H2 A step towards vertical integration in medical education: opportunities for Australian junior doctors through the Rural and Remote Area Placement Program
Judi Walker
University of Tasmania, University Department of Rural Health, Launceston, Tasmania, Australia

1645-1700

8H3 Benefits for residents of a postgraduate training period in a Primary Care teaching practice
P Schluep and B Rindlisbacher
Institute of Medical Education IAWF, University of Bern, Bern, Switzerland
8H4  Joined up thinking in developing postgraduate education for General Practice in Wales
Simon Smail* and Malcolm Lewis
University of Wales College of Medicine, Cardiff, UK

8H5  An academic Masters’ programme to complement General Practice vocational training in the UK
Vincent Cooper* and Christian Mallen
Keele University School of Medicine, Stoke on Trent, UK

Discussion

Staff Development

Chairperson: Professor Hywel Thomas, UK
Opening Discussant: Professor Olle ten Cate, Netherlands
Room: Building C8 Room 8.2.39

8I  Improving the competence of Residents as teachers: an educative intervention
J R Loayssa* and P Sarrasqueta
Servicio Navarro de Salud, Pamplona, Spain

8I  “Teachers Training” - a new strategy for improving teaching quality
Peter-Ulrich Haders
University of Goettingen, Dept of Medicine, Goettingen, Germany

8I  How to improve lecturing by using Communication and Internet Technology (C&IT)
Klara Bolander
Karolinska Institutet, Stockholm, Sweden

8I  Partnership with patients: teachers learn and model
P Morris*, M Forrest, M Hawkins and S Kilminster
University of Leeds, Medical Education Unit, School of Medicine, Leeds, UK

8I  Tool to improve teaching skills
B Kanagaratnam*, P Cantillon and Gloria Avalos
Medical Informatics and Medical Education, National University of Ireland, Galway, Ireland

Discussion

Use of Simulators

Chairperson: Dr Gary Lee, Australia
Opening Discussant: Dr Roger Kneebone, UK
Room: Building C3 Room 3.2.14
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<th>Session</th>
<th>Title</th>
<th>Authors/Institutions</th>
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</table>
| 1615-1630| 8J1     | Enhancement of clinical skills in Anaesthesia using a full-scale patient simulator          | Carl-Johan Wallin* and Hans Hjelmqvist  
Department of Anaesthesiology and Intensive Care, Huddinge University Hospital, Stockholm, Sweden |
| 1630-1645| 8J2     | The introduction of full-scale simulation for first year trainees in Anaesthesiology       | Helle Thy Østergaard* and Doris Østergaard  
The Danish Institute of Medical Simulation, Herlev University Hospital, Værløse, Denmark |
| 1645-1700| 8J3     | Neonatal resuscitation - a simulation based course                                         | Anne Lüppert*, Klaus Borch, Jens Hertel, John Jacobsen, Jes Reinholdt and Doris Østergaard  
Danish Institute of Medical Simulation, Herlev University Hospital, Værløse, Denmark |
| 1700-1715| 8J4     | Teamwork training of Emergency Department staff using a high-fidelity simulator to enhance the efficacy of a newly developed clinical pathway for multiple trauma patients | K Takahiro*, Y Hara, H Matsumoto, T Mochizuki, K Mashiko and Y Yamamoto  
CCM Nippon Medical School, Chiba Hokusou Hospital, Chiba, Japan |
| 1715-1730| 8J5     | Integration of “Harvey” the cardiology patient simulator in the undergraduate curriculum of a UK medical school | Shihab E O Khogali*, Ronald M Harden, Martyn R Ward and Stuart D Pringle  
University of Dundee, Department of Cardiology, Dundee, UK |
| 1730-1745|         | Discussion                                                                               |                                                                                       |

**Teaching and Learning Styles**

Chairperson: Professor Jorge Las Heras, Chile  
Opening Discussant: Dr Geoff Norman, Canada  
Room: Building C8 Room 8.2.13

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<th>Time</th>
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| 1615-1630| 8K1     | Barriers to self-directed learning in a highly structured core undergraduate module        | S Donnelly*, B P Wordsworth and C Bulstrode  
University of Oxford, Oxford, UK |
| 1630-1645| 8K2     | Multiple intelligences in clinical practice                                                 | Z Al-Rawahi  
Clinical and Biomedical Physics Dept, College of Medicine, Sultan Qaboos University, Sultanate of Oman |
| 1645-1700| 8K3     | The development of study orientations and study success in Pharmacy - a longitudinal study | Juhu Nieminen*, Sari Lindblom-Yläne and Kirsti Lonsa  
Research and Development Unit for Medical Education, University of Helsinki, Finland |
| 1700-1715| 8K4     | From behaviourist to constructivist learning theory: a personal reflection on learning in medicine | Mariamma B Shershneva* and Henry B Slotnick  
University of Wisconsin-Madison Medical School, Madison, USA |
8K5  How do students perceive the new type of problem solving clinical seminars after 8 weeks of clinical training?
Elke Struyf*, Piet J Janssen, Johan Beullens, Hendrik Jaspaert, Bo Van Damme and Chris Aubry
K U Leuven, Faculty of Medicine, Centre for Medical Education, Leuven, Belgium

Discussion

8L  Curriculum Management/Mapping

Chairperson: Dr Niall Byrne, Canada
Opening Discussant: Dr David Davies, UK
Room: Building C3 Room 3.2.16

8L1  Use of an IT innovation to enhance learning in a postgraduate medical education setting
Frances Elender*, Joan Hunter and Lloyd Palfrey
West Suffolk Hospitals NHS Trust, Bury St Edmunds, UK

8L2  Tracking skill acquisition
Michael Harrison
Department of Anaesthesia, Auckland Hospital, Auckland, New Zealand

8L3  OPhone - “Students-On-Call” intelligent database
B Marschall*, D Toddenroth, T Ganslandt, C Kriegstein and N Senninger
Dept. of General Surgery, Westf. Wilhelms Universitä Münster, Münster, Germany

8L4  Feedback for tutors may improve on how many objectives are met in a clinical rotation: third year of assessment
Pedro Hershovic*, Arlette Adany, Nicolás Crisosto, Juan Pablo Gormaz, Antonia Lein, Cristián Miranda, Joel Riquelme and Rocio Zamorano
Pediatrics Department, University of Chile, Faculty of Medicine, Santiago, Chile

8L5  Contribution of a Dean to medical education
David Levison
Faculty of Medicine, Dentistry, Nursing & Midwifery, University of Dundee, Dundee, UK

Discussion

1800  Coaches depart conference for hotels

1915  Coaches pick up from Conference hotels to go to Leziria Grande

1930-2300  Conference Dinner at Centro Equestre da Leziria Grande
(Optional social event – not included in registration fee (reserve on Form C with Viagens Abreu, Lisbon)

2300  Coaches return to Conference hotels
Sunday 1 September

0745 (approx) Coaches depart conference hotels

0800-1400 Registration desk open
Location: Building C8, Exhibition area

0830-1030

Session 9: Short Communications 4

Twelve simultaneous, themed sessions on a range of topics

Written Assessment and Progress Test

Chairperson: Dr Donald Melnick, USA
Opening Discussant: Professor Lambert Schuwirth, Netherlands
Room: Building C3 Room 3.2.13

0830-0845 9A1 A multilevel model for a progress test
Arno M M Muijtjens
University of Maastricht, Department of Educational Development and Research, Maastricht, Netherlands

0845-0900 9A2 First application of Progress Test at University of Sao Paulo’s Faculty of Medicine
I M Benseñor, E R Tomic, R Chebabo, I F C Tibério*, P L Bellodi and M A Martins
Faculty of Medicine, University of São Paulo, São Paulo, Brazil

0900-0915 9A3 Comparison of quality and quantity in the knowledge acquisition of medical students studying in an integrated Problem-Based curriculum
Kati Hakkarainen
Medical School, University of Tampere, Tampere, Finland

0915-0930 9A4 Part I: Why only one mark at Multiple Choice Questions?
J Pez* and M Helle
Charité, Medical Faculty of the Humboldt University Berlin, Berlin, Germany

0930-0945 9A5 The webCIP (Comprehensive Integrative Puzzle) assessment method
Rosalie Ber
B. Rappaport Faculty of Medicine, Technion - Israel Institute of Technology, Haifa, Israel

0945-1000 9A6 Assessment of clinical reasoning competence in urology: results of the Script Concordance test across two sites from different countries
Louis Sibert*, Bernard Charlin, Jacques Corcos, Robert Gagnon and Philippe Grise
Rouen University Hospital, Rouen, France

1000-1015 9A7 An extended-matching multiple choice exam to assess clinical reasoning
Johan Beullens*, Elke Streyp, Bo Van Damme and Rik Jaspauert
Faculty of Medicine, K.U. Leuven, Leuven, Belgium
**Assessment General**

Chairperson: Dr Jessica Ajsteribbe, Netherlands  
Opening Discussant: Dr André de Champlain, USA  
Room: Building C3 Room 3.2.15

0830-0845 **9B1**  
*Curriculum planning and assessment of professional competence in the framework of State Standards for Higher Education*  
Y Voronenko, I Bulakh and Marina Mrouga*  
Testing Board, Kyiv, Ukraine

0845-0900 **9B2**  
*Assessing clinical competence in nursing*  
Roger Watson*, Lynn Calman and Anne Stimpson  
University of Hull, Department of Nursing and Applied Health Studies, Hull, UK

0900-0915 **9B3**  
*Evaluating medical students following a Pediatric clerkship: The psychometric properties of an oral examination*  
Harish Amin, Julian Midgley and Wayne Wolochuk  
University of Calgary, Dept of Pediatrics, Calgary, Canada

0915-0930 **9B4**  
*A cumulative assessment programme for assessing by theme*  
Peter McCrorie*, Frank Hay and Kim Neville  
St George’s Hospital Medical School, London, UK

0930-0945 **9B5**  
*Integrating in-training assessment in the certification process*  
Nadia Z Mikhail and Gary Cole  
Royal College of Physicians & Surgeons of Canada, Ottawa, Canada

0945-1000 **9B6**  
*Does feedback really exist in clinical education? Perception of Paediatric students*  
Jocelyne Kohn*, Marcela Jacard and Luisa Schonhaut  
Universidad de Chile, Facultad de Medicina, Santiago, Chile

1000-1015 **9B7**  
*Giving feedback on deficits in knowledge, skills and attitudes*  
Antoinette S Peters*, David A Hirsh and Shruthi Mahalingaia  
Department of Ambulatory Care & Prevention, Harvard Medical School, Boston, USA

1015-1030 Discussion

**Teaching Evidence-Based Medicine and Critical Thinking**

Chairperson: Professor Florian Eitel, Germany  
Opening Discussant: Professor Antonio Vaz Carneiro, Portugal  
Room: Building C8 Room 8.2.06

0830-0845 **9C1**  
*Teaching evidence based clinical skills*  
Rahul Mukherjee  
Airedale General Hospital, Department of Medicine, Keighley, UK
0845-0900  9C2  Online PubMed searches as OSCE test - chance and risks
Peter Frey* and Peter Schlaeppi
University of Bern, Institute for Medical Education, Bern, Switzerland

0900-0915  9C3  Skills to practise EBM: results of a survey of medical students
J Costa*, J J Ferreira, M Coelho, A Vaz-Carneiro and C Sampaio
University of Lisbon, Faculty of Medicine, Odivelas, Portugal

0915-0930  9C4  Perceived benefits of the third-year research experience
Joseph J Ocel*, Kale D Bodily, Lois E Krahm and Wojciech Pawlina
Mayo Clinic/Mayo Medical School, Rochester, USA

0930-0945  9C5  An analysis of knowledge in clinical reasoning in Physiotherapy
Gill James
Coventry University, School of Health and Social Sciences, Coventry, UK

0945-1000  9C6  A quantitative analysis of the Diagnostic Thinking Inventory
Ernest N Skakun*, Lory Laing and Stephen Aaron
Division of Studies in Medical Education, University of Alberta, Edmonton, Canada

1000-1015  9C7  Clinical ethical conferences students’ reflection on medical practice
A N Raat*, M A Verkerk and E L M Maeckelbergh
University of Groningen, Health Sciences, Groningen, Netherlands

1015-1030  Discussion

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**9D**

**The Patient**

Chairperson: Dr Trudie Roberts, UK
Opening Discussant: Professor Arthur Rothman, Canada
Room: Building C8 Room 8.2.10

0830-0845  9D1  Using real patients to evaluate a competency-based curriculum
Stephen R Smith
Brown Medical School, Providence, USA

0845-0900  9D2  The recruitment and management of professional role-players for undergraduate and postgraduate medical education and assessment
C Wiskin*, P Croft, S Wakefield and J R Skelton
The Medical School, University of Birmingham, Birmingham, UK

0900-0915  9D3  Procedural skills using a mannequin or a fresh frozen cadaver?
J Ocel, A S Arora*, N Natt and R D Tiesg
Mayo Clinic, Rochester, USA

0915-0930  9D4  Expanded educational applications of patient simulators
David L Wiegman*, Mark P Pfeifer, Gary E Loyd and Michael S Goodrow
University of Louisville School of Medicine, Louisville, USA

0930-0945  9D5  An integrated approach to learning-by-doing medical education
Mark P Pfeifer*, David L Wiegman and Gina Wesley
University of Louisville, School of Medicine, Louisville, USA
9D6  Training health practitioners to assess acute traumatic stress and provide brief intervention: a Standardised Patient training model
Anthony Errichetti and Kenneth Harbert*
Philadelphia College of Osteopathic Medicine, Philadelphia, USA

9D7  A novel method for the training of medical students in the technique of vaginal examination using the “epelvis”, a trained actress and the “virtual chaperone”
C Pugh*, D Nestel, R Kneebone and M S Marsh
Stanford University School of Medicine, Stanford, USA

Discussion

9E  The Student

Chairperson:   Dr Margareta Behroh-Fallsberg, Sweden
Opening Discussant:  Mr Nikola Borovevic, IFMSA/Croatia
Room: Building C8 Room 8.2.11

9E1  Intimidation and harassment and the surgical environment: what is it and what does it do to the educational atmosphere?
L J Musselman*, L Lingard, H MacRae and R K Reznick
University of Toronto, Centre for Research in Education, Toronto, Canada

9E2  Perception of abuse in medical students
A M Maida*, A Vásquez, V Herskovic, M Jacard, A Pereira, J L Calderón and L Widdel
University of Chile, Faculty of Medicine, Santiago, Chile

9E3  Equal opportunity does not produce equity: (not) getting into medical school
Judy Searle
Peninsula Medical School, Plymouth, UK

9E4  Does academic cohabitation affect medical student education?
Steven Durning*, Paul Hemmer, Jon Sweet, Mary Lynn Sealey, Robert Nardino, Thomas Jamieson, Kathleen Hogan, Eric Alpher and Louis Pangaro
Uniformed Services University, Ohio, USA

9E5  What discriminates between female students participating in a volunteer seminar on breast self-examination and those who didn’t enrol?
Heike Nave and Volkhard Fischer*
Hannover Medical School, Hannover, Germany

9E6  The effect of an educational programme based on the PRECEDE model on the level of academic advisors’ ability and the medical students’ satisfaction
S M M Hazavehei
Hamadan University of Medical Sciences, Hamadan, Iran

Discussion
Curriculum Planning

Chairperson:  Professor Ara Tekian, USA  
Opening Discussant: Dr Are Holen, Norway  
Room: Building C8 Room 8.2.38

0830-0845  
9F1 Changing health professions programmes in Brazil: what are these innovations addressing?  
Ricardo S Komatsu*, Roberto Q Padiilha, César E Basòklini and Pedro Gordan  
Faculdade de Medicina de Marília, Marília Medical School/FAMESA, Marília, Brazil

0845-0900  
9F2 Innovation in higher education in Portugal: the new course of Medicine at Beira Interior University, Portugal  
Manuel S Silva*, Julio FermoSo, J M Pereira de Almeida and Montserrat Fonseca  
Universidade da Beira Interior, Covilhã, Portugal

0900-0915  
9F3 Dresden Reform Curriculum: DIPOL = Dresden Integrative POL  
Peter Dieter* and the Planning Group  
Medical Faculty Carl Gustav Carus, TU Dresden, Dresden, Germany

0915-0930  
9F4 A new medical course and a medical course new in the Health Sciences School in the University of Minho, Portugal  
S Machado-dos-Santos*, C Leão, M A F Tavares and J Pinto-Machado  
School of Health Sciences, University of Minho, Braga, Portugal

0930-0945  
9F5 Nijmegen curriculum innovation: promoting learning in the clerkships  
J C G Jacobs*, S Bolhuis, R S G Holdrinet and J A Bulte  
Catholic University of Nijmegen, Nijmegen, Netherlands

0945-1000  
9F6 Clinical anthropology - a new educational method for ethics and humanity  
Shin'ichi Shoji  
Institute of Clinical Medicine, University of Tsukuba, Tsukuba-shi, Japan

1000-1015  
9F7 Teaching Social Sciences in medical school: evaluation of an innovative project  
Antonio Barbosa  
University of Lisbon Faculty of Medicine, Lisbon, Portugal

1015-1030  
Discussion

Staff Development

Chairperson: Professor Linda Nieman, USA  
Opening Discussant: Ms Sue Kilminster, UK  
Room: Building C8 Room 8.2.30

0830-0845  
9G1 Primary care-based undergraduate medical education: a curriculum for General Practitioner teachers  
Tony Males  
University of Cambridge, Institute of Public Health, Cambridge, UK
0845-0900 9G2  Providing subject specific support for learning and teaching in the UK
M Quentin-Baxter* and J McKendree
University of Newcastle Upon Tyne, Learning and Teaching Support Network, Newcastle upon Tyne, UK

0900-0915 9G3  Faculty development in German medical schools
R Peter Nittert
Institute of Medical Education, Westfälische Wilhelms-Universität, Muenster, Germany

0915-0930 9G4  The creation of the first national faculty development program in Israel
Howard Tandeter
Ben-Gurion University, Department of Family Medicine, Beer Sheva, Israel

0930-0945 9G5  Mayo Medical School’s Faculty Development and Education Leadership Succession Planning Program
Thomas R Vigiano*, Anthony J Windebank and Martha E McClees
Mayo Clinic, Rochester, USA

0945-1000 9G6  Assessment methods - the course “Art of Medical Education”
M Vrcic-Keglevic, Z Jaksic, G Pavlekovic and N Pokrajac
“A.Stampar” School of Public Health, University of Zagreb, Zagreb, Croatia

1000-1015 9G7  Tutors' training: a pilot project within the Leonardo da Vinci Program at the Faculty of Medicine, University of Lisbon
Madalena Patricio*, Jossé Guilherme Jordão and Paulo Matos Costa
Faculty of Medicine, University of Lisbon, Lisbon, Portugal

1015-1030 Discussion

9H

Postgraduate

Chairperson: Dr Anna Bukovinszky, Hungary
Opening Discussant: Dr David Blaney, UK
Room: Building C8 Room 8.2.47

0830-0845 9H1  The use of educational science for the training of registrars in the Netherlands
F Scheele*, B Wolf, J J M van Meyel and J Th M van der Schoot
St Lucas Andreas Hospital, Department of Mother and Child Care, Amsterdam, Netherlands

0845-0900 9H2  Educational methodology applied to an introductory course for novice Anaesthetic Senior House Officers in the North Thames Region
I Carran*, J Down, M Jones, A Gregg, A Evans and T Peachey
St Bartholomew’s Hospital, Department of Anaesthesia, London, UK

0900-0915 9H3  Creating blueprints and curricula for a new postgraduate specialist education in Denmark
Gunnar Lillevang*, Inge Pallesen and Gitte Wienholdt
Sundhedsstyrelsen (National Board of Health), Copenhagen, Denmark
<table>
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<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Authors</th>
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</table>
| 0915-0930| 9H4     | Monitoring and developing the culture of learning/clinical training in a university hospital | Peder Charles*, Hans Ehlert and Lisbeth Rune Schultz  
Dept of Education and Development, Aarhus Amtssygehus, Aarhus, Denmark |
| 0930-0945| 9H5     | How to use 942,000 EUR annually in medical education                  | Tine Andresen and Berit Bjerre Handberg*  
VUS, Aarhus AMT, Department of Medical Education, Højbjerg, Denmark |
| 0945-1000| 9H6     | A descriptive survey exploring the characteristics of Masters courses for healthcare professionals | A Rushton  
University of Birmingham, School of Health Sciences, Birmingham, UK |
| 1000-1015| 9H7     | Portfolio learning amongst GP Registrars in Yorkshire, England       | David J Pearson  
Skipton, UK |
| 1015-1030|         | Discussion                                                          |                                              |
| 0830-0845| 9I1     | What can be learned from the content analysis of PBL learning issues? | B Huenges* and W Burger  
Arbeitsgruppe Reformstudiengang Medizin, Charité, Berlin, Germany |
| 0845-0900| 9I2     | A qualitative study on function and effects of web-based scenarios in PBL (the EDIT-project) | Liisa Kiviäbo*, Charlotte Silén, Nils Dahlbäck, Wolfram Antepohl and Björn Bergdahl  
Faculty of Health Sciences, Linköping University, Linköping, Sweden |
| 0900-0915| 9I3     | The tutor role in computer-supported and face-to-face problem-based learning | Kirsten H Lycke*, Helge I Strømsø and Per Gröttum  
University of Oslo, Institute for Educational Research, Oslo, Norway |
| 0915-0930| 9I4     | Multimedia case studies: an integrated approach to facilitation of Problem Based Learning | C A Eksteen* and A Strehler  
University of Pretoria, Faculty of Health Sciences, Pretoria, South Africa |
| 0930-0945| 9I5     | Lecturing in PBL                                                   | Anna Fyrenius  
Linköping University, Faculty of Health Sciences, Linköping, Sweden |
9I6  A student initiated Problem-Based Learning project with real patients and a special facilitator team: experiences from Heidelberg University
Soren Hwuendiek* and Marcel Geyer
Student Study Group “Problem-based Learning”, Heidelberg University, Heidelberg, Germany

1000-1015  9J7  Embedding web-based learning resources into a PBL course: which format works?
Martin R Fischer, Alran Seidler, Johannes E Dietrich and Stefan Scheuwe*
University of Munich, Medizinische Klinik, Munich, Germany

Discussion

Selection

Chairperson: Dr Ann Cadzow, UK
Opening Discussant: Dr Susanne Prusil, Germany
Room: Building C3 Room 3.2.14

0830-0845  9J1  Short-term outcome of alternative admission to medical education
P Hultman* and K Borg
Linköping University, University Hospital, Linköping, Sweden

0845-0900  9J2  Measurement of strength of motivation for medical training
M G H Nieuwhof*, P Oosterveld, R A F Wierstra, M B M Soethout and Th J ten Cate
University Medical Center Utrecht, School of Medical Sciences, Utrecht, Netherlands

0900-0915  9J3  Predicting success in medical school from school marks and examination scores in Germany
C Goetz*, D Neumann, K Voigtmann and J Neuser
German Institute for Medical and Pharmaceutical Examination, Mainz, Germany

0915-0930  9J4  The importance of panel composition in medical student selection interviews
Peter Tutton*, Christopher Browne, Margot Story, Maureen Kutner and Michael Lewenberg
Monash University, Victoria, Australia

0930-0945  9J5  Global versus itemized ratings of undergraduate admission interviews
Angel M Centeno* and M Alejandra Blanco
Faculty of Biomedical Sciences, Universidad Austral-Medicina, Buenos Aires, Argentina

0945-1000  9J6  Profiling of candidates at Specialist Registrar appointment interview
James Clarke and Jane Pateman*
Royal Sussex County Hospital, Brighton, UK

1000-1015  9J7  Centralised selection for GP trainees in the West Midlands: lessons from the first two years
Sarah Wakefield*, Celia Brown, Alison Bullock, Steve Field and Stephen Kelly
School of Education, University of Birmingham, Birmingham, UK
0830-0845

**9K1**  
*Students’ and teachers’ perceptions on teacher’ roles in medical education: a survey at the Medical School at the University of Porto*

A I Ferreira, J Crosby, I Soares and M A F Tavares*  
Medical School, University of Porto, Porto, Portugal

0845-0900

**9K2**  
*Teachers’ roles seen by 1st and 3rd year students at the Faculty of Medicine University of Lisbon*

Madalena Patricio*, José Fernandes e Fernandes João Gomes Pedro and António Váz Carneiro  
Faculdade de Medicina de Lisboa, University of Lisbon, Lisboa, Portugal

0900-0915

**9K3**  
*Teaching faculty and educational reform - impact of an ongoing curriculum reform on the perceptions of teaching*

Karen Pierer*, Raphael Bonvin and Volker Exner  
Medical Faculty University of Basel, Basel, Switzerland

0915-0930

**9K4**  
*See one, do one, teach one: role models and the CanMEDs competencies*

N Kenny, K V Mann*, C Coles, W Wrixon and H L MacLeod  
Division of Medical Education, Dalhousie University, Halifax, Nova Scotia, Canada

0930-0945

**9K5**  
*‘Clinician-Educator’ - the concept of a new academic track*

Ch Schirlo*, P Groscurth, W Vetter and W Gerke  
Medical Faculty of the University of Zürich, Zürich, Switzerland

0945-1000

**9K6**  
*The motivation to teach - the undergraduate tutor’s perspective*

João M Videira-Amaral* and Luís Pereira da Silva  
Faculty of Medical Sciences, Universidade Nova de Lisboa, Parede, Portugal

1000-1015

**9K7**  
*Anatomy education in the United States: where will future anatomists come from?*

Wojciech Pawlina*, Izabela Maciejewska and Zdzisław Bereznowski  
Mayo Clinic/Mayo Medical School, Rochester, USA

1015-1030  
Discussion
**Curriculum Management**

**Chairperson:** Dr Pedro Herskovic, Chile  
**Opening Discussant:** Dr David Prideaux, Australia  
**Room:** Building C3 Room 3.2.16

0830-0845

**9L1** The introduction of concept mapping to nursing and midwifery curricula: a learning and teaching initiative  
Jane Fox* and Dot Morrison*  
University College Worcester, Faculty of Health and Exercise Sciences, Worcester, UK

0845-0900

**9L2** Canopy computing in Dundee  
P Sullivan*, R M Harden and J Crosby  
University of Dundee, Tayside Centre for General Practice, Dundee, UK

0900-0915

**9L3** A computer-based system for managing the assessment of coursework in undergraduate medicine  
David Dewhurst*, Rachel Ellaway, Helen Cameron and Archie Young  
University of Edinburgh, Faculty Group of Medicine and Veterinary Medicine, Edinburgh, UK

0915-0930

**9L4** Curriculum information systems - who will use them, at what time, and for what?  
P Merl*, C Holzbaur, P Petta, R Triappl, L Ucsnik and R Marz  
Austrian Research Institute for Artificial Intelligence, Vienna, Austria

0930-0945

**9L5** Texas State Preceptorship website  
Lewis Foxhall* and Linda Nieman  
The University of Texas, M D Anderson Cancer Center, Houston, USA

0945-1000

**9L6** Managing an outcomes based Networked Learning Environment  
G J Skelly* and P M Bradly  
Medical School, University of Newcastle-upon-Tyne, Newcastle-upon-Tyne, UK

1000-1030  
Discussion

1030-1055  
Coffee served in Courtyard of Building C8

1100-1300  

**Session 10: Plenary 2**

**The Core Curriculum and Learning Outcomes**

**Chairperson:** Dr Pablo Pulido, Executive Director, PAFAMS, and Former Minister of Health and Social Welfare, Venezuela  
**Location:** Building C3 Auditorium 3.2.14 (extended)

1100-1120

**10/1** Educating doctors to meet the challenges of tomorrow  
Dr Abu Bakar SIDEILMAN, President, International Medical University, Malaysia and Former Director General of Health, Malaysia
10/2  Global Minimum Essential Requirements for the doctor of the 21st Century
Dr M Roy Schwarz, President, China Medical Board of New York, USA
Dr Andrzej Wojtczak, Director, Institute for International Medical Education (IIIE), New York;
Dr David Stern, University of Michigan, Ann Arbor, USA;
Professor Tai Yao, Fudan University, People's Republic of China;
Dr Marvin Dunn, IIIE, New York, USA

10/3  The ACGME Competencies and Outcome Assessment Initiative
Dr David Leach, Accreditation Council for Graduate Medical Education, Chicago, USA

Discussion

A final word
Professor John Hamilton, University of Durham, UK

Announcement of Medical Teacher Poster Prize and Poster Quiz competition

A look ahead to the AMEE 2003 Conference in Bern, Switzerland (31 August to 3 September 2003)

Close of Conference

EVALUATION FORMS
Please hand in your Conference Evaluation forms to the AMEE Registration desk before you leave. We look forward to hearing your suggestions for next year’s programme and to seeing you in Bern.
Social Programme, Tours and Accommodation

All bookings and information relating to accommodation, tours and the social programme should be addressed to:

Viagens Abreu S A – Congress Department
Av. 25 de Abril, 2 – Edifício Abreu
2795 Linda A Velha
Portugal
Tel: +351 21 415 61 23
Fax: +351 21 415 63 83
Email: hdesiderio.lisboa@abreu.pt

Accommodation

Whilst accommodation is now limited, Viagens Abreu will do their best to assist participants still requiring hotel rooms. Applications must be made on Form C, available from the AMEE website (www.AMEE.org). Payment in full must be sent with Form C. In case of bank transfer, a copy of the bank transfer request form must be sent with Form C. If payment is to be made by credit card, please ensure the security code is also given, along with the credit card number and expiry date. The security code is a 3 digit (Visa and MasterCard) number printed on the signature strip on the reverse of the card, immediately following the card number. On American Express cards it is a four digit number on the front of the card to the top right of the card number.

Viagens Abreu asks for notification in writing of any requested changes to the reservation.

Conference Social Programme

The Conference pages on the University of Lisbon website contain interesting information and photos of locations visited on the tours and other social events:


Places are still available for all the events and the tours.

Welcome Reception and Buffet Supper
Thursday 29 August: 1930-2230 hrs

Included in the registration fee for both participants and registered accompanying persons.

1845 (approx) Coaches leave Conference hotels for Opening Ceremony. Notices will be placed in each Conference hotel reception giving the exact departure time. Participants not staying in a Conference hotel should make their way to the nearest hotel indicated on page 1.17.

1930-2030 Opening Ceremony in the impressive Aula Magna of the University of Lisbon, with a welcome from the President of the Portuguese Republic, Dr Jorge Sampaio

2030-2300 Transfer to City Museum for open-air reception and a full buffet meal with wine.

Coach transport is available for the 2 minute drive between Aula Magna and City Museum. Participants wishing to walk will be directed by students. Coach transport is provided from the City Museum to the Conference hotels between 2200-2300 hrs.
Dinner at Xabregas Palace  
Friday 30th August

(Optional – not included in registration fee (book on Form C via Viagens Abreu)
Xabregas is a Palace steeped in history, built towards the end of the 16\textsuperscript{th} century for Tristao da Cunha, one of the most prominent members of the Court of John III and Manuel I. Since restored, it is beautifully constructed in the traditional style and richly decorated with frescos, tiles and paintings.
A four course dinner with wine will be served, and entertainment provided.
1930 approx Coaches depart from Conference hotels for Xabregas Palace. Notices will be placed in each Conference hotel reception giving the exact departure time. Participants not staying in a Conference hotel should make their way to the nearest hotel indicated on page 1.17.
2000-2300 Dinner at Xabregas Palace
2300 Coaches return to Conference hotels.
Price: €70 per person

Conference Dinner at Centro Equestre da Lezíria Grande  
Saturday 31 August

(Optional – not included in registration fee (book on Form C via Abreu)
On arrival at Leziria Grande you will be welcomed by Herdsmen serving sausages and sangria. Afterwards we will watch a demonstration by Lusitano horses, famous for their dressage skills, before enjoying a buffet dinner and wine. For after dinner entertainment, there will be Portuguese folklore dancing and Fado singing.
1915 approx Coaches pick up from Conference hotels to go to Lezíria Grande. Notices will be placed in each Conference hotel reception giving the exact departure time. Participants not staying in a Conference hotel should make their way to the nearest hotel indicated on page 1.17.
1930-2300 Conference Dinner at Centro Equestre da Lezíria Grande
(Optional social event – not included in registration fee (reserve on Form C with Viagens Abreu, Lisbon)
2330 approx Coaches return to Conference hotels
Price: €70 per person

Pre-Conference Tours

Wednesday 28/Thursday 29 August: 2 days, 1 overnight stay
Coimbra, Bucaco and Porto

In Coimbra you will visit the University, Santa Clara Convent and the Old Cathedral – the most important example of Roman architecture in Portugal. The tour then takes in the forest of Bucaco, with some of the oldest Cedars of Lebanon, the Gardens and the Hotel Palace of Bucaco. After lunch you will continue to Oporto, the second largest city of Portugal, for dinner and an overnight stay. After breakfast, there will be a city tour of Porto, and lunch in Ribeira. You will return to Lisbon late in the afternoon.

Price: Euro 253 per person in a double room (single room supplement Euro 28). Includes: one night hotel accommodation in 3 star hotel on half board basis; taxes, service and VAT; English speaking guide; lunches; entrance fees to monuments.
Sightseeing tours of Lisbon

Price: €15 per person
Includes: Air-conditioned coach; English-speaking guide

Wednesday 28 August: 1600-1800 hrs
Thursday 29 August: 1500-1700 hrs
Sunday 1 September: 1600-1800 hrs

Post-Conference Tour

Monday 2 September: 0900-1300 hrs
Azeitão, Sesimbra, Arrábida e Palmela

The tour heads south from Lisbon towards Azeitão, stopping at the wine cellars of José Maria da Fonseca, where you can sample some of the many local specialities. The tour continues to Sesimbra, famous for its fishing harbour and lovely beach with golden sand. The tour proceeds along the scenic coast road, past the Arrábida Mountain, a National Park with vegetation unique in Europe, with superb views over the Atlantic Ocean. Return to Lisbon through the towns of Setúba and Palmela.

Price: €34 per person
Includes: Air-conditioned coach, English-speaking guide, wine sampling

Monday 2/Tuesday 3 September: 2 days, 1 overnight stay
Santarém, Tomar and Coimbra

The tour heads towards Santarém, through an area known for bull-breeding, wine production and agriculture. The historic town of Santarém, formerly called Praetorium Julium, was occupied by the Romans in 200 BC. With its churches and monuments it is known as the Gothic capital of Portugal. The tour continues to Tomar, conquered by the Arabs in 1147, with visits to the Castle-Convent of Christ, the Renaissance cloisters and the churchyard, with tombstones to medieval knights who fought in the Crusades. Continue on to Coimbra for an overnight stay. The following day, enjoy the tradition and history of the beautiful city of Coimbra, with its university founded in 1290, and magnificent library, its 12th century cathedral and Machado de Castro Museum, containing a marvellous collection of sculptures and paintings. Return to Lisbon late afternoon.

Price: Euro 208 per person in a double room (single room supplement Euro 20).
Includes: one night hotel accommodation in 3 star hotel on half board basis; taxes, service and VAT; English speaking guide; lunches with wine; entrance fees to monuments.

Accompanying Persons Programme

Friday 30 August: 0900-1800 hrs
Queluz, Sintra, Cabo da Roca, Cascais and Estoril

The tour heads to the north west of Lisbon, to Queluz, for visit to the Royal Palace, which is the official residence of foreign Kings and Presidents on state visits to Portugal. Continue on to the beautiful town of Sintra, set on a hillside, and see its Royal Palace, the residence of many Portuguese kings, dating back to the fourteenth century, and its beautiful tiles. Enjoy some free time to shop in the many attractive
shops, and then have lunch. The tour proceeds to Cape Roca, the western-most point of Continental Europe, and look out over the cliffs to the Atlantic Ocean. Continue to the old fishing village of Cascais and take some time to look around, before returning to Lisbon along the coast road through Estoril.

Price: €54
Cost includes: air-conditioned bus, English speaking guide, lunch with wine, entrance fees, taxes.

Saturday 31 August 0900-1800 hrs
Óbidos, Nazaré, Batalha and Alcobaca

The tour goes north to Óbidos, a charming village completely enclosed within the ramparts of a mediaeval castle. Walk through the 18th century arch covered in azulejos – glazed tiles, and enjoy the attractive white houses, cobbled streets and Gothic and Renaissance churches. Continue on to Nazaré, the most famous fishing town in Portugal, for lunch. After lunch the tour continues on to Batalha to visit the superb Monastery of Santa Maria a Victoria, celebrating the victory against the Castillians in 1386. Visit the Abbey of Santa Maria de Alcobaca before returning to Lisbon.

Price: €46 per person
Includes: air-conditioned bus, English speaking guide, lunch with wine, entrance fees, taxes.

Sunday 1 September 0900-1300 hrs
Azeitão, Sesimbra, Arrábida e Palmela

The tour heads south from Lisbon towards Azeitão, stopping at the wine cellars of José Maria da Fonseca, where you can sample some of the many local specialities. The tour continues to Sesimbra, famous for its fishing harbour and lovely beach with golden sand. The tour proceeds along the scenic coast road, past the Arrábida Mountain, a National Park with vegetation unique in Europe, with superb views over the Atlantic Ocean. Return to Lisbon through the towns of Setúba and Palmela.

Price: €34 per person
Includes: Air-conditioned coach, English-speaking guide, wine sampling
**Student Programme**

AMEE is grateful to the Lisbon students for organising accommodation and a programme for visiting students. The following section has been contributed by the Lisbon students, and they should be contacted for further information: amee-students@mail.pt.

**Accommodation and Meals**

The students will stay in a students’ residency of the University of Lisbon (near the Conference venue). It is served by a very good public transport network (bus and subway). Mainly there are double and triple rooms. The cost is excellent value at €10/night/person.

Lunches are included in the Conference fee. Other meals (dinner) can be had at the Student refectory situated near the Conference hall for €1.5/meal. Other options are still being arranged at a low price (together with the AMEE conference organization). If the students prefer other kind of dinner there are always several options at Lisbon’s Restaurants (see programme).

**Transfers**

We will try to arrange transportation from and to the airport. Between the residency and the Conference venue there is no need for transport since it’s only 5 minutes walk away.

**Transportation during the Conference**

Free transport by public buses has been arranged within City limits

**Tuna Médica de Lisboa**

We already contacted the “Tuna Médica de Lisboa” to sing some songs in the Closing Ceremony. “Tuna Médica de Lisboa” is a group of Lisbon medical students who sing typical student songs. They sing and also play some musical instruments, like the Portuguese guitar and the drums. It is a very funny and enjoyable musical number according to the Portuguese academic tradition.

**Social Program**

In Lisbon there is always a lot to do and see. We have several museums, historical monuments, concerts, etc. We also have wonderful beaches and natural sights to visit. We will organize a few trips, but feel free to ask any questions about your own ideas and organise your own social programme. Don’t worry, in Lisbon there is a lot to do!

**Program**

*(If you want to arrive before this date, you’ll have to find lodging by yourself)*

**29th August, Thursday**

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**Morning & Afternoon**

- pre-conference workshops
- arrival of the participants
- “Welcome Desk” at the students residency and at the airport. (Please contact Viagens Abreu Desk)

**Evening**

- Opening Ceremony at “Aula Magna” followed by dinner at the City Museum
30th August, Friday

Morning
- Conference
- Lunch included

Afternoon
- Conference

Evening
- Dinner – 3 options:
  1. dinner with AMEE conference at a Typical Portuguese restaurant (still being negotiated…)
  2. dinner at a Lisbon restaurant: €10 to €15
  3. dinner at student refectory (about €1.5)
- Special Party in a Lisbon disco

31st August, Saturday

Morning
- Conference
- Lunch included

Afternoon
- Conference

Evening
- Dinner: 3 options
  1. dinner at Centro Equestre da Lezíria Grande at Vila Franca de Xira – we’ll try to arrange a “friendly price” for students – probably students will go by train to Vila Franca de Xira (Oriente railway station) and then by bus (still being negotiated)
  2. dinner at Parque das Nações (also about €10 to €15)
  3. dinner at student refectory (about €1.5)

Evening
- Party at Parque das Nações

1st September, Sunday

Morning
- Conference

Afternoon (several options)
- Visit to the Lisbon Oceanarium, Parque das Nações (to be confirmed if it will be free)
- Visit to Belém – Mosteiro dos Jerónimos, Torre de Belém and Padrão dos Descobrimentos (free)

Evening
- Dinner: 2 options
  1. dinner at Bairro Alto (€10), old City
  2. dinner at university canteen (about €1.5)
- Bairro Alto
2nd September, Monday

- Post-conference tour (1 day):
  - 2 options:
    - A visit to Sintra (World Heritage Village, Palácio da Pena e Castelo dos Mouros)
    - A trip to the Beach (Costa da Caparica)

Price: not available yet
Students will be given a "Guide book" (made by us...), where they can find every important detail about both trips (how to get there, price, things to see, where to eat...).
We’ll try to arrange Portuguese students to guide both activities.
For any further information on student activities, please contact: amee-students@mail.pt.
Friday 30 August

Session 1: Plenary 1: New Learning Technologies .............. 4.1

Session 2: Short Communications 1
2A Clinical Assessment .................................................. 4.2
2B Assessment - OSCE .................................................. 4.3
2C International Medical Education ............................... 4.5
2D Clinical Skills .......................................................... 4.6
2E Multiprofessional Education ....................................... 4.8
2F Students and Curriculum Evaluation ........................... 4.9
2G Continuing Medical Education: Physician Appraisal ....... 4.10
2H Pre-Registration House Officer Training ....................... 4.12
2I Use of Simulators ..................................................... 4.13
2J E-learning ............................................................... 4.14
2K Teaching and Learning .............................................. 4.16
2L Professionalism ....................................................... 4.17
2M Postgraduate Education ............................................. 4.19

Session 3: Posters
3A Curriculum Planning .................................................. 4.21
3B Management and Administration/Responding to Change .... 4.24
3C Problem-Based Learning ........................................... 4.27
3D Teaching and Learning/Multiprofessional Education ....... 4.30
3E Clinical Teaching ..................................................... 4.33
3F New Learning Technologies ......................................... 4.36
3G Basic and Clinical Sciences ....................................... 4.40
3H Special Subjects ...................................................... 4.43
3I Postgraduate Education ............................................. 4.45
3J Continuing Professional Development ......................... 4.49
3K Assessment ........................................................... 4.52
3L The OSCE ............................................................ 4.56
3M Students and Trainees .............................................. 4.59
3N Staff Development/International Aspects of Medical Education ........... 4.63
3O Curriculum Evaluation .............................................. 4.66

Session 4: Workshops and Mini-Thematic Sessions 1 ....... 4.70

Saturday 31 August

Session 5: Large Group Sessions ................................. 4.77
Session 6: Short Communications 2

6A Communication Skills Assessment ........................................ 4.80
6B Assessment of Practical Procedures/OSCE ............................... 4.81
6C International Medical Education – Assessment .......................... 4.83
6D Clinical Skills ........................................................................ 4.85
6E Multiprofessional Education .................................................. 4.86
6F Curriculum Evaluation ............................................................ 4.88
6G Computer-based Simulation .................................................... 4.89
6H Postgraduate Education ......................................................... 4.91
6I Problem-based Learning .......................................................... 4.92
6J E-learning: Virtual Learning Environment .................................. 4.94
6K Community-based Education .................................................. 4.95
6L Outcome-based Education ....................................................... 4.97

Session 7: Workshops and Mini-Thematic Sessions 2 ............ 4.99

Session 8: Short Communications 3

8A Computer-based Assessment .................................................. 4.105
8B The Curriculum ....................................................................... 4.106
8C International Medical Education ............................................. 4.107
8D Communication Skills ........................................................... 4.108
8E The Student including Career Choice ..................................... 4.110
8F The Curriculum, Integrating Basic Science and Clinical Medicine ... 4.111
8G Continuing Medical Education – General .............................. 4.112
8H Postgraduate Education and General Practice/Family Medicine ... 4.113
8I Staff Development .................................................................. 4.114
8J Use of Simulators ..................................................................... 4.116
8K Teaching and Learning Styles .................................................. 4.117
8L Curriculum Management/Mapping ......................................... 4.118

Sunday 1 September

Session 9: Short Communications 3

9A Written Assessment and Progress Test .................................... 4.120
9B Assessment General ............................................................... 4.121
9C Teaching Evidence-based Medicine and Critical Thinking ....... 4.123
9D The Patient ............................................................................ 4.125
9E The Student ............................................................................ 4.126
9F Curriculum Planning ............................................................... 4.128
9G Staff Development ................................................................. 4.130
9H Postgraduate Education ......................................................... 4.131
9I Problem-based Learning .......................................................... 4.133
9J Selection ................................................................................ 4.135
9K The Teacher ............................................................................ 4.136
9L Curriculum Management ....................................................... 4.138

Session 10: Plenary 2: The Core Curriculum and Learning Outcomes ............................................. 4.140
Session 1

**Virtual reality in medical education \( \text{ñ} \) real or science fiction?**

*Professor Sir Alfred Caschieri, Professor of Surgery, Dept of Surgery and Molecular Oncology, University of Dundee, Ninewells Hospital & Medical School, Dundee DD1 9SY, UK*

This opening plenary presentation will outline the role of virtual reality as a means of learning in medicine. The principles of effective virtual reality necessary for the transfer to clinical practice will be discussed, and different systems, including total virtual reality and hybrid systems, will be reviewed and examples given. The presentation will describe how virtual reality can contribute to an education programme both as preparation for clinical experience and, at a later date, to reinforce particular skills. It will conclude with a summary of where we are at present and a vision of the future in this exciting and interesting area.

**Into the future: bringing the next generation of learning into focus for the medical profession**

*Wayne Hodgins, Strategic Futurist, Director of Worldwide Learning Strategies, Autodesk Inc., Petahuma, California, USA*

Confused and uncertain about future trends and directions of where learning and education are going? Unsure how to sort the hype from that which is truly worthy of your invaluable time and attention? Well, join the crowd and your peers who will be attending this session that responds to these needs. Noted “strategic futurist” and highly sought after inspirational speaker, Wayne Hodgins, will take us on a fascinating whirlwind tour into the future of learning. In his high paced, story-telling style, Wayne will provide a clear view of his vision of the future. You will gain new perspectives into creative uses of existing and emerging technology, new methodologies, new conceptual models and new content models that combine to increase the effectiveness and ‘personalization’ of content, learning and continuous human performance improvement.

Leave your traditional assumptions at the door – many will be challenged. However, be equally prepared for whole new perspectives on things that you can begin to implement, and benefit from the clearer view of the future this session will leave with you.
2A1 Evaluation of a pilot portfolio for Public Health Medicine in the UK

Stephen Brigley*, Eva Elliot, Cindy Johnson and Iain Robbé
School of Postgraduate Medical & Dental Education, University of Wales, College of Medicine, Heath Park, Cardiff CF4 4XN, UK

This paper presents participants’ views of a pilot portfolio exercise run by the Faculty of Public Health Medicine in 2001. In telephone interviews, twenty public health physicians discussed the range of purposes that the portfolio could be seen to meet - including group learning, reflective practice, traditional CME and demonstrating competence to practise - and various formats and approaches compatible with those purposes. The national policy context and the Faculty’s response in terms of standard-setting, revalidation, appraisal and audit were closely inter-linked with participants’ views of the pilot portfolio. Clear messages were expressed about the kind of support and training that are needed if portfolios are to ‘work’ at any level, and especially if they are to support appraisal and revalidation procedures for doctors currently being implemented in the UK by the General Medical Council.

Charlotte Rees* and Charlotte Sheard
Peninsula Medical School, Tamar Science Park, Davy Road, Plymouth PL6 8BX, UK

Some educators have argued that portfolios should not be assessed summatively because little evidence exists to support the reliability of their assessment. This study aims to determine the reliability of assessment criteria used for a portfolio at the University of Nottingham. Two independent analysts will assess a random sample of 100 portfolios using criterion-referenced assessment. Students’ performances will be examined against qualitative objectives in 5 areas: portfolio structure, level of critical reflection, level of skills development, use of documentary evidence and use of relevant literature. These qualitative categories will be converted into quantitative scales ranging from 0 to 3, so that inter-rater reliability can be established. The level of agreement between the 2 analysts will be established by weighted kappa coefficients using SAS (Release 6.12). It is hoped that the results of this study will provide support for the use of portfolios as summative assessment methods in undergraduate medical education.

2A2 Standardization of the evaluation system: workshop for faculty

Leticia Elizondo M*, Jesus Ibarra, Claudia Hernandez, Antonio Davila, Leal Felicitos and Ismael Piedra
ITESM, Escuela de Medicina Ignacio A Santos, Depto Ciencias Medicas Basicas, Ave. Monjes Precio # 3000 pte., Monterrey, Nuevo Leon CP 64710, Mexico

Our School of Medicine has a heterogeneous evaluation system. Our new curriculum 2001 demands more congruency with the curricular outcomes expected. The Evaluation Committee decided to transform and standardise the evaluation system, by introducing, among other instruments, a portfolio-based-assessment. Forty faculty members attended the workshop. Each participant applied the different assessment instruments outlined to his/her own course. In addition, each participant created his/her own portfolio of the workshop, showing evidence and reflection of the learning objectives accomplished, relating to the design of the evaluation system of the block in which he/she participates. Ten faculty members completed the portfolio, while some others made important reflections. Ten faculty members decided to do a portfolio-based assessment for their particular course, which is now underway. Most important, faculty members are now more aware of the importance of maintaining congruence among curricular outcomes, year and course objectives and the assessment system.

H M J Raghoebhar-Krieger*, D Th Sleijfer, W Bender, R E Stewart and R Popping
Faculty of Medical Education, University of Groningen, A. Deusinglaan 1, 9713 AV Groningen, Netherlands

To estimate whether students fill in logbooks reliably, we measured interobserver agreement by comparing doctors’ and students’ data. Completed logbooks, containing 231 preprinted diseases, were collected at the Department of Internal Medicine (University Hospital Groningen). Doctors and students recorded the diseases they had encountered. Interobserver agreement, expressed by the coefficient of Jaccard (J), was calculated for the complete set and for a subset of core diseases. To assess the kind of errors which students made, sensitivity and specificity were determined. The mean J for the complete set is .23 and for the core diseases .36. Students do not record many false identifications (mean specificity complete set and core diseases is respectively .96 and .93), and they do not record all the diseases available (mean sensitivity complete set and core diseases is respectively .36 and .51). This study shows inconsistencies in recording diseases by students compared with doctors. In particular, diseases which are present are underreported by students.

2A5 Reliability and validity of the Integrated Direct Observation Clinical Encounter Examination (IDOCEE) for the assessment of final year medical students

H Hamdy*, K Prasad and R Williams
The College of Medicine, Arabian Gulf University conducts a comprehensive Final MD examination. In addition to written and OSCE, the traditional long/short case clinical examination was replaced by IDOCEE. The objective of the study was to determine the reliability and validity of IDOCEE. Fifty-six final year medical students and 22 examiners participated in the examination. Each student examined four patients selected from a blueprint ensuring relevance. Each student was assessed by four examiners from different disciplines. Analysis included face, context, concurrent validity and reliability using intra-class Pearson correlation, Cronbach’s alpha and Kappa. The intraclass and Pearson correlation of scores given by examiners ranged from 0.81 to 0.93. Kappa ranged from 0.56 to 1.0. Cronbach’s alpha was 0.92. The correlation between IDOCEE and other performance measures ranged from 0.6 to 0.8. IDOCEE changed the pass/fail status in 7 (12%) and ranks in 17 (30%) students. (McNemar test p = 0.002). It is concluded that IDOCEE has good reliability and concurrent validity. It provides unique information about students’ clinical competence.

Session 2B  
Assessment – OSCE

2B1  
Standard setting for OSCE examinations in the undergraduate curriculum: a trial of the borderline approach  
S M Kilmartin* and T E Roberts  
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Standard setting is difficult for all examinations. The Medical Education Unit at the University of Leeds is developing standard setting throughout the undergraduate medical curriculum. We undertook a review of the OSCE examinations for third, fourth and fifth year students and decided to use the borderline approach to standard setting for these examinations. The advantages of this method are that it uses the judgements of the examiners (expert physicians) about actual, rather than hypothetical, performance. It is also much less time consuming because the judgements are made during the examinations. There has been some question as to the number of candidates required to ensure that this is a reliable method but recent reports suggested that it would be reasonable to test this approach. In addition, we used simulated patients’ assessments in order to improve feedback to the candidates. This presentation will report the results of these trials.

2B2  
The development of a high-stakes OSCE to assess student competence  
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Indiana University School of Medicine (IUSM) adopted a competency-based curriculum for the class of 2003. The nine competencies instituted include: effective communication, basic clinical skills, basic science knowledge, lifelong learning, self-awareness, social context of healthcare, ethics, problem solving, and professionalism. IUSM established a high-stakes Objectively Structured Clinical Examination to assess these nine competencies. Physician-raters and standardized patients assess each student’s performance. Ratings are global and specific to the competency being evaluated in each scenario. Students provide written answers to questions related to the patient encounter. Reliability statistics by competency and case for 280 fourth year students in 2001 will be presented. Inter-rater reliability scores between standardized patients and physician-raters will be discussed and the methodology to establish pass rate for this high-stakes exam will be described. Student satisfaction responses related to the test were uniformly positive and will be reported in detail.

2B3  
Is the OSCE truly objective? The effect of racial origin on performance in an undergraduate OSCE  
Inam Haq* and Jane Dacre  
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It has been reported that racial discrimination in the medical profession can affect the progress of ethnic minority students and doctors in medical school, examinations and careers. OSCE examinations are increasingly used and theoretically free of bias, although the candidate and examiner are face-to-face which may allow bias to occur. We studied the effect of a non-European surname on performance in a year 3, 29 station undergraduate OSCE at RFUCMS. 383 students were assessed at one campus over 3 days. 135 students had a non-European (NE) surname and 248 a European (E) surname. The mean OSCE score in group NE was 72.9% and in group E 76.2%. There was no significant difference in these scores using a student t-test (p>0.5). We have shown that there is no evidence of discrimination due to racial origin in an OSCE at our medical school.

**2B4**  
Factor analysis is a useful tool in OSCE construction and in the measurement of student OSCE performance

A M S Chessar*, M R Laing, Z Miedzybrodzka, J Brittenden and S D Heys
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Resource limitations make it important that every station in an OSCE contributes to the discriminatory power of the exam. Our students perform a 12 station OSCE during their penultimate year. We report the results of a factor analysis of station scores for one cohort. Scores on four stations correlated poorly with other stations: closer scrutiny of these stations revealed problems in their design. Of the remaining eight stations, three factors emerged, accounting for 53% of the variance of the scores. These were labelled: ‘examination skills’, ‘history taking’ and ‘communication skills’. Factor scores for each student correlated well with other measures of student achievement, enabling suitable weighting of these clinical skills to be carried out when calculating final scores. These data demonstrate that use of factor analysis can aid in deciding which stations to include, and factor scores can be used as a valid measurement of performance in OSCE examinations.

**2B5**  
The Catalan Family Physician OSCE: its validity as a certification tool

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Institute of Health Studies, Balmes, 132-136, 08008 Barcelona, Spain

Since 1997 the Institute of Health Studies and the Catalan Society of Family Physicians have jointly administered 13 editions of the Family Physicians OSCE. More than 300 family doctors have completed that examination. As long as the OSCE has certification purposes, validity has been one of the main concerns to assure. Systematic questionnaires delivered to candidates, exam observers and other external experts, support content and face validity. The test committee program of work is also designed to assure content validity. The comparison of results among selective profiles and groups of candidates agrees with the construct theory that, previous to OSCE administrations, was developed by test committee experts. The examination’s validity, in addition to its high reliability, makes the OSCE a fair certification tool.

**2B6**  
Competences assessment at medical schools in Catalonia (Spain), 2001

Institute of Health Studies, Balmes 132-136, 08008 Barcelona, Spain

In 2001 an Objective Structured Clinical Examination (OSCE) to assess clinical competences of final year medical students was used at four Catalan Medical Schools. A multiple-station examination, with 15 cases distributed in 22 stations, and a written test, composed of 150 MCQs, was designed to assess medical competences. The OSCE scored highly on internal consistency (Cronbach’s alpha=0.82). The global mean score for the test was 59.7% (sd: 5.9). The mean scores, obtained by the 429 medical students who completed the OSCE, for every specific competence assessed, were as follows: history taking 60.2% (sd: 7.8), physical examination 50.8% (sd: 9.6), communication skills 67.8% (sd: 6.2), knowledge 55.5% (sd: 8.9), diagnosis and problem-solving 60.7% (sd: 8.4), technical skills 74.7% (sd: 10.8), community health 60.6% (sd: 11.6), colleagues relationship 45.1% (sd: 9.4), research 64.7% (sd: 17.8) and ethical skills 79.0% (sd: 14.6). OSCE based methodology has proved to be a feasible, valid and reliable tool to evaluate final year medical students.

**2B7**  
From knowledge-based to reflective learning in health care education: Catalonia 1993-2002

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In our country a culture of knowledge-based evaluation continues to prevail in the field of health professionals’ education. In order to promote a substantive change in health care education, a series of educational activities, OSCE projects and other similar examinations have been conducted in Catalonia since 1993, as a first step to disseminate a new reflective learning through assessment culture. Up until February 2002, the educational activities and tests have been administered to a number of 7,928 health care professionals, at undergraduate, postgraduate and continuing education levels. At present, there is an ongoing process of designing, refining and validating assessment tools and the scope of application is expanding to new medical specialties and educational areas. Moreover, based on that OSCE experience, an independent agency for health care competences assessment is envisaged as a nuclear instrument to support the above mentioned change.
Session 2C  International Medical Education

2C1  International medical graduates in Canada: what do we know?
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International Medical Graduates (IMGs) are an important component of the Canadian physician workforce. There is much that is not known about unlicensed IMGs residing in Canada. Given current physician shortages, increasingly organised IMG communities, and the cultural diversity of our population, intelligent use of IMG human resources is essential. The 640 IMGs who have applied to the 2002 CaRMS match have been invited to participate in a survey. Data including training, self-reported preparedness for practice and preferred career choice is being collected. Data will be analysed quantitatively and qualitatively. Key findings, central to informed decision making, will help direct educators and policy makers in Canada.

2C2  Integration of Eastern European medical schools into the European medical educational system
R Khtsusuri and Z Avaliani*
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Medical schools in Eastern European countries are on the way to establishing European educational standards. The Tbilisi State Medical University has made significant progress, in collaboration with AMEE, which has resulted in the creation of a modern educational concept, in providing preliminary activities for implementation of a credit system, in structural reorganization, implementation of residency programs and changes in the system of control of the quality of education etc. Therefore, we find it appropriate to establish an Association of Medical Education of Eastern European countries under the guidance of AMEE, which will estimate the quality of medical schools in the mentioned countries. It will raise the prestige and importance of AMEE, which will have a positive influence on the progress of European medical education. The EU can provide financial support for these programmes.

2C3  Communication skills training in foreign language for medical students in exchange programmes
Charlotta Zacharias* and O Ortwein
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The BBEO at the Charité, Faculty of Medicine, Humboldt-University of Berlin is responsible for organising International Students Exchange. Medical language courses are offered to incoming and outgoing medical students to facilitate their stay abroad. The courses are held by two tutors, a native speaker and a student experienced in the exchange program. The learning groups are small. Languages provided are German, French, Spanish, Italian, Swedish and Norwegian. Medical vocabulary is introduced using humorous games enabling students to overcome initial shyness. Medical communication skills respecting specific social and cultural aspects are trained through role playing interactions in history taking and physical examinations. The novelty of introduction of native speaking persons as simulated patients has proven to be highly efficient in contributing to students’ ease in the communication situation. The evaluation of our program shows reduced anxiety and that the students were able to acquire high confidence in their communication skills.

2C4  CME can improve perinatal health outcomes - a Macedonian experience
Heather E Jeffery*, Marina Pop-Lazarova, Fimka Tocija, Kirsty Foster, David Hill, Mirjana Kocova and Dragana Djorjev
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A Perinatal Mortality Rate (PMR) of 31.2/1000 births in Macedonia in 1999 is one of the highest in Europe. The World Bank and the Ministry of Health supported the appointment of a consultant (HEJ) to develop a strategy to address the problem. Education was given priority to develop the capacity of Macedonian clinicians to incorporate best-evidence practice into the workplace. Eighteen doctors and nurses spent 4 months at RPAH in 2000 undergoing a program of structured teaching and clinical attachments. A teaching program (3 eight week modules) was run on 3 occasions for a further 97 trainees in Skopje, first by the inaugural trainees with on-site Australian support and twice on their own. Sustainability was facilitated by a “train the teacher” approach. Learning was optimised by small group, interactive teaching methods with a curriculum responsive to trainee feedback. Evaluation has demonstrated successful implementation of evidence-based hospital practice in a number of key areas. The pre/post intervention PMR in babies >1000g has fallen 28%.

2C5  Colombian physician brain drain
Diego Rosselli* and Andres Otero
Universidad Militar Nueva Granada, Facultad de Medicina, Transversal 5 No 49-00, Bogota-2, Colombia

In January 2000 there were 2515 Colombian-trained physicians in the United States. Current political and economic unrest is producing the greatest emigration ever, and figures are expected to climb. Our aim was to determine if migrant physicians are the higher academic achievers. One hundred and fifteen Colombian physicians registered in the AMA files were matched
by gender and year of graduation with an equal number of controls. On a 0 to 5 grading score (passing grade 3.0) US migrants had an average grade of 3.78 + 0.17 while controls had 3.63 ± 0.17 (Wilcoxon signed-rank test p<0.001). 20 migrant physicians had an average of 4.0 or higher (outstanding for our medical schools), compared with 4 controls (Pearson chi square 9.57 p=0.002). Physician migration is a regressive subsidy paid for by poor nations. Migration of the smartest students makes this brain drain even more unfair.

2C6 Development of a plan to modernise health professions education in Colombia

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University of Barcelona, C/o Brusi, 61, 08006 Barcelona, Spain

The Health Ministry in Colombia obtained in 1999 funds from the Iberoamerican Bank of Development in order to develop a plan to change medical and health professions’ education. Consorci Hospitalari de Catalunya and Institut d’Estudis de la Salut in Spain, have collaborated with the Ministry to manage and carry out this project.

For two years, more than 100 health professionals have built up a network with the objective of analysing the current situation in Colombia, to make recommendations and to propose solutions to the problems that have arisen. The working methodology has been based on discussing and reflecting after reading specific material and always having the current situation as a frame of reference. In a first step the network was broken down in four different groups for discussions: undergraduate, postgraduate, continuing education and paramedical education. Each group then proposed recommendations to improve the educational system. In a second step three other groups were formed in order to advance in more concrete topics: accreditation, faculty development and teaching incentives. All the information, with proposals and recommendations generated from the network process, has been used to develop the final plan. Accreditation of clinical sites for learning, proposals to develop problem based learning, community and primary care oriented curricula, policies to engage hospitals and clinical centres as teaching institutions and recommendations to establish clear rules to motivate teachers, are the most important conclusions.

Session 2D Clinical Skills

2D1 A clinical teaching enhancement programme: the importance of an academic spine in clinical skills

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In September 2002 the Peninsula Medical School (PMS), UK, will admit its first students. It is recognised that the burden of clinical teaching can have a considerable impact on the time pressures facing clinicians and also that this might have an adverse effect on the quality of patient care. The PMS will deliver a quality learning experience, but with due consideration for the impact of these activities on clinicians and patients. The PMS has adopted a Clinical Teaching Enhancement Program that has a major element of clinical skills training delivered within clinical skills centres. Weekly skills training will take place throughout all 5 years of the undergraduate curriculum within each of the three phases

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In this presentation we will describe the philosophy and structure of the clinical skills program and how this will underpin the curriculum whilst ensuring the quality of the educational experience.

2D2 Introducing students to clinical skills - a constructivist approach

J Ker*, J Dent, P Reece and B Klaassen
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The introduction of students to clinical skills practice early in the undergraduate curriculum presents challenges in terms of timing and relevance. This paper shares the development and evaluation of an introductory three week programme in Phase 2 of the undergraduate medical curriculum in Dundee. The programme is structured using a constructivist approach to learning building on students’ knowledge of their senses particularly those of vision, hearing, touch and smell. Student sense awareness is reactivated using a series of exercises which are relevant to clinical practice but do not rely on specialised medical knowledge. Each of the six sessions students attend addresses key generic skills in relation to information gathering, physical examination procedures and communication skills in keeping with an outcome-based curriculum. The evaluation by students has been very positive in building their approach to practice both in relation to consulting and using the tools for practice.

2D3 Influence of a reformed curriculum in internal medicine on self-efficacy in clinical skills of medical students
Traditional lectures and bedside-teaching in undergraduate education in internal medicine at Heidelberg University was estimated by students to be not very effective for preparing for clinical practice. A curriculum was developed to enhance communication skills using standardised patients and clinical skills by skills lab training. This study compared the traditional curriculum (TC) with the pilot curriculum (PC) in a pre-post design using skills-related self-efficacy expectations (SE).

Self-efficacy was assessed in several domains of medical skills. Baseline and post-treatment measures were obtained from 61 Students in TC and 63 students in PC.

Students in the pilot curriculum showed highly significant improvements of their self-efficacy in all SE-domains and 80 percent of these improvements were significantly higher than corresponding change-scores in the traditional curriculum. The reformed curriculum proved to be highly effective in improving self-efficacy in students, using the same timeframe as TC.

**2D5 Integration of paper-cases and role-plays in skills-lab training in internal medicine**

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Clinical skills are an important and necessary part of clinical competence. Therefore a pilot curriculum was initiated at the Medical School of the University of Heidelberg in summer 2002 and since then basic clinical skills are taught by a skills-lab training programme. This study compared the students’ confidence and the effectiveness of skills training before and after the introduction of paper-cases and role-plays. A summative and formative evaluation after one term of training showed that the part-task-trainer seemed neither very realistic nor demanding to trainees. To create a more realistic training situation and to enhance students’ involvement, paper-cases and role-plays were introduced. A realistic setting was constructed by paper-cases and defined roles for students (eg intern, senior consultant). Students evaluated each other’s performance with checklists and gave feedback. The second evaluation showed that after the changes the learning process, student engagement and effectiveness had improved.

**2D4 Exploring myths: learning clinical and communication skills in simulated settings**

Della Freeth and Heather Fry*
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Rhetoric about learning and teaching in clinical skills centres abounds; the empirical evidence is limited. We know what centres are supposed to do, but do they? A large scale study of the learning and teaching of nursing and medical students is reported. The study took place in one of the first multiprofessional clinical skills centres established in the United Kingdom. Data from 69 hours of structured observation, 366 student questionnaires, 30+ tutor questionnaires and documentary evidence are drawn on to explore many of the most common statements made about learning in simulated settings. Triangulated findings are used to illuminate these areas. Themes about clinical and communication skills centres that are examined include: provision of a safe environment; systematic skills development; learning from mistakes; bridging the theory practice divide; facilitating exploration of ethical issues; fidelity; self directed learning; and assessment. Conclusions are drawn.

**2D6 Consolidating clinical competencies: preparing senior student nurses for practice**

Lesley J Mole*, Lee Bracher and Jean S Ker
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Newly registered nurses are expected to be competent to cope with the pressures of practice. Having an opportunity to consolidate their skills immediately prior to registration in a realistic yet safe student centred environment is a challenge.

We have addressed this challenge by developing an exercise in the clinical skills training ward which has been created to represent a busy surgical ward. This enables small groups of senior nursing students to participate in simulated practice through a number of key activities which reflect the real work of qualified nurses. This is achieved by using simulated patients who are trained to play roles such as a relative, an in-patient, a new admission or a boarding patient using detailed scripts. The student evaluations demonstrate some interesting findings. The perceived vital role that feedback from the simulated patients provides in consolidating competencies is discussed.
**Session 2E  Multiprofessional Education**

**2E1  Karolinska Hospital Educational Centre for inter-professional training**

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In the field of medicine Karolinska Institute offers seventeen training programmes, but most courses demanding practical skills do not offer enough clinical training in the normal curriculum. To increase the number of healthcare providers effectively trained to counsel, diagnose, treat and manage the care of different patients, the hospital has created opportunities for a coherent educational establishment with teaching facilities accessible for all students and staff. It offers multiple levels of training, including hands-on clinical training and participatory workshops and clinical consultation with video techniques, different kinds of training equipment for practising injection, punctures, intubation, catheters, wound healing management, physical examination, cardiac-pulmonary resuscitation, simulation techniques for ECG, endoscope examinations, etc. The aim of the educational centre is to create opportunities for teachers and students to have a mutual interest in team training. The centre is available for both timetabled teacher-conducted lessons and individual drop-in training by students or staff.

**2E3  Improving multidisciplinary education in a District General Hospital**

Alistair Thomson, Hazel Greenwood, Carol Henshaw and Gill Newall  
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The NHS agenda of improved team working requires multidisciplinary education (MDE). The objective was to plan, develop and run new models of MDE, to include medical staff, between April 2001 and April 2002. Semi-structured interviews were conducted with key directorate members from Paediatrics, Mental Health, Accident and Emergency, Head and Neck and Medicine, followed by new MDE sessions. Little MDE already underway involved doctors. New MDE sessions, complementary to MDE already taking place, were developed. Problems included: mutual time availability of staff groups; different background knowledge; different learning needs and styles; and educational cultures differing between Directorates. As a result the profile of MDE was raised and the concept of training as a team has been promoted. Directorate portfolios of team training have been augmented. Introduction of MDE requires a gradual shift in culture.

**2E2  Multiprofessional training in Obstetric emergencies using on-site simulation**

Sarah Thompson*, Shona Neal and Vicki Clark  
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Eclampsia is a serious medical emergency, which requires prompt and specific treatment. Because eclampsia is uncommon in the UK, affecting only 4.9/10,000 pregnancies, individual staff members of maternity units are likely to have had minimal experience of dealing with such patients. Recent mortality reports have recommended the institution of regular drills to provide training in simulated emergency situations in a realistic environment. These drills would then supplement the experience of the professionals managing obstetric emergencies. We describe our experiences of setting up and running such on-site simulations in a large obstetric teaching hospital. We use a multiprofessional approach, involving all of the staff likely to encounter eclamptic patients. Drills are followed by debriefing sessions to reinforce educational issues. We anticipate that regular participation in these sessions will increase the confidence and ability of the team to manage eclamptic patients in the future.

**2E4  A comparison: medical students vs. paramedic students decision-making processes in treating a medical emergency case**

H Eshach*, G Bar-Joseph, O Melitz, Z Feigenberg, H Biterman and M Halberthal  
*Technion - Israel Institute of Technology, The Bruce Rapaport Faculty of Medicine, PO Box 9649, Bat Galim, Haifa 31096, Israel*

Students’ decision-making processes when intervening in an emergency were investigated. Fifty senior medical students (MS) and 25 paramedic students (PS) were observed performing with a manikin presenting a severe asthma attack. While 96% of the PS administered oxygen immediately as needed, only 66% of the MS did so. Ten per cent of the MS carried out irrelevant procedures, whereas none of the PS did so. Twenty per cent of the MS intubated the child almost immediately without apparent indication, whereas none of the PS intubated inappropriately. Twenty per cent of the PS failed to use the ambu device prior intubation, compared to only 10% of the MS. On average, the MS asked more medical history questions than the PS (5 vs. 2, respectively). PS in this study showed greater ability than medical students to conduct the immediate procedures necessary to save the child’s life. Dealing with emergencies requires suitable cognitive patterns that medical educators should inculcate in their students.
2E5  Authentic learning and the power to change

Magnus Lindahl
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Many educational programmes fail to change the educational process despite well-chosen content and excellent teachers. Our hypothesis is that authentic academic achievement and the learner recruiting process can improve the outcome. We designed a multi-professional educational programme to meet identified needs of teaching skills and pedagogic leadership in a county health system. The course was organized in seven single all-day learning sessions every three weeks, each session followed by a supervised and mentored project to be carried out within the department of the participant in those three weeks. Topics included educational leadership, assessment skills, basic pedagogy and mentoring. Only teachers in the position to implement changes in their departments were accepted to the course. We could identify several improvements in the participating departments following the programme. We believe authentic learning results in organizational improvement and a greater learning experience for the participant.

2E6  Education of teamwork approaches for preclinical medical students

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The importance of health care team approaches is emphasised for qualitative patient management, and education of teamwork for medical students was listed as an essential issue of the medical core curriculum proposed last year in Japan. To develop the attitude, skills and knowledge for interdisciplinary teamwork, a 5 hour session took place for preclinical medical students. They produced diagnostic, therapeutic and supportive programmes for patient scenarios in out- and in-hospital settings by small group discussion with multiprofessional staff including physicians, surgeons, pediatricians, nurses, a counselor, social workers, dietitians, pharmacists, PTs and senior medical students who finished clinical clerkships. Each group produced a teamwork programme of multidisciplinary, interdisciplinary or transdisciplinary approach. It was suggested that they were promoted to understand the mutual roles and the ideal physician-staff relationship by this session.

Session 2F  Students and Curriculum Evaluation

2F1  Identifying the strengths and weaknesses of a new curriculum by means of the DREEM Inventory

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The Canadian Memorial Chiropractic College is in the 3rd year of implementing a new 4 year Integrative Curriculum. Although curriculum changes are usually instituted in order to improve the whole learning environment for the students, one will only know whether this aim has been achieved once a climate study has been undertaken. The DREEM (Dundee Ready Education Environment Measure) Inventory was therefore administered to 148(96%) First Year, 131(87%) Second Year, and 128(84%) Third Year students (N=407). Resultant scores indicated many areas of concern. However, bimodal and large numbers of “uncertain” responses also occurred. In order to establish and compare areas of most concern between the 3 years of students, responses were calculated as percentages indicating for each question those who agree, disagree, or are uncertain. This result clearly indicated areas of joint concern for each domain in the inventory. Analysis of these concerns will help focus resources and remedial action.

2F2  Students' evaluation of tutors in tutorials

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Faculty of Health Sciences, Medical School, Linköping University, 581 85 Linköping, SWEDEN

Quality of tutors is a complex question. Thirty-nine students in the second semester of our medical school evaluated their 8 tutors by using a differentiated questionnaire. Our 29-item questionnaire evaluated general aspects of the tutors, preparations, stimulation of PBL, stimulation of content, stimulation of group dynamics and how the tutors contributed to the individual learning for students in the tutorial. Eighty per cent of the students were satisfied with their tutors and their contribution in the tutorial. The remaining 20% of the students were not satisfied with 1 of the 8 tutors. The correlation between the tutors’ contribution to the students’ individual learning and individual questions demonstrate that the students favour tutor with a general knowledge of the content and also tutors that respect the timeframe for the tutorials. This study shows a need for tutor support to tutors that do not fulfill the goal for being a good tutor. Our conclusion also is that the 29 separate questions can be substituted by only one question: What is the tutor’s contribution to the individual student’s learning? This is a short but important question to evaluate the tutors in tutorials.

2F3  Pre-Registration House Officers (PRHOs) assess their undergraduate education through focus groups

Simon Warmough*, Anne Garden and David Graham
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Friday 30 August
In 1996 Liverpool University changed its curricula from a traditional course to problem-based learning. Four focus groups with 29 PRHOs from the final cohort of the curriculum were arranged to gain base-line data on how graduates viewed their education. They felt they had been well prepared as PRHOs citing knowledge base as their strong point. They were keen to talk about the new curriculum, although they demonstrated they didn’t really understand it or its’ philosophy. They indicated that they would have liked the “shadowing” aspect of the New Course and access to the skills lab. Although they felt their education was good they admitted there were deficiencies in their ability to carry out basic clinical skills and they weren’t prepared for the “everyday” jobs such as being on-call. It is planned to repeat the process in 2002 with the first cohort of the new curriculum so comparisons can be made.

Our goal is to raise awareness about Medical Education issues among students and give them an active role in their education. We administered a questionnaire to all 6th year students with closed (Likert scale) and open questions about their medical studies. The questionnaire had closed questions (1 to 5 scale) about the quality of the curriculum, scientific and pedagogical quality of teachers, school and hospital conditions, student-teacher ratio, etc. The open questions were about what the students would change in their medical studies if they had the power to do it; why they decided to go to Medical School and if they would make the same choice again; and how many times they tried to get in and why they chose their School. The survey is a good way to find out the students’ feelings and opinions and a great tool for improving Medical Education.

**2F4** Self-evaluation of the teaching programme by medical students: Cracow experiences

Beata Tobiasz-Adameczyk  
Dean Office, Medical Faculty, Jagiellonian University, St Anny 12 St, 31-008 Cracow, Poland

Self-evaluation by students of the training programme for undergraduate medical education has been developed in the Medical Faculty of Jagiellonian University of Cracow. The students were asked to evaluate the quality of the programme, forms of teaching, and didactic qualifications of teachers in different preclinical and clinical disciplines. To evaluate the students’ satisfaction with medical training self-administered questionnaires were performed immediately after training in every subject. Conclusions based on full results and their implication for training will be presented.

**2F5** Evaluation of medical studies by 6th year students

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In 2000-2001 the Faculty of Medicine, University of Lisbon, implemented the new curriculum programme for the 6th year of the medical course. It was designed on an exclusively clinical practical basis. For 15 months the students performed stages in Internal Medicine, General Surgery, Paediatrics, Gynaecology and Obstetrics, Mental Health and General Practice (GP). A tutor’s model was followed with the support of teaching materials (study guide and logbook). One hundred and forty-five students under the tutor’s supervision in 39 health centres accomplished the stage in GP in 6 weeks of fulltime attendance. The outcome of the evaluation of this learning experience will be presented and commented on, according to the analysis of the records carried out by students and tutors. The main data refer to the clinical procedures, achievement of the educational objectives, procedural aspects and learning atmosphere, strengths and weaknesses, suggestions for changing and final marks of students.

### Session 2G  Continuing Medical Education: Physician Appraisal

**2G1** Assessing the applied knowledge of General and Family Practice Doctors: a Canadian collaboration

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Many countries have established formal programmes to assess the competence and performance of practising doctors. Their assessment processes vary considerably, from standard competency assessment procedures, to more complex practice-based performance assessments. Almost all programmes employ a written test of knowledge. Knowledge is the cornerstone of effective clinical judgement. Tests of practice knowledge can be used to screen for incompetence, and their results
can explain poor performance and guide remedial education. Developing a written test with desired measurement qualities is not easy. Blueprinting, and developing questions that test application, that discriminate, and that are practice relevant must be addressed and normative performance data are required to interpret examination performance. These challenges were addressed in Canada through a collaboration of six regional assessment programs with the Medical Council of Canada. Two forms of an applied knowledge test were developed for use nation-wide. This presentation will describe these examinations and their development.

2G2 A Nova Scotia pilot study of the Alberta Physician Achievement Review Program (NSPAR)

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At the request of the College of Physicians and Surgeons of Nova Scotia, Dalhousie CME is undertaking a pilot study of the Alberta Physician Achievement Review (PAR) program. The PAR program provides feedback to physicians about their practice through data collected by questionnaires from peers, coworkers, patients and self-assessment. The research questions are: 1) How do NS physicians, their peers, coworkers and patients respond to the PAR instruments? 2) Is it feasible to use the PAR program in NS? We have recruited 170 general physician volunteers. For research question #1, the PAR questionnaires are being completed and results will be analysed and compared with those for Alberta general physicians. For research question #2, physician volunteers, peers, coworkers and patients are evaluating their experiences through questionnaires, focus groups and/or interviews. This is a work in progress. Progress to date will be reported, and implications for CME discussed.

2G3 It's a reality check - the contribution of 360-degree feedback in consultant appraisal

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360-degree feedback finds various applications in staff appraisal, but is new to the medical profession. The author helped NHS Trusts to develop 360-degree feedback systems as an integral part of consultant appraisal. He collected the experiences of staff involved whether they were giving feedback to colleagues or receiving it from them. The presentation gives an account of expectations and fears towards the 360-degree feedback tool in the health service. The author got to know that feedback reception and feedback provision is not nurtured in the health profession. There is high self-regard among many clinicians and a concomitant fear of being labelled as mediocre. Nevertheless, receiving positive feedback - often for the first time – provides gratifying insights for the participants. It supports doctors who are engaged in good practice and helps prevent doctors with problems from spiralling into poor practice.

2G4 Evaluation of an appraisal system for UK specialists

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Appraisal for senior hospital specialists in the UK has been mandatory since April 2001. From April 2002 all doctors have to undergo appraisal. So far, different systems of appraisal exist for medical trainees and non-trainees. This paper describes the first year’s experience and evaluation of appraisal for all specialists in an acute hospital including the use of a 360 degree survey that queries the conduct of doctors according to the General Medical Council’s seven elements of “Good Medical Practice”, and how it will contribute to revalidation.

2G5 General Practitioner characteristics and the outcome of Significant Event Analysis (SEA) submitted for educational peer review

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SEA is encouraged as a way of learning, improving care and minimising risk. West of Scotland GP principals are able to submit SEA for peer assessment as part of their continuing education. SEA received are sent to two randomly chosen GP Assessors who independently review them using a criterion-referenced assessment schedule. 126 principals submitted 237 SEA for assessment. One hundred and forty-six SEA (62%) were judged satisfactory by both Assessors. GP Trainers were more likely to participate, submit a greater number of SEA, and gain a satisfactory peer assessment than colleagues in both training and non-training practices. GPs with MRCGP were also more likely to participate and gain a satisfactory assessment than non-college members. The professional characteristics of submitting GPs strongly suggest experience of SEA is a factor in successful peer assessment. An educational issue is raised for a large minority of GPs regarding the understanding and application of the SEA technique.

2G6 Attitudes and barriers to incident reporting and significant event analysis (SEA): a postal survey of principles in General Practice in Greater Glasgow

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Improving patient care and safety is an important component of clinical governance and SEA is key to this process. GPs attitudes are crucial to implementation of SEA and incident reporting systems. We undertook a postal survey of GPs to obtain their opinions in these areas. Four hundred and sixty-three
(75%) GPs responded. GPs were positive towards the role of SEA in reducing risk (96%) and to taking part in a local anonymised reporting system (75%). GPs were negative about mandatory reporting of adverse events (82%) and indicated that they would be selective in what they reported (73%). Barriers to involvement in SEA included determining when an event is significant (41%), being unable to properly analyse an event (26%) and sometimes avoiding analysing complex events (21%). Educational input is required to promote successful participation in SEA whilst an attitudinal and cultural shift is needed before the majority of GPs participated in mandatory incident reporting.

Session 2H  Pre-Registration House Officer Training

2H1  A Scottish evidence base for Pre-Registration House Officer outcome-based education

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The PRHO year consists of a vital transitional stage between medical undergraduate and licensed doctor status; as such it is imperative to ensure that the educational process addresses required and predetermined outcomes. Outcome-based education is an approach that identifies the essential requirements of the end product, therefore ensuring that a curriculum has an explicit declaration of what should be accomplished for both the student and the educator. Following the successful completion of Phase I, Phase II employed a Delphi process to ascertain the opinions of the key stakeholders on the previously identified potential learning outcomes for the PRHO curriculum. These data were then analysed, without arbitrary decisions, to establish an evidence base grouped by the 3-Circle/12 Outcome model. It was found that the curriculum should reflect at some level all of the 12 key-outcomes, and that the information from this study should assist the decision-making process for PRHO training programmes.

2H2  A first year house surgeon run in a New Zealand district general hospital does not give adequate exposure to practising clinical procedures

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A questionnaire survey of 12 house surgeons was carried out to assess the number of times clinical procedures were carried out by them during a 13 week clinical run. Procedures included catheterisation, intravenous and muscular injections, lumbar puncture, nasogastric tube, chest drains, joint aspiration, pleural and ascitic taps, central venous line insertion, arterial blood gas and spirometry. Most carried out >6-10 ABGs, catheterizations and intravenous and intramuscular injections. Seven had one opportunity of joint and pleural aspirations. Five had one opportunity of an ascitic tap or performing spirometry. Four had one opportunity of carrying out a LP. Two had one opportunity of NG tube insertion and chest drain insertion. Overall there are few opportunities to practice procedures in a clinical run. Skills labs may have a role in filling the gap and allowing skills to be maintained.

2H3  Learning strategies of PRHOs in the hospital setting

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The aim of this study was to identify key learning strategies of PRHOs. Eight PRHOs were observed during working one full day and evening followed by semistructured interviews. PRHOs found that learning was significantly different from learning during medical school. Learning is practice-centred and based on concrete situations. They found it difficult to transfer and apply knowledge from medical school to practice. Most PRHOs considered this as both a challenge and a source of frustration depending on whether they were driven by intrinsic or extrinsic motivation. Learning resources used by PRHOs were reference books, meetings and their own initiative to seek feedback from the senior doctors. Our study shows that most learning was by doing, and that there is a need for formal instruction and feedback on performance. Furthermore there is a need for guidance in the field of practice learning.

2H4  An evaluation of the use of the logbook for pre-registration training

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In the spring of 2002 the Swedish Medical Association conducted a questionnaire survey in order to evaluate how doctors in pre-registration training (AT) had made use of the logbook for the AT-training. Some 3,500 books had been disseminated to AT-doctors, tutors, directors of studies and clinical medical directors. Each year there are openings for some 1,000 positions as AT-doctors. The questionnaire was sent to a sample of doctors in AT-training 1 April 2001 – 1 May 2002. The survey population was 2,163 persons and the sample 432, i.e. 20%. Among the questions asked were from whom the doctor had obtained the logbook, how often they had made use of it and if the book had been found
to be helpful during their training. Finally, the respondents were also asked to make an overall evaluation of the book using a 5-graded scale. The results of the survey will be presented at the conference.

Pre-Registration House Officers Appraisal and Assessment System: the PHAST appraisal

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This is work in progress and the presentation will give an outline of the development of an educational appraisal system for Pre-Registration House Officers.

The model was developed from extensive interviews with PRHOs, Educational Supervisors and focus groups of Senior House Officers and Consultant Educational Supervisors. The model consists of a 360 Degree diagnostic instrument linked to educational sessions. The instrument and the sessions relate to 8 dimensions of PRHO activity. The instrument is completed by 4 raters, a consultant, 2 junior doctors (a specialist Registrar and an SHO) and a nurse. Initial pilot work in several Scottish hospitals suggests the instrument has high face validity and is sensitive enough to identify underperforming PRHOs early. Further work needs to be carried out to refine the instrument and to define the parameters for adequate and poor performance. The concept of targeted educational sessions for poor performers needs to be further developed.

Session 2I Use of Simulators

Evaluation after training in the procedicus endoscopic simulator: a study among undergraduate medical students

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Advanced simulator training within medicine is a rapidly growing field. Virtual Reality simulators are introduced as cost-saving educational tools which also lead to increased patient safety. These simulators will be able to circumvent the ethical issues tied to training new surgeons on animal specimens, and improve patient safety. Ten medical students were tested on two endoscopic simulators (with and without haptic feedback) before and after training. Time, movement economy and total score were registered. Learning curves were also analysed. There was a significant improvement after training. The results between the two simulators were highly correlated. The students mentioned that they felt the value in simulator training lay in the ability to practise procedures without having to worry about injuring a real patient. Surgical simulators as a pedagogical tool in medical student training is encouraging. It shows rapid learning curves and emphasises the importance of patient safety.

Nurse-led gastrointestinal endoscopy is an emerging role in the UK and elsewhere. Novice learners need to gain a raft of new skills. These include the techniques of manipulating a flexible endoscope and the ability to interact effectively with a conscious patient during the procedure, responding to the patient’s anxieties and concerns while performing an investigation. We have shown that a combination of simple “models” with simulated patients (SPs) can recreate many of the challenges and stresses of clinical practice. Virtual reality (VR) offers the opportunity to practice more specialised manipulative skills in a realistic yet safe environment that also provides objective assessment. This presentation describes the combination of VR with SPs to enhance learning of flexible sigmoidoscopy. State-of-the-art VR simulators are used in conjunction with SPs, allowing learners to integrate key elements of the procedure. The learning process is supported by feedback from SPs and faculty.

Does training of medical students using professional patients improve technical skills? - an assessment using the iepelvis

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It is uncertain whether training of students in pelvic examination using professional “patients” (PPs) improves acquisition of clinical skills. 4th year medical students at the start of their attachment in obstetrics and gynaecology were randomised to receive standard training in pelvic examination, or standard training plus PP training. Seventy-nine students (40 trained, 39 untrained) had pelvic examination technique assessed using the “epelvis”, a mannequin loaded with sensors which measure pressure applied to important points within the pelvis during examination. Students were assessed by epelvis a week (n=43) and/or 10 weeks
(n=59) after training. Twenty-three students were assessed twice. In the whole group PP training did not appear to effect the ability to adequately perform pelvic examination nor influence the number of vaginal examinations performed by students during clinical training. The effect of other factors such as gender and glove size will also be presented.

214 One for One - skill model/low-cost model for intravenous line access

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The system of a peripheral, or central venous access is one of the most frequent medical activities executed in a hospital. With the invasivees of this treatment the student must have the opportunity to learn on a model and train properly, before conducting the procedure for the first time on a patient. The commercially available training units are sufficiently detailed, but are too expensive to provide in quantity. Training models in sufficient number can be manufactured in a “low cost” procedure, so that even in larger courses each user can be equipped with his/her own doll. Using a two component foam material, a model can be manufactured in a few minutes. These models have anatomically correct dimensions and provide good “tissue” - characteristics. This concept provides almost unlimited availability of these models, whereby the individual training time can be effectively multiplied.

215 A prospective evaluation of 19 EASIE-team-training workshops on endoscopic hemostasis for 487 doctors and nurses

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The Erlangen Active Simulators for Interventional Endoscopy (compactEASIE) is a new training model permitting for the first time arterial spurting ulcer bleedings, varices and polyps in specially prepared pig stomachs. A pump and blood surrogate is used for circulation. About 35 interventional techniques in the GI-tract can be trained. Nineteen structured team-training courses (3/9/8-9/01) on endoscopic hemostasis were prospectively evaluated. Courses were designed as team-training for 3 doctors and 3 nurses per simulator. 363/487 participants (72.1%) filled in a questionnaire. Content: 90min theoretical and 4h practical instruction. Overall assessment: 96% excellent or good (83% excellent, 13% good, 0.3% unsatisfactory, 3% no statement). Single techniques and closeness to reality were assessed as good. EASIE-training endoscopic hemostasis was highly accepted. A prospective comparison of practical education using the compactEASIE to conventional endoscopic education is currently ongoing.

216 Benefit of hands-on training in therapeutic endoscopic techniques: learning curves of four important endoscopic hemostasis techniques on the compact EASIS-simulator

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There are no data available on how hands-on simulator training influences the learning curve of endoscopic techniques. We conducted a randomised trial of the effects of intensive hands-on training on the compactEASIE-simulator with standard endoscopic education. We describe learning curves for 4 endoscopic hemostasis techniques. To establish baseline skills, NYSGE faculty evaluated GI-fellows in 4 disciplines (skills, injection/coagulation, hemoclip-application and variceal ligation). Fellows were randomised into 2 groups (Group A: standard education, Group B: intensive EASIS-training). Group B was trained 3 times by experts. After 7 months, both groups underwent final evaluation by blinded evaluators. Twenty-eight fellows were randomised, 14 in each group. We observed significant increase in all disciplines in Group B. Group A had a significant increase in only 1/4 techniques (band ligation). The efficacy of simulator training in the education of endoscopic hemostasis techniques was demonstrated.

Session 2J  E-learning

2J1 A new Spanish multimedia tool as the basis of an improved Primary Care physicians training programme to handle drug abuse related problems: clinical management and communication skills

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Drug abuse problems are a matter of social concern worldwide. In Spain the healthcare system initially relied on a specialised network for handling these patients, more recently trying to “normalize” the healthcare response, increasing the commitment of primary care physicians. These professionals show a moderate acceptance of this role as long as a better
training is guaranteed. Teaching materials in this field are scarce. To fill this gap, the Fundación de Ciencias de la Salud and the Fundación de Ayuda contra la Drogadicción, have developed a multimedia interactive CD-ROM/web-based program covering both contextualised clinical management and communication skills. This presentation aims to 1) demonstrate this unique software; 2) discuss the relevance and educational challenges of a greater commitment of primary care physicians in the management of drug abuse problems; 3) describe the Continuing Medical Education (CME) plan launched for 2002-2003, supported by the Spanish National System, that combines self-study with hands-on training in workshops.

2J2 MedicCaseML - a new instrument in web-based medical education
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Medical education needs to meet the challenges of a modern information-based society. MedicCaseML is part of MedicML (see www.medicml.org), a new open licence XML-specification for medical education. It allows adoption and creation of MedicML-based powerful and platform independent tools for medical teachers. Students, working in MedicML-based learning environments, may have interoperable access to lectures, clinical cases, knowledge databases and ebooks published using the MedicML format. The utilization of MedicML allows consistent separation of content, design and didactical issues. MedicML enables the presentation of content provided by medical teachers, using any technical and didactical platform.

So MedicCaseML allows the evaluation of different formal, didactical and technical concepts of compatible learning platforms independent of the medical content that is being taught. Thus MedicML and MedicML-based applications are promising, valuable instruments in future medical education. MedicMED is funded by the German Federal Ministry of Science and Education.

2J3 How to make educative video CD/digital video
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The development of computer technology, makes it possible to build a videoCD (VCD)/Digital video (DV) as a support for communication. The objective of the study was to identify the simplest technological and educational forms in which to make an educative VCD/DV, in order to turn this audiovisual support into common practice. The VCD/DV educational and technical structure will be described, namely the materials and methods of construction: hardware, digital video cameras and software. A video built by the authors will be presented showing the educational structure, the new technology materials and process. A presentation using the educative structured VCD/DV allowing the insertion of text, video, photo and musical interludes in a sequential way contributes to motivating attendance and facilitates learning. Cost is low and it will be very easy to modify the VCD/DV when teaching updates are needed.

2J4 Changes in student learning strategies with the introduction of e-learning
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In 2001 61 advanced medical students experienced problem-based learning in face-to-face and computer-supported groups. A main question was what effects the e-learning experience would have on student learning strategies. The students, who were familiar with problem-based learning in face-to-face groups, now had four computer-supported and four face-to-face meetings. Data on learning strategies were collected through pre- and post-test surveys. As expected students’ strategic behaviour in general did not change significantly, whereas attitudes to co-operation and use of resources were clearly affected. Surprisingly the experience also reduced tutor influence on study behaviour. Findings will be discussed in relation to students’ ICT skills and research on self-regulated learning.

2J5 Discussion group using asynchronous learning network during a clinical rotation in Paediatrics
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Discussion-groups are powerful tools to enhance reflection in professional and adult learning. All interns in Paediatrics meet weekly for case-based face-to-face discussion groups. Students expressed the need to extend this activity, but interference with ward-based activities and staff-schedules prevents this expansion. Therefore we developed a case-based discussion-group using an asynchronous web-based learning network in addition to the group meetings. We will present the development of a pilot-project, where the e-discussion focused first on history taking and clinical examination and then on definition of the clinical problem and further patient management. Based on the results of an evaluation study, involving the students and the moderator, we will present advice on how to elaborate the case presentation to enhance grounded discussion and we will analyse the strengths and weaknesses of web-based asynchronous discussions compared to face-to-face discussions.
Evolution or revolution of graduate curriculum design and teacher training at Monterrey Tech with the aid of cyberspace

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We share a methodology for curriculum redesign of graduate programmes and teacher training, using cyberspace. The aim was to compile documents for academic graduate programmes which would be able to: a) improve processes, practice and means required for specialist training; b) include the major guidelines derived from our Institution’s educational model; c) satisfy the prevailing national educational norms; and d) work towards satisfying accrediting institutions. During retreat workshops, 27 teachers worked through multiple tasks, did individual and collaborative activities, had access to electronic databases and written material, and made asynchronous and distance documentation. Twelve graduate programmes were redesigned, including: general information, background, academic focus, philosophical, pedagogical, and normative basis, justification, curriculum structure, operational programme, courses’ programmes, and programme assessment. All teachers used asynchronous and distance technology. Collaborative and distance work enhanced curriculum redesign and teacher training for twelve complete curriculum graduate programmes in Monterrey, México.

Session 2K  Teaching and Learning

One-on-one tutorials: a new form of medical teaching

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Basel University introduced in 1997 the one-on-one tutorials for third and fourth year medical students as a part of the new curriculum. One-on-one tutorials are a new form of teaching with a special focus on learning practical knowledge and attitudes in the course of a continuing master-student relationship over two years, in collaboration with 180 practising physicians. The students work together with their tutors for one half day weekly. The tutorials, personally supervised by the tutor, are held in the tutor’s private office. The objective is to get students to develop initiative and independence in their practical work. Our presentation focuses on our didactic concept and defined learning goals and the evaluation of the last four years. The data presented are based on the students’ learning reports and the completed log-books (checklists) of this highly popular and innovative form of learning.

Evaluation of an interactive course comparing the acceptability of self-directed learning, video, role play and tutorials to year 1 medical students, and to identify reasons for attendance

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From their 1st year students encounter patients in the observational-community setting and through project-based family attachments. A communication skills course supports this, to develop reflective learning, professionalism, communication skills and awareness of social/cultural issues using a range of methods - video, tutored/un-tutored small groups, and consultation practice with professional role-players. The year group (n=357) were surveyed by a questionnaire designed to provide comparative data about the perceived relevance of each session to both year 1 medicine and to a future doctoring career. Teaching methods were scrutinised, and information related to attendance patterns was sought. The questionnaire elicits quantitative and qualitative responses. Results were collated and analysed in March 2002. They will be presented at this conference in full, including their impact on future course design and implementation. The relationship between teaching methods, content, perceived vocational relevance and acceptability will be discussed.
2K4  Symptom- vs disease-oriented lectures - assessment of teaching quality by medical students

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Disease-oriented (DOL) and symptom-oriented (SOL) lectures were assessed by medical students from Heidelberg University in their fourth year of training. The questionnaire used consisted of 35 questions, 21 of which concerned lecturer’s performance, eg. preparation, didactics, engagement, motivation of students. A scale from 1 to 7 was used, where 1 was the best grade. Two hundred and thirty-seven questionnaires were analysed. While changing lecturers taught DOL, SOL were lectured by one person. SOL were rated higher than DOL with respect to all assessment criteria. Statistical significance was reached for the question “Which of the lecture-types accomplished higher student motivation?” and for the criterion liveliness of presentation (p<0.05). The overall grade given by students also differed significantly (SOL 1.6±0.6, DOL 2.3±0.8). A symptom-oriented approach seems to gain higher ratings than disease-oriented teaching. Teacher-continuity may be of great importance.

2K5  Computer-Based Training (CBT) for medical education: evaluation of the Pediatric main lecture at the LMU Munich, Germany

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During the summer term 2001 Pediatric main lecturing at the LMU Munich was evaluated. After each of the 10 lecture units the 234 3rd year and 232 4th year students attending the lectures were asked to fill out a questionnaire with 21 items for assessment of content and quality of the teaching. The questionnaire demonstrated the students’ disappointment with the current teaching system by low ratings for half of the 10 different teachers. The students expressed high interest in using CBT but only 19% had used it so far. CBT was integrated into the Pediatric lecturing as a voluntary option during the following term and used by 183 students. Of the students, 82% enjoyed CBT, only 5% rated it too difficult and 3% too easy. The majority of students (94%) would like to continue learning with CBT.

2K6  Developing and introducing a Special Study Module (SSM) in teaching clinical method

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Curriculum 2000 at the Royal Free & University College Medical School involves many new initiatives, which answer the call of ‘Tomorrow’s Doctors’ for a more integrated curriculum concentrating on core skills and competencies. One of the ways these aims have been achieved is the provision of a systematic skills-based clinical methods course. There are over 360 students entering the clinical course each year. Provision of small group experiential teaching to this number of students is problematic. Peer assisted learning has already been utilised and shown to be successful in the early years of Curriculum 2000 and so a mechanism for involving senior students in this teaching was implemented. An SSM in ‘Teaching Clinical Skills’ was devised where senior students revised their clinical skills, learnt about teaching and learning and then delivered some of this basic clinical teaching. This was piloted in the autumn of 2001 and this presentation outlines the development and implementation of this novel SSM.

Session 2L  Professionalism

2L1  Teaching leadership and professional values to medical students: an outcomes study

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Medical students study professional values, social role theory, and the social contract in the Leadership in Medicine Program. This program attempts to instill professional values and humanism in students to counteract emphases on technical knowledge and business practices in medical education. Adaptive leadership, defined as activity to bring about constructive change, is emphasised in the doctor-patient relationship and broader issues of health care policy. A required course in the first year and elective experiences in years two and four currently comprise the leadership curriculum. An outcomes study of 337 graduates over 12 years gives evidence that students think the program was valuable, useful, and counteracted negative forces in medicine. A large number of graduates have held leadership positions such as medical director, chief resident, department chairman, and have been teachers and medical volunteers. Faculty development is provided for the 15 volunteer faculty members who teach first year medical students.

2L2  Teaching medical software: how to develop professional attitudes and skills

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Professional development is a theme in the new curriculum, U2000, recently introduced at the Medical Faculty at Umeå University, Sweden. The aim of this longitudinal theme is to support the student in developing good professional skills. The students are trained in basic medical care, clinical consultation, and decision-making. Furthermore, the students develop and improve their communication skill, and learn how to transform their medical knowledge into clinical practice during the meeting with the patient. The students are trained to reflect over their role in relation to patients and their relatives as well as their own attitude to health, disease, suffering and death. Personal development and self-knowledge are emphasised as well as the doctor’s role as a member of a working team and society at large. The layout of the course as well as a description of how the different subject areas are taught will be described.

**2L3** C. Ossonaya, K. Ossonaya, E. Van Der Pool*, C. Harris, R. Jesudass-Roberts and K. Bonner

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The purpose of this paper is to describe the development and evaluation of the Higher Professional Development Course for Health Professionals at the United Medical Education College, London. The course was developed in September 1997 in response to the need from health professionals to develop their personal and professional skills. The participants of the course include doctors, nurses, therapists, pharmacists and dentists. The modules covered include communication and clinical skills, ethical and legal issues, evidence-based practice, teaching skills and research methods. The teaching methods were interactive lectures, problem-solving approach, small group discussions and practical exercises. A multiprofessional teaching team was used. The course tutors and students evaluated the course positively with some recommendations for its improvement. Students particularly appreciated the clinical skills and problem solving group work components of the course. The need to involve students in the curriculum development was recommended.

**2L4** Medical errors and self-criticism: an educational intervention

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In a previous study of Edinburgh medical graduates, 95% reported making clinical errors. This influenced career choice. An intervention was designed to raise awareness in undergraduates of medical error, and to encourage appropriate levels of self-criticism and an understanding of collective responsibility. Forty-six final-year medical students participated. Before and after the intervention they completed a questionnaire “Judging responsibility for a real reported mistake”. The session included a mini-lecture and role-playing of real mistakes. Students also completed questionnaires 1-3 months later (67% response). Students consistently ranked themselves, as Senior House Officer, most responsible for the mistake. After the session there was a trend towards allocating increased responsibility to the supervising consultant (p 0.115). This was not sustained with time. Medical students feel high personal responsibility for error. A single intervention did not create significant or lasting change. A sustained approach may be more effective.

**2L5** Professionalism in General Practice

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In vocational training the teaching of professionalism is recommended as an equal partner in the triad of knowledge, skills and values. However, it is unclear what professionalism entails. The objective of our study was to identify the characteristics of professionalism as described by definitions or descriptions of professionalism in order to define the concept. To achieve this goal, a systematic literature search was performed. This search revealed up to 47 distinct characteristics that were mentioned as being part of professionalism. However, five aspects were referred to most, i.e. altruism, accountability, integrity, compassion, respect. Furthermore, a content-based analysis yielded three overlapping categories: (a) interpersonal professionalism; (b) occupational professionalism; and (c) intrapersonal professionalism. Our conclusion is that a clear definition of professionalism is lacking. We propose we should not aim for one all-embracing definition of professionalism but strive for specialism-specific definitions.

**2L6** Medical students’ views about trustworthiness

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The General Medical Council (GMC) of the United Kingdom specifies that “Patients must be able to trust doctors with their lives and wellbeing” and identifies 14 duties for doctors, which serve this end. We explored views about trustworthiness amongst 124 students during their first 6 months of clinically-based studies and the relationship of these views to the GMC’s duties. With their consent, statements written by students during a seminar were categorised. Statements substantially overlapped with the GMC’s duties, offering insight into the detail of students’ views in these areas. Nevertheless, some statements diverged from the GMC’s duties, whilst few students mentioned duties relating to general responsibilities rather than those relating to the care of individual patients. These findings offer suggestions about areas on which to focus when planning student teaching regarding medical ethics.
Session 2M  Postgraduate Education

2M1  Do the UK Royal College curriculum statements guide assessment and learning for Specialist Registrars?

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This presentation reports on a case study of the curriculum provision and assessment in four medical specialties in the West Midlands. The research is based on a range of qualitative data collected between November 2000 and August 2001. The principal data source was interviews with consultants, specialist registrars and members of the regional higher specialist training management team (total 12). Systematic analysis of transcripts was conducted separately by each member of the research team. The main findings cover four areas, namely: curriculum; service-based learning; assessment; and selection. Better links are needed between curriculum documentation, teaching and learning methods, and assessment. Greater focus is needed on non-clinical skills, such as teaching and communication. There is urgent need for further development of assessment and selection processes that are robust and fair. Workload must be monitored so that the service commitment does not overwhelm the training.

2M2  360° assessment of personal and professional behaviour in SHOs

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Assessment of individuals by working team members (360° assessment) is widely used in industry. We used such a system of team reports of SHOs' professional behaviour in a district general hospital to give evidence of competence for an end of year review. Thirty-two SHOs from various specialities each chose ten coworkers to complete a structured form about them, scoring their performance in a number of behavioural areas including teamwork, motivation, communication, maintaining trust and response to pressure. The SHOs distributed the forms and explained them to the raters, who privately completed, signed and sent them in sealed envelopes to the postgraduate office. The raters had to include at least 5 nurses and 2 doctors. The forms were used to inform discussion at a subsequent meeting with trainers.

The SHOs reported overwhelming satisfaction with the process, which they found easy to administer, fair and helpful for their personal development.

2M3  An evaluation of the annual review process for Specialist Registrars in the Mersey Deanery

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Annual review of Specialist Registrars, and production of a record of in-training assessment, is a mandatory component of training. Mersey Deanery has established a system of review that incorporates a wider evaluation of the trainee’s needs and future requirements. The aim of the study was to ascertain whether the review process was perceived by trainees and trainers to be beneficial, and identify areas of potential improvement. 1093 questionnaires, inviting answers on ten-point scales, were distributed between September 2000 to September 2001. 914 (83.6%) questionnaires were returned, 605 (66.2%) from trainees and 309 (33.8%) from trainers. The process was thought to be of benefit (trainees mean score = 8.29, trainers mean score = 8.63). Trainees particularly appreciated advice on careers (511 free text responses), future training (122) and research (37). The review process was of benefit to both trainees and trainers.

2M4  Improving the educational process in Canadian Postgraduate Medical Education: the internal university review

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Postgraduate program compliance with 6 ‘B Standards’ that address essential components of the educational process is determined through a document review and internal university site survey at the midpoint of a 6 year accreditation cycle. The UT postgraduate program results were reviewed to characterise the frequency and nature of weaknesses across specialties. Program weaknesses were identified in surveyor (S) and IRC reports of 62/66 specialty training programs from April 1998 to November 2000. Seventy per cent of programs were non-compliant in standard B1 and 50%, 76%, 39%, 65%, 69% in standards B2-B6 respectively for a mean of 3.8 B standards per program. The 4 most frequent weaknesses by program were non-functional rotation specific objectives (34/62), evaluation not based on objectives (33/62), lack of timely helpful feedback (28/62), and imbalance of service to education (27/62) and were persistent in 56% of programs. Faculty development should address in-training assessment, developing functional clinical training objectives and rectifying service to education imbalances.

2M5  Residents’ perceptions of their intensive care training process and outcomes

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- 4.19 -
Postgraduate medical education aims at producing a most competent physician in his/her everyday practice. In Portugal a rotation period of 3–6 months in intensive care training (ICT) is required in the curriculum of a wide variety of medical and surgical sub-specialities fellowship. The objective of this study is to understand the usefulness, influence and applicability of ICT to future work experience as junior “specialist” doctors. We used a semi-structured questionnaire completed by 40 former residents having finished their ICT 6 months to 4 years previously. The data obtained were compared to similar data collected by using content analysis technique from their ICT final reports. Results were analysed to identify changes to be introduced in the ICT programme towards improving the future new doctor’s competence/performance in treating critically ill patients in their own medical fields.

Training for educational supervisors: reconciling the needs of trainees and trainers

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Postgraduate training in clinical psychology in the UK is delivered through the University sector, but like medical training is dependent on clinical experience within the NHS. This study aims to examine the current status of clinical supervision for clinical psychology trainees in Scotland, particularly its strengths and weaknesses, from the perspective of trainers and trainees. The outcome will be an outline syllabus for basic supervisor training, based on core needs identified from the study. Quantitative and qualitative methods were combined (postal questionnaire survey of supervisors and individual interviews with trainees) to identify perceived barriers to and facilitators of effective supervision. Results from analysis of both sets of data will be disseminated to a representative group of clinical supervisors, who will participate in a Delphi-type process to reach consensus on the outline syllabus. The study results will be presented and wider implications considered for developing skills in clinical supervision.
Session 3A  Curriculum Planning

3A1 Outcomes for students of the Faculty of Medicine of University of Barcelona (Catalonia, Spain)

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Medical schools must define the outcomes that students must acquire at the end of undergraduate education. In general, Spanish medical schools have established only generic objectives. A teachers’ group, with experience in teaching and clinical medicine, has defined the specific outcomes for our students, using the Outcome-based Education model established by the Scottish Dean’s Medical Curriculum Group (2000). The outcomes defined are: (1) Technics: 93 clinical skills, 47 practical procedures, 40 for patient investigation, 155 for patient management, 18 for health promotion and prevention, 15 for communication, and 23 for medical informatics, (b) Academics: 60 outcomes for comprehension of basic, clinical and social sciences, 40 for attitudes, ethics and legal responsibilities, 47 decision making and clinical reasoning skills. (c) Professionals: 18 for doctor’s role within the health system, 18 and 12 for personal development. At present, we are working on an evaluation system for these outcomes.

3A2 What are you going to be and to do as a doctor?

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Undergraduate medical education started at the University of Minho (Portugal) in October 2001. Following a one-week presentation of the curriculum and computer training, as an introductory course, the program began with an introductory course dealing with three subjects (one week each): (a) the human being; (b) medicine, the doctor and the patient; (c) interpersonal communication. The aim was to present to the students, at the beginning of their education, with medicine as science, practice, service and responsibility. Pedagogic methods used were seminars, critical analysis of videos (mother-child relationships, terminal patients), doctor-patient roleplay, group-work; outcomes were discussed in plenary sessions. Assessment of students (n=52) consisted of: two written works as personal reflection on free-chosen themes. Marks: 17± 2.4 (0-20 scale). Evaluation by students (n=52): 8±0.5 (0-10 scale). Nearly all the students commented very positively, of their own accord, upon the experience they had. Examples from some are quoted.

3A3 Reforming the undergraduate curriculum in the Medical Faculty Skopje, Macedonia

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The aim was to modernise the undergraduate curriculum. (1) The number and quality of lectures had to meet the demands of the European Community legislation (JOCE 1994) for 5500 lectures in theoretical and practical teaching as well as lecturing in attitudes; (2) Training for primary care; (3) Create an undergraduate curriculum with more small group learning, active learning with more “fun”, and training towards application of knowledge; (4) Horizontal and vertical integration of studies. Team teaching and early patient contact with early clerkships. Horizontal integration: parallel teaching in organs and systems; (5) Reforming assessment: structured multiple choice questions, OSCE.

3A4 Core curriculum and Special Study Modules in the undergraduate curriculum at the Medical Faculty in Skopje

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The recent explosion in medical knowledge and tremendous social changes in Macedonia and the region made the reforms in our undergraduate curriculum mandatory. A decision was taken to base the reforms in two general segments: core curriculum and special study modules. We define core knowledge, skills and attitudes needed to form a medical doctor on the basis of our previous experience and published data (Tomorrow’s Doctors, Edinburgh declaration, curricula of different medical schools). Additional information is obtained from consultants and general practitioners. For special study modules we offer project work and elective subjects with expanded variability. Success in the core curriculum is mandatory for all students. Modules and project work are oriented to promote individual student interests and to help in early identification of talented students. Although the general principles of designing an undergraduate curriculum are rather clear, creation of a concrete curriculum remains a tantalising activity.

3A5 Innovation in medical education in Bulgaria: the Pleven Model

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In 2001, the University School of Medicine at Pleven, Bulgaria, implemented a “hybrid” model of education in parallel to a traditional track of students during the first 2 years of a 6-year medical education program. The ultimate goal is to adapt our education to the standards of the European Federation of Medical Education and to provide better health service to the population. The aim of the program is to bridge clinical
and preclinical disciplines, to raise students' interest in the pre-clinical subjects, to enhance their motivation to study, to engage them in self-education in preparation for a lifetime of learning, and to build skills that will help them achieve academic and professional self-confidence. Very early findings are encouraging and show that students in the new curriculum were consistently prepared for classes, had better attendance at lectures and block exams, were highly motivated to study and learn, did better on the final exams and obtained higher scores in comparison with the students in the traditional track.

3A6 Designing and implementing a spiral curriculum for community oriented medical education
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The Determinants of Community Health course, introduced in 1999 at the University of Toronto, has evolved into a spiral curriculum in community health extending over the four years of undergraduate medical education. Designing a spiral curriculum enabled integration of content, teaching and learning. The integration has four components: clinical decision-making in the community context, community decision-making in a clinical context, evidence-based approaches to decision-making and broad perspectives on health care decision-making. Learning is comprised of five competencies: basic concepts, concept application, reinforcement, knowledge translation and mastery. The content includes: Year 1 - determinants of health, health promotion, health professional and community agency roles, Year 2 - research methods, critical appraisal, research with a community agency, Year 3 - evidence-based medicine, continuous quality improvement, discharge planning, complementary and alternative medicine, Year 4 - economic impact, medical error, chronic care. Evaluation data will be presented.

3A7 Undergraduate studies at the Faculty of Medicine Masaryk University
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The Faculty of Medicine Masaryk University in Brno offers six-year study of General Medicine and Dentistry. About 350 students are admitted yearly. In addition to degree programmes in medicine, programmes in Human Nutrition (yearly intake 20), in Nursing (70), in Therapeutical Rehabilitation and Physiotherapy (20) and in Optics-Optometry (20) are held. The degree in these programmes is Bachelor/Master of Health Sciences. Beginning 2003 the Bachelor/Master study in the programme Biomedicine will be introduced. The aim of this programme is to educate experts for work in the field of biomedical sciences that will combine the basic knowledge of medicine with the scientific approaches. The new curriculum for four branches of Bachelor and two branches of Master study will be presented.

3A8 A new strategy of medical education in the Amazon Region, Brazil
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The medical school of the Amazon State University is using new strategies for medical teaching and learning. In the first years, students are introduced to the Public Health Sector. Unlike other Brazilian medical schools, “Research Methodology”, “Health Informatics” and “Basics in Patient Assistance” are offered as part of the core course. 55% of the course includes practical activities in the Amazon State Ambulatories and Hospitals, in the following areas: general medicine, pediatrics, surgery, obstetrics & gynecology, public health, tropical medicine and intensive medicine.

3A9 Innovations in the curriculum at the Medical Faculty University of Latvia
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Until now, the medical curriculum has been traditional. At the same time, experience in other parts of the world has indicated the high impact of new technologies and approaches to teaching. Since 1998 we have started to introduce innovations into the curriculum. First we put the curriculum on a credit point basis, making it comparable with European study programmes. The student research project was introduced first in the history of medical schools in Latvia. Problem-based sessions were integrated into the subject-based curriculum. Studies of student-teacher feedback by questionnaires showed increasing motivation of students. In conclusion, innovations in the curriculum lead to better collaboration of faculty staff and students.

3A10 Heidelberger Curriculum Medicinale - HeiCuMed - a significant curricular change in studenttsi surgical education
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There have been curricular renewals starting in the United States as well as all over the European Community. Heidelberg Medical School has been engaged in a major significant curriculum reform to improve medical education. The complete former curriculum was replaced and in April 2002 the new curriculum (HeiCuMed) will start in the clinical subjects. The main frame consists of 4 clinical blocks, one of which is surgery, further divided into 5 modules. These are embedded in an introductory and examination week. Within the general surgery module new approaches in medical education (small groups, microteaching, computer based training, etc.) are
implemented. Furthermore through continuous tutorial
guidance of each module by one single faculty member,
increased interaction, teamwork, communication skills
and networking with other disciplines as well as
avoidance of redundant repetitions are expected.
HeiCuMed represents among German faculties the most
significant curricular change in medical education.

3A11 Undergraduate medical studies in
the Medical School of University
of Beira Interior of Portugal

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The main and innovative axes of the educational
program at Beira Interior University are: integrative
learning, facilitation of problem-solving skills, and
promotion of self-directed learning. We describe the
curriculum structure. The first year was organised into
a series of 2-week units with an examination scheduled
at the end of each unit. Typically, students received on
the first week in two subsequent tutorial sessions the
learning objectives which have been defined by the
faculty. They discussed the given objectives with the
teachers and went to study them afterwards. At the
beginning of the 2nd week, they returned in two
subsequent tutorial sessions to review with their teachers
the learning they newly acquired on the objectives.
Besides the 2 tutorial sessions, students had other
learning activities such as practical laboratory sessions
related to the unit basic medical content. They are being
tested every two weeks. In parallel, students were also
introduced to the hospital environment.

3A12 New approach in undergraduate
medical studies in the Medical
School at the University of Castilla-
La Mancha

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The Medical School of the University of Castilla-La
Mancha (UCLM) is a recently created institution. The
curricula are based on integration, learning based in
modules of objectives and problem-based learning. This
educational approach is based on students’ educational
requirements; the student actively participates in the
learning process. It is practice-oriented, that will allow
the student to acquire clinical and social competencies.
It is a multidisciplinary view, integrating basic, clinical
and psychosocial sciences. In spite of the difficulties
generated by this new system, and after the pertinent
adjustments, this model is expected to be applied until
the year 2004, when the first intake will finish their
medical studies and they will have integrally followed
the new training system. They will take the Spanish
national examination that permits initiation of medical
specialist training. After three years, the results obtained
related to quality of education are satisfactory.
Nevertheless, there is still a long way to go.

3A13 The elective year in the Zurich
medical curriculum: a survey of
students’ choices, activities and
attitudes

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The “Wahlstudienjahr” (elective year) is a coherent 10-
month period, during which medical students in
Switzerland leave the university-campus and go to
medical institutions of their choice (various hospitals,
general practitioners, etc) to enhance their practical
skills and explore their professional environment. We
present a study which analyses the learning activities of
the 2000/2001-Cohort of the University of Zurich
(195 students) in the elective year with respect to
learning-activities, choices and motivations, learning
success and satisfaction as well as students’ attitudes
towards a more detailed structuring. Results show that
students tend to concentrate on clinical core specialties,
establish a good integration in the clinical environment
and report higher learning success than in preceding
study years but also criticise deficits in the learning
infrastructure. Students would appreciate a stronger
structuring, formulation of explicit learning objectives,
feedback and evaluation but strongly emphasise the
importance of their freedom of choice.

3A14 Evaluation of an innovative
teaching-learning process in the
fifth year Medicine Urology class at
Universidad de Chile

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Up until the year 2000, classes were didactic. From
2001 we have introduced a new innovative learning-
teaching system that consists of an “active main-
character student” where the teacher is just an orientator
and guide. Work is done in small groups, with specific
subjects, clinical cases and problem resolution. We have
also added to the traditional evaluation (MCT) a new,
structured and objective clinical exam (OSCE). The
objectives are: (a) to evaluate MCT and OSCE; (b) to
compare the results between them; (c) to determine the
teachers’ and students’ opinions of the learning-teaching
process. An analytical study was carried out, where the
two obtained grades are compared. The MCT varies
between 3.4 and 5.9 (average 4.56 and standard
deviation 0.59). The correlation was positive between
both grades and reached r=0.5834 (p<0.05). Teachers
were “agreeable” or “very agreeable”. Most of the
students were “agreeable” or “very agreeable”. The
conclusions are that group work can replace didactic
classes and OSCE can replace written tests.
Learning objectives in Pediatric surgery in the core curriculum for surgery in Japan

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Based on the importance of the core curriculum (CC), we have re-examined and established objectives for CC for surgery. We classified objectives for surgical education edited by the Association for Surgical Education as either knowledge or skill acquisition for Japanese medical students. Two nationwide surveys were conducted to select objectives for the CC of surgery. We calculated scores for each objective according to the necessity of acquiring particular knowledge or skill and statistically analysed the data. Clusters of objectives were classified into two groups as knowledge and skills. We considered cluster of objectives with high score as appropriate for inclusion in the CC. Eleven objectives (5.6%) were associated with the knowledge of pediatric surgery and three (4.6%) were associated with the related skills. The number of objectives for pediatric surgery is restricted in the CC for surgery.

Session 3B  Management and Administration/Responding to Change

Managing the apprehension of educational change with the Invisible Point of No Return Model

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The process of curriculum change of the Medical program at Umeå University, Sweden, was orchestrated as three movements. A new local vision for the Medical program was designed based on the national aims for medical education. A curriculum committee consisting of both teachers and students developed a proposal for the frame of the new curriculum, which was further substantiated by faculty members and students. The new curriculum designated U2000 was anchored among the students and faculty members during the process, since almost all participated in one or more subcommittees. This process also generated ownership and increased collaboration among colleagues. The success of this project was based on hard work from a small group of enthusiasts and a strong support from the faculty dean. The process was given sufficient time which allowed for different voices to be heard, changes to be made, and fear to subside. This all looks very simple but required strategic leadership. This was accomplished by minimising threats, bypassing departmental control, providing a protective environment, allowing for strong student involvement, and encouraging alternative learning approaches. The details of this process, which we in retrospect have designated “The invisible point of no return model” will be discussed.

Adaptation of management methods and methodological innovation in medical education

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In relation to Health Sciences training, in view of the globalisation of markets with constant changes and strategic adaptations and so that the desired purpose and goals can be achieved in relation to competitiveness and innovation parameters, it becomes essential to mobilise a huge number of performers predisposed and prepared, and with material and organizational conditions to meet their needs. With the increasing introduction of new teaching methodologies it is also necessary to create and to adjust management patterns, involving new contractual models, new human resource management forms, discussions with health institutions, developing a complete study of needs and resources (necessities of that health system, priorities problems of community, intervening with the new technologies).

Building a base of ownership for change: Curriculum 2001

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In 1999, our School of Medicine underwent a curricular revision to fulfil current trends and societal needs in our country. The Academic Committee created 7 subcommittees, integrated by faculty members and students. The subcommittees evaluated the school’s current status (where we were), and made recommendations (where we wanted to be). A preliminary 5.5 years curriculum was created. A weekend workshop was organised by the Curriculum Committee. About 50 faculty members participated in the final decision-making and in the elaboration of the programme for each particular course/block. Curriculum 2001 characteristics: competence and assessment based; Problem based learning; Vertical and horizontal integration; community and primary care oriented; student centered. Change is still underway, but it was greatly facilitated by the ownership gained by faculty members. Participation is the best way to ensure innovation and overcome barriers to change.
This study analyses, discusses and proposes new strategic orientations that should be developed through an adapted management process and contextualized to our new teaching and learning process.

### Implementation of a new teaching method in the current curriculum

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As a pilot study, the active educational system was implemented into the integrated system of Phase III in the academic year 2000-2001. We observed a lot of defects in this application and it was discussed in a group study of a teaching teachers course in 2001, November. As result, the participants established the following essential steps that must be performed in these conditions: (a) Pretest (collecting information) and information of the students about the new application; (b) External support (inviting an expert regarding the active educational system); (c) Foundation of the Education Commission; (d) Establishment of current technical and educational achievement; (e) Teaching the teachers; (f) Changing the whole curriculum step by step; (g) Getting feedback (from teachers and students) at each stage. Finally, as a Department of Medical Education, we aimed to evaluate this subject at an international level.

### The quest for change

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Medical education in Iraq is mainly a traditional type which is characterized by hospital based training, teacher centered with little or no provision for primary health care (PHC) training, motivating students for self learning, or the acquisition of skills needed by the future doctor. From the 11 medical schools in the country 10 are traditional and only one school is innovative. In 1994, MOH personnel working in the primary health section, noticed that newly graduated doctors were unaware of the services provided by the MOH at the primary health care level. Dialogue and negotiation started with the medical colleges which are all under the auspices of the MOHE to introduce the concepts and training at PHC level into the curriculum of medical schools. Three conferences, 13 workshops and 7 training courses were held over a 5 year period. The discussions and the exchange of ideas during these workshops, conferences and seminars led to major changes in the curricula of medical schools (which is centralised) as well as introducing PHC training for medical students. New items were introduced in the curriculum. All these changes were introduced without being aware of what is happening in medical education around the world due to the sanctions on Iraq. In this paper we will describe our experience in the quest for change, the difficulties and the outcome.

### Pursuing perfection in healthcare - implications for medical education

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The Institute of Medicine recently published a groundbreaking analysis of the quality of the healthcare system in the United States, entitled, “Crossing the Quality Chasm”. The report concludes, “the health care system is in need of fundamental change. …Care delivered is not, essentially, the care we should receive.” The IOM committee proposes six aims for improvement, and makes recommendations that relate directly to student and faculty training. HealthPartners, a large health plan in the Midwest USA, is the recipient of a major grant, entitled “Pursuing Perfection”. It is one of 7 organisations funded nationally to rapidly improve its care delivery system, consistent with the IOM report. An important consideration is the integration of medical education with rapid improvement efforts. Education presents historic and organisational barriers to providing “perfect care”. The future of medicine, however, depends on students and residents learning in optimal care environments and adopting superior practice methods.

### Tbilisi State Medical University - on the way from the Soviet model of medical education

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Following the disintegration of the USSR, which had an extremely destructive impact on the economic situation in Georgia, TSMU could preserve not only its existing potential, but took serious steps towards the level of Euro-standards. Teachers in High Schools bear the burden themselves, and lectures with practical work are the basic source to enrich knowledge. This results from lack of modern teaching literature and computer facilities, which is the main cause of curricula overloading (average 1200 hours a year), that was characteristic for Soviet educational models. Nowadays, the Departments of TSMU have been enriched with up-to-date teaching literature and modern study programs through computer technologies. The mentioned process is the precondition for reduction of curricula hours and the elevation of students’ independent working. We hope that the close collaboration with AMEE and its support will help TSMU to make further progress.

3B9 Teaching governance: further exploratory research

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Quality in tertiary teaching continues to grow in importance (Hyppölä et al, 2002). Teaching governance is a framework with processes for teaching organisations to improve quality and to safeguard high standards (Ayers et al, 1998). The University of Wales College of Medicine contains five Schools and the results of a pilot study using a governance checklist in the School of Postgraduate Education were discussed at AMEE 2001 in Berlin. Further work in the other four Schools (Dentistry, Medicine, Nursing, Healthcare Studies; n=24 people) has identified high content and construct validity and high inter-rater reliability in the checklist. Key issues in governance are: supportive infrastructure, coherent objectives, participative culture, appropriate tasks, highly developed performance appraisal systems. The next stages of this research will be (a) to assess the students’ views on governance (b) to engage the leaders of departments and higher levels in teaching organisations about discussing governance issues.

3B10 Work relationships in the School of Medicine of Ribeirão Preto, University of Sao Paulo (FMRP, USP), Brazil

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The main scope of the research is the identification of patterns in the work relationships* of the 37 academic units of the USP, specially the FMRP-USP. Our choice is justified by the interest raised by its managerial** difficulties. As USP is a publicly supported university, its norms are influenced by State policies. As one might expect, the peculiarities of its academic units did not impress significant differences in their work relationships. However, the study disclosed heterogeneity of the academic units because of their unique history, cultural elements, and because of the differences in capacity to absorb new technologies. The research results have been used to introduce a unit centre Quality Program to develop management skills and work relationship patterns in this medical school.

* Relationship patterns between employers and employees

** Administration of the support services to teaching, researching and other activities.

3B11 The cost of a Geriatric clerkship for medical students

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Geriatrics is increasingly recognised as a mandatory subject of undergraduate medical education. As with other clinical fields, the teaching is based on a clerkship of two to three weeks in a geriatric ward. The effect of students’ teaching on hospital costs, hardly addressed in the past, is now focusing attention in the present era of limited resources. In this study we estimated for the first time the cost of teaching a group of medical students during their clerkship in a geriatric ward. It includes cost determinants like direct and indirect working hours of the training staff (doctors, nurses, etc.). Likewise included were the use of resources like clinical equipment, ancillary components and overheads. The overall cost, calculated for a group of six students per one week, was 11,276 IS (approx. 2,600 USD), representing 0.016% of the weekly budget of the hospital. Opposed to this relatively small expenditure stands the reputation of academic affiliation and the knowledge increment associated with and radiating from the teaching. These cannot be estimated for money value but are known contributors to the quality of care.

3B12 A study of non cognitive aspects of student selection for entry to medical school

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Since 1994, our Faculty of Medicine carries out a national examination to screen cognitive aspects of candidates, (biology, chemistry, physics) and their linguistic and mathematical abilities. No less important, and possibly more so, are essential personal qualities. Although evaluation of cognitive ability is virtually inevitable due to the law of supply and demand, there is universal agreement that outstanding cognitive qualities alone are not sufficient for a physician. We have recently attempted to evaluate non cognitive attributes of candidates, by using a personality test, PIHEMA, developed by our University’s School of Psychology. This test was given to 500 selected candidates and we found a statistically significant association between PIHEMA results and the candidates’ achievement in our pre-admission examination.
3B13 An educational experience - matching student to house officer post
Clive Roberts* and Kathy Feest
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Pre-Registration House Officers in the UK are trainees who provide a clinical service. The posts are perceived as important in launching careers and are contested keenly. We devised a method for appointing students to them to be of educational value and fair by assessing students’ qualities widely. The academic record was assigned a value based on all examination results. Students’ achievements presented in their CVs were scored by a team according to a predetermined template. Students were interviewed by a multi-professional team and assigned a score based on communication skills and empathy. The three scores were fitted to a similar distribution to ensure equal weighting. The students ranked their choice of the year-long rotations and were themselves ranked on their summed scores. Posts were allocated according to choice from top student to lowest. Overall students and staff considered this procedure to have achieved its objectives of equity and educational experience.

3B14 Medical dissertation in Germany: a survey among students
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In Germany the title “Doctor medicinae” (Medical Doctor) can be received after graduation only if a dissertation is written. Previous studies, which considered only successful students, showed a high acceptance of this approach. The aim of the study was to assess the attitudes of both successful and unsuccessful students regarding medical dissertation in Germany. An anonymous questionnaire was sent to all medical students of the 11th to 14th term of study at the Charité (n=1036). Altogether 324 students responded (return ratio=31%). Since only about 38% of all physicians hold the title “Doctor” five years after their graduation from university, the survey is assumed to be representative. Clear deficits were revealed both in planning (e.g. clearly verbalised scientific question in only 53%) and supervision (e.g. only in 57% supervisor with sufficient time). The results will be presented and discussed in the context of the concepts in other European countries.

Session 3C Problem Based Learning

3C1 How to introduce students into a PBL curriculum
Wolf Blaum*, Nicolas Ziegenhagen, Claudia Kiessling, Rita Leidinger and Kai Schnabel
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Since 1999 the reformed medical curriculum exists at the Medical Faculty of Humboldt-University in Berlin, which runs PBL as the main form of learning.

Students are introduced into the PBL-method during the first two weeks of their studies. Our poster shows the structure and organisation of these two weeks, of the individual PBL training and the outcome of the seminar evaluation. To illustrate these topics we used the example of the 2001 orientation seminar, the first one solely led by students.

3C2 How to improve Problem Based Learning for workshadow (A Level) students in Accident and Emergency
Carole Ann Johnson* and Peter Thomas
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A-level students are encouraged to obtain experience in a clinical setting before applying to medical school. This involves shadowing medical staff and observing what they do. We describe how a problem-based approach can be introduced to encourage self-directed learning during workshadowing. A needs assessment was carried out using feedback forms. We developed a study guide using clinical scenarios to explore the personal and interpersonal skills needed to practise medicine, the role of the doctor in the multi-professional team, ethical issues and the interaction of hospital and community-based services. Its use practically illustrates the learning strategies required by today’s medical students. Workshadow students use this during their attachment in Accident and Emergency and its impact is assessed using a questionnaire. Initial results are encouraging. We propose that problem based learning can be introduced by using study guides to facilitate learning during workshadow attachments.

3C3 The role of the Problem Based Learning tutor
Anne-Marie Eeg-Olofsson
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In the Problem Based Learning concept, there is a focus upon coherence, comprehension and authenticity. A small tutorial group of about eight students is the forum where students value, confirm or reject their expressed knowledge in a continuous interplay and dialogue. The role of the tutor is a delicate task. It deals with: (1) Making the familiar knowledge strange and the strange knowledge familiar, by putting challenging questions to the students, relating to their understanding of the studied issues. (2) Helping the students to realise the
point of the tutorial - to use it as a unique aid for the real understanding of the studied material. “What do I know about this and what remains to be discovered?” (3) Supporting the students in “getting sight of” their own learning and the mechanisms behind that kind of learning where the outcome will be real understanding of the issue.

**3C4 Do we need guidelines on how to write paper cases in a PBL curriculum?**

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Writing paper cases is a very important part in the new curriculum at the Charité. It is very time-consuming and the faculty has to put a lot of work into it. Our experiences during the first three years lead us to redefine our concept. How do we manage to get new cases and how can we transport our ideas to the authors, who are all clinical physicians? Is it possible that senior students write cases for the younger semesters? We will discuss the position of paper cases in the Berlin model with its advantages and disadvantages. Between the real patient and the paper case patient, there is more out there: we will show possibilities in integrating standardised patients, the advantages of multimedia and the internet. We would like to get in contact with people who are involved in paper case design to share and discuss our experience.

**3C5 Opinions of tutors about the problem-based learning process at Dokuz Eylül University School of Medicine**

Cahit Taskiran*, Berna Musal and Nepe Atabay  
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To determine the opinions of tutors about the Problem-based Learning (PBL) process for evaluating and improving the efficacy of the educational programme, a cross-sectional study was planned at Dokuz Eylül University School of Medicine, Turkey.

A questionnaire was formed, containing questions about tutor profile, a five-point Likert scale consisting of 12 items about the PBL process and open-ended questions about frequently encountered problems and suggestions, and applied to faculty who had been actively participating in the PBL process as tutors in different periods since the 1997-1998 academic year. Response rate was 65% (130/201). The reliability of the scale was measurably high (Cronbach alpha:0.90). Scores about PBL varied between 3.80 and 4.69. Respondents gave highest points to the items of student reasoning, improving communication skills, motivating individual learning, and improving problem solving skills. Tutors have positive opinions about benefits of PBL on student development.

**3C6 Students’ self study process in Dokuz Eylül University School of Medicine**

Arif Toru, Y醤el Gursel*, Cahit Taskiran, Sema Özcan and Berna Musal  
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A PBL curriculum has been implemented in DEUSM since 1997. The purpose of the study is to analyse first year students’ self-study process following PBL sessions. With the cross-sectional study implemented in February 2002, 78.8% of the students (n=115/148) have been reached. A questionnaire has been administered composed of student profile, views concerning library/learning resources, self-study time, questions on resources usage, and a five-point Likert scale on search and preparing phases. Average results: weekly student independent study time: 15 hours, number of resources used: 4.36, resources reaching time: 39 minutes. The average of points of independent study time scale varies between 3.5 and 4.1. As the self-study process scale points imply, students have adapted to a considerable extent to the PBL system. Improvement of physical conditions and efforts to increase resources are important for students to have a more efficient self-study process.

**3C7 Comparison of assessment methods among Dokuz Eylül University School of Medicine students**

Sema Özcan, Cahit Taskiran*, Y醤el Gursel, Berna Musal and Ilgi Semin  
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This study investigates the correlation between knowledge-based students’ assessments and tutorial assessments. Retrospectively, PBL performance assessment of first, second and third year students, the averages of the module-end examinations and phase-end theoretical examinations were evaluated. The reliability of the scale used in tutorial evaluation was measurably high. Module-end-examinations and phase-end examinations consisted of multiple-choice questions in the knowledge domain. Pearson correlation analysis was used. Meaningful correlations were found. Correlation values varied as follows: phase-end examination and PBL student performance assessment (0.42-0.74), phase-end examination and module-end examination (0.88-0.90), module-end examination and phase-end examination (0.65-0.75). Tutors’ assessment of student performance in PBL sessions is still debated. Meaningful correlations among assessment methods highlighted the applicability of this method as a student assessment component. Meaningful correlations among theoretical examinations are expected results.
3C9  Case design for PBL and evaluation of an example

Nicolas Ziegenhagen*, Wolf Blaum and Claudia Kiessling
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Paper cases written by student tutors are used within the scope of InterPOL, a PBL-project at Charité, Medical Faculty of the Humboldt-University in Berlin. Our Poster shows opportunities and difficulties of case design based on an example of a real patient of the psychosomatic department at Charité. Furthermore the outcome of a case-evaluation by students as well as tutors will be presented.

3C10  New media in PBL-cases

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The aim of this project was to enrich and supplement the traditional PBL paper cases in the context of a PBL session by using multimedia elements. Paper cases should act as an ‘engram’, a linking memory bridge between the pure facts represented by the self defined learning goals and the clinical practice. To render the engram formation more versatile towards the real clinical situation we decided to supplement the paper cases with audiosvisual multimedia elements (patients videos, heart sounds, animated x-ray-pictures, etc.). We chose two cases to be supplemented with interactive multimedia elements. We used qualitative and quantitative design to gather feedback from the students and tutors. We want to enhance students’ competences in the use of new media with an integration of such elements inside the curriculum and would like to get in contact with other faculties.

3C11  Written test (like progress test) analysis is important to reduce the anxiety generated by the students in PBL

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Students think that the lack of expertise by the tutor in PBL will have a negative impact on their scores in a written test. A written test was given to every student. All the questions were in a multiple-choice format, and several clinical cases were included from which questions were derived. The analysis of the written test consisted in the comparison of the number of correct answers among different student teams, the number of correct answers between the two student groups, and the comparison of the results obtained between teams from each tutor. We did not find a statistical significant difference between results obtained in the written test among teams, and from each tutor. We concluded that the results obtained in the written test depend mainly on the student. We also concluded that the tutor role in PBL is more important that the tutor expertise in the area.

3C12  Students perceptions of newly implemented PBL sessions

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In 2001, the Faculty of Medicine at Hacettepe University implemented problem-based learning sessions to its integrated lecture-based curriculum in the first three preclinical phases. As the first step of evaluation, described by Kirkpatrick, was to get attendants’ satisfaction or happiness, we requested students to complete an evaluation questionnaire in the last PBL module of each phase. The students were asked to rate statements on a 5 point Likert scale. We had 277, 290 and 229 returns in phase I, II and III respectively. Agreement ratios for each positive statement were over 60% in phase I while in phase II and III at about 50%. We concluded that the students, who were used to a lecture-based curriculum, were defensive and hardly adapted themselves to new learning conditions. Meanwhile, phase I students adapted themselves well to the PBL philosophy. These results encouraged the faculty to proceed further with change.

3C13  Problem-based lecture - advantages for a better medical education

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The aim was to evaluate the classical disease-oriented lecture (various academic teachers) versus the problem-based lecture (single academic teacher) from a medical
students’ view at Heidelberg Medical School. During the academic year a prospective study with a standardised questionnaire (seven-point scale) was completed after each lecture by fourth-year students. The 22 questions were based on motivation, presentation, interaction and efficacy (t-test, p<0.05). For evaluation 327 questionnaires (275 disease-oriented and 52 problem-based) were collected. Both types of lectures were rated almost equal regarding presentation and efficacy. In terms of motivation and interaction the problem-based lecture showed significant advantages.

Active participation and discussions were especially seen to be of high value for medical students. The problem-based lecture held by a single academic teacher seems to be more motivating and interactive, both of which are key elements in medical education offering these substantial advantages.

Session 3D  Teaching and Learning/Multiprofessional Education

3D1  Portfolio technique for better clinical teaching of students in Sports Medicine

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The goal was to improve the learning outcome for students in a two month clinical clerkship in sports medicine. All the former students of the year 2001 were asked how they judged the clerkship in sports medicine: strengths and weaknesses of the programme and especially proposals for improvement were requested. The same questionnaire was given to the junior doctors, who represented the direct tutors for the students. Based on these data and on experiences in internal medicine, a provisional Portfolio Handbook was created. Adaptations were made by all the students, junior doctors and senior consultant involved. The correct handbook version was recently introduced. The portfolio technique is a good teaching and learning technique for a clinical clerkship in sports medicine. It offers good possibilities for on-the-job-learning-situations, as it involves the adult learner, shares with him/her the learning responsibility and helps to structure the teaching and learning in daily work.

3D2  Portfolio of Ambulatory Pediatrics

Luisa Schonhaut
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The portfolio of ambulatory pediatrics is a self-teaching guide, that has as its main objective to transmit to the students an integrated vision of the trilogy patient-family-community, emphasising the maintenance and promotion of health of the developing child. It is divided into three parts. The first enlists exercises referring to common clinical situations and problems of everyday practice of extra-hospitality pediatrics, related to the nutrition, growth and development of normal infants and children. The second part presents a compilation of recent publications in these areas, considering the scarcity of time to study and the lack of libraries in the extra-hospitality environment. The third part contains development charts, the Tanner grading, the alimentary pyramid and the nutritional requirements of each age group, all fundamental tools in daily pediatric practice. The portfolio targets the pediatric interns, aiming to be used during their 3 weeks’ extra-hospital rotation. During this period they take part in individual and group work, discuss the exercises with teachers and relate them to real life situations. This material has been used with pediatric residents and primary care personnel in consultations where our interns work, in order to standardise management criteria in the promotion of child health from birth to puberty.

3D3  Community-oriented recreational activities in medical teaching: educational aspects

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Medical education may also involve extra-curricular activities that will strengthen the learning process. First year medical students who participated as “medical doctors” in a “Hospital for Dolls” where children could bring their “sick” dolls, were requested to fill in an activity-specific questionnaire. The questionnaire aimed at analysing motivational, emotional and educational aspects of the participation as a doctor in the initiative. Analysis of the questionnaire answers showed that most students enjoyed and had emotional and educational gains from the experience. Overall, most students stated that they had learned how to deal with children and their attitude towards illness. They further emphasised that the initiative allowed them to have a first contact with skills that are crucial for medical practice. All students expressed their willingness to participate again and regretted the little time allowed for each child.

3D4  The role of discussion in learning

Jean McKendree
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Experience and research indicate that discussion is an important component in learning. It has been found many times that a lack of attention to language skills can lead to difficulties that can last a lifetime. In particular, discussion seems to be a crucial component in promoting abstraction, allowing learners to build understanding at a higher level than can be derived from activity alone. How to discuss is itself a learned skill that is often neglected and devalued both by teachers and learners. This poster presents a summary of how discussion can help promote better understanding, as well as some of the ways in which it can fail. This is followed by some specific research on ways of promoting learning via discussion including vicarious learning, task-directed discussions, and self-explanation. From this research, some possible methods that can easily be used in teaching and in self-directed learning are outlined.

3D5 Using dictated recall for reflection on Precepting in the Presence of Patients (PITPOP)

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PITPOP should include triple advocacy: for patient health, trainee learning and preceptor development. The objective was to explore reflection on dictated recall to learn from PITPOP. Schon’s model for learning from experience through reflection-in-action (RIA) and reflection-on-action (ROA) was used as the theoretical basis. Methods: (1) Dictate recall immediately following PITPOP encounters in ambulatory practice; (2) Review transcribed dictations to reflect on precepting approach and options for modifying one’s approach. Findings from sample dictations indicated: RIA: Multiple unstated feelings/thoughts occur during PITPOP encounters. ROA: Personal satisfaction (“I saw how trainee wins patient’s trust”); information about trainee performance (“trainee’s proiciencies vary from patient to patient”); questions about one’s impact (“Did trainee learn when I modeled open-ended questions?”); options for future encounters (“I shall try more often to voice alternative assessments/plans in presence of patients and to be transparent/helpful for patient and trainee”). Reflection on dictated recall is a useful way to assess/develop one’s skills for PITPOP.

3D6 A student's perception about a pedagogic methodology in medicine that encourages self-learning

Cecilia Vilaga*, Madalena Serra, João Martinho, Raquel Veiga, Joana Couto, Sara Machado, Silvestre Cruz, Joana Sanches, Liane Carreira, Pedro Fernandes and Ana Filipa Azevedo
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In the Medicine Degree of the UBI, instead of traditional lectures there are tutorials for groups of 15/16 students. First, the proposed learning objectives are analysed in the context of our knowledge and with the tutor’s orientation. We determine which knowledge is needed in order to achieve the objectives. There is a self-learning phase and after that the acquired knowledge is presented and discussed within the group. In this methodology, we have all the required materials for the learning process (books, CDs, Intranet content, Internet links), and every effort is made by the Faculty to gain us access to all sources of information. Discussing topics in small groups enables us to think and study in a different way, to decide where we have to search and improve our knowledge, thus preparing ourselves for solving practical problems.

3D7 An activating instruction approach - a practicable learning strategy to teach ethics to Geriatric health care professionals

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The teaching of ethics has been subjected to much discussion in recent literature. There is little evidence to support the idea that teaching strategies can actually increase sensitivity to various ethical concerns. Based on an activating instruction approach, geriatric health care professionals in Sweden were taught medical ethics. A hypothetical case was administered in order to diagnose central conceptions and domain-specific knowledge. Traditional lectures together with discussions based on real life-situations were performed. In order to generate new knowledge, reflections were encouraged including the participant’s own ethical awareness completed in relation to daily work. Information about the relationship between the instructional procedure and the participants’ attitudes together with their care behaviour was collected at a 6 and 12 months follow up. These periods included group-interviews and participant observations. In general, it was found that the attitudes and caring behaviour of individual participants had actually changed into a more patient-centered perspective.

3D8 Administration of practical periods in the medical curriculum at the Faculty of Medicine, University of Oslo

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At the end of the fifth year (of six) in the curriculum at the Faculty of Medicine, University of Oslo, the medical students are assigned to a period of practice in the southern and eastern regions of Norway. The placement consists of six weeks in a local hospital and six weeks in a GP practice. There is a distance of about 600 km between GPs who are farthest from one another. The practical periods are linked geographically in order to give an overall view of the health service. The greatest weight is placed upon the practical work of a doctor and the National Health Service. The teaching of problem based learning in the 10th semester is partly
net-based, where two out of five tasks are to be solved ‘virtually’ using the data programme Classfronter. The period is rated highly by students. The GPs involved and co-ordinators at the eight local hospitals are all medical doctors linked to the Faculty of Medicine, with three-year contracts as university teachers. The logistics of administrating the period are extensive.

3D9 The MacDonalds principle

David Thomas
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Wherever patients are ill and need Critical Care services, they should get the same standard of care, provided by the same staff groups who have been trained and assessed in the same way. Central to government health policy is the desire for joint education/training across professions. The same methods of assessment are being used by junior doctors, nurses and AHPs. This same assessment framework is being used by professionals from areas including Manchester, Lancashire/South Cumbria consisting 22 trusts, one Deanery and one Confederation. A competence based programme was designed to ensure practitioners in Critical Care are competent. This presentation describes the use of a common assessment framework being used across professions in the Critical Care setting. It describes the successes/difficulties challenging traditional views of how separate professions can and should learn and work together. It is also tangible evidence that government policy themes are workable!

3D10 Using the arts and humanities to improve the communication skills of Specialist Registrars in Palliative Medicine

Rachel McCoubrie and David Jeffrey
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We describe an innovative study day using the arts, humanities and a variety of techniques such as Tai Chi, Indian Head Massage and Guided Imagery to improve communication skills of Specialist Registrars in Palliative Medicine. Multidisciplinary professionals facilitate the interactive small group teaching. Using music and literature, we explore the differing perceptions that arise from the same stimulus and thereby gain insight into viewing the world through other people’s eyes. We relate these experiences in the arts back into our clinical practice. Reflective diaries are used to carry out both immediate and long-term evaluation of these teaching methods. These novel approaches to teaching result in changes in attitude, empathy and creativity in the Registrars.

3D11 The effects of a regular poetry slot on a multiprofessional chart round

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The Gloucestershire Cancer Centre weekly chart round is attended by all doctors in Oncology, Palliative Care and Haematology, nurses, radiotherapy radiographers, physiotherapists, occupational therapists, dieticians, social workers, representatives of the local hospice and McMillan nurses. All inpatients are discussed as are any deaths occurring on the unit. A regular poetry slot was introduced at the end of the meeting. Participants submitted their favourite poems and photocopies of one were distributed at the end of the meeting. The project was evaluated by questionnaires given prior to the scheme and after it had been running for one year. These investigated their previous knowledge of and attitudes to poetry, their feelings about whether their contribution to the discussion about patients was valued, whether they felt their poems were valued and the way in which the poetry had changed their attitudes to their colleagues and the meeting.

3D12 The influence of multidisciplinary faculty on multidisciplinary learning

K Collings*, J Ehmann, M Hendy and H R Dalton
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This study investigates ‘role modelling’ and its place within multidisciplinary learning. A triangulated approach was adopted. Two groups of 120 final year nursing/medical students were randomly selected over two years from a combined group. The students in groups of eight, received a 3-day advanced life support/ sudden death course, provided by a multidisciplinary faculty. A control group of 120 students was matched from a combined group. A modified questionnaire was presented pre- and post-course to 120 students. Data will be analysed using SPSS. Data from this study will inform the construction of an interview schedule aimed at exploring the perceptions of students on role modelling behaviour. Data will be analysed with the aid of Nud*ist software. The combined data from both studies will be employed in the construction of a final questionnaire, valuable for colleagues examining attitudes to multidisciplinary learning.

3D13 From multiprofessional towards transprofessional education: the experiences of the teachers

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Clinical Education Wards (Klinisk Utbildningsavdelning, KUA) provide medical-, nursing, occupational- and physiotherapy students a possibility of shared learning: the students are assigned to an orthopaedic ward during a period of two weeks. The main goal of this education is to improve future teamwork and patient care. The approach is called “transprofessional” (Harden, 1998), because the multiprofessional education takes place in the context
of clinical practice in health care. The aim of this study was to investigate how teachers of different groups perceived their students’ learning and how they experienced their roles as supervisors. The participants were 6 medical-, 8 nursing-, 3 occupational- and 3 physiotherapy teachers who filled in a questionnaire with open-ended questions after the course. It was found that nursing- occupational- and physiotherapy teachers emphasized students’ independence and confidence the most often, whereas medical teachers emphasized their students’ increased understanding of both clinical problems and other professionals’ work.

**3D14**

**HSPICE: a successful, evolving multiprofessional student/faculty collaboration**

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Health Sciences Partnerships in Interdisciplinary Clinical Education (HPSICE) is an ongoing initiative begun in 1996 by faculty from each health sciences school (Dentistry, Medicine, Nursing, Pharmacy, Public Health, and Social Work) and the School of Library and Information Science at the University of Washington. Goals of the collaboration include: provide opportunities for all health sciences students to learn interprofessional collaboration skills and practice functions to improve the care of patients, and create a formalized and sustainable infrastructure for interprofessional clinical education. The initiative has offered students and faculty from all participating schools opportunities to learn, train and work together including an orientation program for all incoming students, required courses in Anatomy and Physiology and Health Care and Society, numerous elective courses, formal seminar programs, and outreach experiences where students and faculty provide care to underserved communities. Data collected thus far from various aspects of the initiative indicate positive trends.

**Session 3E**

**Clinical Teaching**

**3E1**

**Continuous quality development in clinical skills during medical school and internship**

Christine Dichmann  
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An investigation of the medical schools in Denmark has concluded that the connection between being a graduate, and practising internship is inadequate in several areas. In the light of this, the county of Funen started a project in 1999 which focuses on clinical skills. In a questionnaire the medical students at the end of their study and interns twice in their internship evaluate their qualifications in a number of clinical skills. In each skill the student evaluates the teaching during the study, while the interns evaluate the teaching in the ward. Results have been collected for a period of 3½ years and the development of clinical skills from graduate to the end of internship is followed for cohorts. Furthermore the development of quality in teaching is followed.

**3E2**

**How do we teach communication and interaction skills to medical students?**

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The ability to adequately communicate and interact with patients, their families as well as with colleagues is a core competency required of the modern physician. The teaching of communication skills is therefore part of the Reformed Medical Curriculum at the Faculty of Medicine at the Humboldt University of Berlin. First we developed outcomes and a set of skills that students should acquire in a communication course. We then narrowed down the following core competencies: (1) doctor-patient communication and interaction; (2) teamwork and cooperation with colleagues; (3) personal growth, self-management; (4) cultivating a professional attitude; (5) developing attitudes in patient-contact. The presentation delivers an overview of the outcomes and the resulting curriculum.

**3E3**

**Experiences with a sign language course in medical school**

D van Wijngaarden* and A Lama  
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Deaf people are at increased risk for poor physician-patient communication, and have a lower subjective health status. Teaching sign language to physicians may improve the health status of deaf people and help physicians to be more sensitive about culture and human diversity. In 1995 the Faculty of Medicine of the Universidad San Sebastián, Chile, started to give a Sign Language Course (SLC) to second year students as part of the Medical Interview Program. In 2001, 50/54 students evaluated the course. 100% was satisfied, SLC was found motivating and useful. 76% spontaneously mentioned it as an important subject for personal or professional development. Criticism was: lack of practice with deaf people (20%); and too short (52%). Exam grades varied from 4.0 to 7.0 (mean 6.4 out of 7.0). The authors conclude that the Sign Language
Course is successful in motivating medical students to learn ways to improve communication with patients.

### 3E4 Educational problems in practice teaching of clinical skills

Lydia Pundova* and Neda Markovska  
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The current concept of undergraduate medical studies and curricula in Slovak medical schools are based upon division into two main parts, covering on the one hand the theoretical and preclinical subjects, and on the other hand the clinical subjects. Derived from this concept, medical students have the first contact with patients starting from the 3rd course in frame of internal and surgical propedeutics. Since this time practical teaching in clinics has been rendered through once-a-week-tutor groups, and in the graduation year through several weeks covering stays on basic clinical wards. Additionally the core premedical curriculum covers 2-4 weeks lasting summer hospital based stays. Each form faces some problems and weaknesses, which will be discussed in our presentation.

### 3E5 Contribution of student assistants to a Skills Lab

Nora Berger, Heidi Linnen* and Charlotte Zacharias  
Trainingszentrum fuer aerztliche Fertigkeiten, Charite, Medizinische Fakultaet der Humboldt-Universitaet zu Berlin, Schumannstr 20/21, 10117 Berlin, Germany

Our skills lab or the “Trainingszentrum fuer Aerztliche Fertigkeiten” (TAEF) is geared towards promoting the student’s own initiative by offering an interdisciplinary learning environment. The TAEF includes 24 rooms, each providing the student with working materials for presentation and general examination. Some rooms are dedicated to specific disciplines. Here, students have the opportunity to train their medical skills by using models, software or by practising examination techniques on each other. Student assistants are available to support this learning process. Additionally, they give about 100 tutorials per semester covering more than 20 topics. The main goals are to further extend applied practical skills as well as theoretical knowledge and to offer qualified feedback. Therefore the student assistants are trained on the Charité’s internal standards of physical examination. We would like to present our concept of the TAEF with a focus on the tutorials.

### 3E6 Participative teaching methodologies in a group of students with low marks in evaluations in Pedodontics

Andrea Munoz M* and Gisela Zillman G  
Dental School, Universidad de Chile, Independencia 1027, Santiago, Chile

The objective was to improve the cognitive learning in students with low marks in formal evaluations in pedodontics. From 92 students, 10 were selected for their insufficient cognitive efficiency in two global evaluations. The average mark of the studied group was 3.8 (range 1 to 7), the average of the rest of the group was 4.7. Learning style was evaluated and a qualification of activities was elaborated. The activities were realised individually, in groups or with coaches (tutors) through control studies, seminars and work in pairs, to solve problems, work and integration plenaries. Ten sessions with teaching coaches lasted for one hour each. After teaching intervention the average qualification went up to 4.5 compared with the average of the rest of the course of 4.6. Efficiency in formal evaluations improves considerably as a result of diverse participative methodologies. To assure better learning, it is necessary to detect poor efficiency in learning.

### 3E7 The Russian nesting doll (matryoshka) as a model in clinical teaching

B Wolf and F Scheele  
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In order to teach doctors diagnostic procedures, a structural manner in approaching the patient’s problem is warranted. We believe that the Russian nesting doll can serve as an appropriate model in teaching these procedures. In this model the ‘egg’ in the smallest doll represents the patient’s problem, which the young doctor can only discover in a systematic and stepwise manner. To open the first and biggest doll the student needs proper communication skills and taking a careful and detailed history is necessary to open the second doll. A complete physical examination allows the student to open the third doll. The fourth doll can only be opened and the problem identified by appropriate differential diagnosis and testing (laboratory and/or imaging). In conclusion, the Russian nesting doll (matryoshka) is an appropriate model in the teaching of diagnostic skills in undergraduate and postgraduate doctors.

### 3E8 The development of an inventory to assess clinical reasoning skills based on Illness Script Theory

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It has been widely acknowledged that a clinical reasoning skill is highly dependent on the availability of knowledge relevant to a specific problem. This idea fosters the notion that the way medical knowledge is structured in the mind of students and physicians is critical to the quality of medical diagnosis (Elstein et al, 1978, Schmidt, et al, 1990, Custer et al, 1996). According to Schmidt et al (1990) medical diagnostic knowledge is structured in the form of illness scripts. In acquiring expertise in medicine, students progress through several transitory stages, characterised by distinctively different knowledge structures underlying their performances. The stages are (1) the development of elaborated causal networks (knowledge accretion and validation), (2) the compilation of elaborated networks into abridged ones (encapsulation), (3)
emergence of illness scripts, (4) storing patient encounters as instance scripts (instantiated scripts) (Schmidt et al., 1990; Boshuizen and Schmidt, 1995). The detection and measurement of how students progress through those stages are very important for evaluation purposes both at individual level such as to see their capability to form illness scripts for diseases prescribed in the curriculum and the teaching learning process could stimulate the emergence of illness scripts. This paper describes the various stages in the development of an inventory to measure the development of medical knowledge structure based on Illness Script Theory.

3E9 Prioritising training needs for simulated patients in multiprofessional undergraduate clinical skills teaching

Gillian Dewar*, Claire I L Stewart, Paul E Preece and Jean S Ker
University of Dundee, Clinical Skills Centre, Ninewells Hospital and Medical School, Dundee DD1 9SY, UK

Simulated patients have become central to the delivery of undergraduate multiprofessional clinical and communication skills training programmes. As a result there is an increasing demand for them to extend their participation in the simulated training environment which may require even more complex roles for the simulated patients. This poster highlights how the training needs of simulated patients (SPs) were identified and prioritised from data collected from semi-structured questionnaires. Simulated patients considered that their input could be enhanced by taking a more active role in giving feedback1 by further training in script roles and from receiving feedback on their performance. The simulated patients were asked to prioritise their training needs using a 5-point rating scale. Results show that giving feedback to students’ rates highest both in terms of priority and frequency and this information will tailor our SP training programme for 2002/03.


3E11 Surgical training of students from the specialisation course in Ophthalmology - Medical School of Ribeirão Preto, University of São Paulo, Brazil

Erasmo Romão*, Roberto Pinto Coelho and Argemiro Lauretti Filho
Medical School of Ribeirão Preto, Hospital das Clínicas - Ofuãmbologia, São Paulo, Brazil

Students from the specialisation course in Ophthalmology need to perform several cataract surgeries in order to acquire psychomotor skills, which are vital for good surgical training. On the other hand, in Brazil there are patients who are blind due to cataracts because there exist obstacles that hinder the access to healthcare services. Since 1998, our University Hospital has been part of a program created by the Ministry of Health in partnership with the Brazilian Council of Ophthalmology. The goal is to put an end to cataract backlog in the country. In order to do so, at first campaigns were carried out and later continuous flow services were established. The result of these efforts was that the number of cataract surgeries offered to residents doubled (reaching 120/student/year), improving the quality of on-the-job training. Therefore, as well as fulfilling its social role, the institution improved its “lato sensu” postgraduate learning activities.

3E12 The art of empathy: an innovative approach to developing empathic skills in medical students

Karen Nielsen* and Susan Bentley
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The ability of physicians to effectively communicate with their patients is one of their most valuable tools for optimal patient healing. Medical schools are initiating medical education courses in the area of empathic communication. However, there is a limit to their effectiveness. They do not teach the specific skills necessary for empathic communication and human awareness between doctor and patient. The Empathy—Training Curriculum Development and Research Project, has been created at Michigan State University to address this issue. This project enhances these skills in medical students by using acting techniques, poetry, drama, literature and photography. The students actively participate in a variety of exercises that break down
communication into its component parts and allow the students to encounter illness outside the scope of their own personal experiences. It also serves to increase their self-awareness. The curriculum enhances the capacity and skill for empathic exchange between doctor and patient.

**3E13** Ability to read X-rays: does level of education predict skill?

Stephen A Margolis*, Karl Anders Nilsson and Richard Reed
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Previous studies demonstrated lack of progress in ECG analysis skills with increasing levels of medical education. This study examined radiograph analysis skills, a similar cognitive task, in 32 senior medical students, 16 family practice residents and 64 general practitioners. The instrument was 12 sets of radiographs: 8 chest radiographs (2 normal, 6 abnormal) and 2 wrist radiographs (2 normal, 2 with greenstick fractured radius). The mean score for correctly diagnosing all 12 sets of radiographs was 5.59 + 1.68 with no significant difference between the 3 groups of participants. The mean score for correctly diagnosing all 4 normal radiographs as normal and all 8 abnormal radiographs as abnormal was 8.76 + 1.55 with no significant difference between the 3 groups of participants. Skill level in interpreting radiographs does not appear to improve with additional experiential training and may require a more formal educational approach to address this deficiency.

**3E14** Clinical skills learned in a community setting

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In August, 2001, the School of Medicine of the ITESM implemented a new curriculum with orientation towards the development of clinical skills in community settings located far away from hospitals and from doctors’ surgeries. During the semester, the work the students performed with groups of people in areas of low socioeconomic development in marginal and rural areas, made a great and favourable impact on the clinical skills learning of the students, which first year students rated as transcending and enriching. The results show the interaction that took place between the students and the members of the families serves as a great motivator for the students. Results also show the students’ performance greatly oriented towards health education to the people of the community.

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**Session 3F** New Learning Technologies

**3F1** Learning outcomes in e-learning: the role of usability. An interactive poster

B Grether
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To measure but also to improve effectiveness of e-learning, it is necessary to know the variables that influence the learning outcomes. It has to be considered that variables change over time and influence each other. A system theoretic model shows how variables influence other variables directly or indirectly. Special attention has to be paid to vicious as well as virtuous circles. Users of the interactive poster may alter different variables and observe the impact on other variables. They will see that in computer-based learning programmes, usability (defined by International Organization for Standardization (ISO) as “the effectiveness, efficiency and satisfaction with which specified users can achieve specified goals in particular environments”) is a central variable, which intervenes in various places. Users are also invited to test and rate readability of different fonts and colours. A selection of take-home-messages is provided.

**3F2** Web-based Otology skills training

Andrés Sampedro*, Jose L Llorente, Cesar Álvarez-Marcos, Ángel Martínez-Nistal, Henar Pérez and Raquel

A Martínez
University of Oviedo, Servicio de Proceso de Imágenes, Ed. Poliv. A, Hospital Central de Asturias, 33006 Oviedo, Spain

Although clinical techniques and procedures are basic on the training of medical students as far as procedural learning objectives are concerned, the material available to cover this training need is scarce. Therefore, the Otolaryngology Department of the University of Oviedo has designed multimedia educational material (MEM) available on the net to be used as an aid in clinical seminars, thus catering for an answer to the above mentioned need. MEM has been designed by a multidisciplinary team (IPMTS) formed by specialists in otolaryngology and experts in pedagogy, computing and hypermedia. Special attention to the scientific accuracy of content, to technology and, above all, to pedagogy (constructivism and student-centred approach) have been taken into account. It is expected that, by means of the interaction with this MEM, the students will be able to understand and use adequately the main techniques and procedures in Otology.

**3F3** Computers and volunteerism improve the teaching environment

E Schoenenberger*, I Petruschke, A Lasch, S Zimmerman, S Major and M Dewey
Charité, Humboldt University Berlin, CIPom, Campus Charité Mitte, Schumannstr 20/21, 10117 Berlin, Germany
The student self-administered computer pool “CIPom” at Berlin Charité with 80 workstations addresses the lack of computer-based courses in the German medical curriculum. It is unique in Germany and began in 1995. The aims are improvement of medical students’ computer skills: through practice and courses dedicated to different fields, e.g. literature searching, data processing and visualisation, and dissertations. This will prepare them for scientific and clinical work. 2,500 (50% of all students at the Charité) use these facilities. High cost-efficiency is achieved due to a large proportion of honorary work. The computer pool is open from 09.00 to 22.00 on weekdays and on weekends from 10.00 to 18.00. The employed students create accounts, tutor how to use programs and the Internet and help solve operational problems. Everyone works three hours voluntarily and is responsible for a certain area, such as creating the schedule or planning courses. The “CIPom” is a highly recommendable model.

3F4 3D Embryo: a visualization learning tool

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In the field of medicine, students come across processes and concepts that are complex and hard to understand. The subject of embryology involves three-dimensional structures, which are difficult to recognise and change rapidly. The project 3D EMBRYO was initiated in the Fall 2000 by two fourth-year medical students who saw a need for creating a new tool for developmental biology instruction and self-study. The result of the project was an animated, three-dimensional and interactive model of the embryo development that was published as a web page. It was immediately incorporated into lectures for medical students and was well received. In fact, 96% of the participants replied that 3D EMBRYO had made learning easier and only 4% were doubtful. 3D EMBRYO is demonstrated in this session.

3F5 Communication training by distance learning on a window based terminal

P M Bloemendaal* and S Eggemont
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Leiden University Medical Center and Amsterdam Medical Center develop Dynamic Patient Simulations® for communication training between physicians. These simulations are complicated Windows based executables that cannot be distributed over the Internet. Windows Based Terminal (WBT) technology is chosen as an alternative that enables students from both universities to access the simulations and successively treat the same patient. After a consultation of the patient the student leaves an epilogue in the patient chart for the fellow physician. A summary of the planning is sent automatically by email to the other student. The fellow student then resumes the case and continues the treatment of the patient. WBT access is provided to every computer connected to the Internet. Minor installation of the student computer is required only once with freeware programs embedded in normal web pages on the Internet. This technique enables the use of standalone computer based training software for web based distance learning.

3F6 Nurse practitioners in minor surgery - an innovative approach to training

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The Nurse Practitioner in Minor Surgery is an emerging role in the UK, attracting professionals from hospital practice and primary care. This innovative course aims to provide the necessary knowledge, psychomotor and interpersonal skills. Key components to be outlined and discussed in this presentation include: (1) Structured pre-course practice - a self-contained wound closure kit (skin pad, instruments and multimedia CD-ROM) allows learners to identify learning needs before attending the formal course, thereby optimising expert tuition. (2) An intensive three-day course - combining tutor-led workshops (using bench top models and a multimedia teaching program) with communication skills training for surgical procedures (using role play and group work). Scenario-based formative assessment (simulated patient linked to an inanimate model) uses a mole-excision task to provide learner-centred feedback in a realistic quasi-clinical context. (3) Delayed summative assessment - similar scenarios 3 months post-course explore deep learning and provide an objective measure of competence.

3F7 3D models of pathology specimens

J McClure
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Spatial learning is important in medical education and, in pathology, this has been by the study of retained, preserved organs. There is increasing public debate about this, prompting a search for electronic alternatives. The creation of 3D images, therefore, has been attempted by (i) a laser scanning range finder and (ii) photogrammetry system (tricorder and Minolta 3D 1500 digital camera). Solid porcine organs (heart, liver and kidney) have been used to produce images of photographic quality which can be overlaid or “texture mapped” onto the 3D geometry of the virtual organ. Both methodologies produce high quality images. Pathological samples of human cardiovascular diseases have been processed to produce a library of images capable of being studied in a number of display formats – desktop VDU, desktop VDU with LCD shutter glasses (3D enhancement), reality room (mono/stereo) and CAVE (stereo).
Patterns of interaction on a supported online programme for medical trainers

Andrew Sackville* and David Brigden
Edge Hill College of Higher Education, Teaching and Learning Development Unit, St Helens Road, Ormskirk L39 4QP UK

This poster outlines a model of five major types of interaction which need to be considered when designing a supported online programme using a VLE. It then presents research on the patterns of interaction which have actually taken place over the first two presentations of a ten month programme aimed at doctors who have part of their role as delivering training to students, trainees and junior staff in a clinical setting. It uses data to identify the major types of learners the programme attracted; and it suggests the lessons that online programme developers need to consider when designing their programmes.

Rapid change in physician behaviour in response to early electronic release of journal articles: the power of pre-release

Simon Jackson* and Jafna Cox on behalf of the ICONS investigators
QE II Health Science Center, Department of Medicine, Dalhousie University, Halifax, Nova Scotia, Canada

Improved clinical performance is a major outcome of continuing medical education. The literature reveals significant delays and wide gaps in the application of new knowledge to clinical practice. We hypothesised that early electronic communication of landmark clinical trials may lead to rapid change in physician behaviour. Utilising a prospective disease management registry (ICONS), we observed rapid and clinically significant change in prescribing practice throughout the province of Nova Scotia, Canada in temporal association with electronic pre-publication release of clinical trial data. No change in behaviour was observed in a similar trial not electronically pre-released. Our results reveal that rapid change in behaviour does occur. Electronic pre-publication release appears to represent a new vehicle to effect change.

Multimedia educational material as a support to training in Nephrology

Safwan Escal*, Francisco Lupiáñez, María Milans, Raquel Martínez and Andrés Sampredo
Servicio de Urología, Ed. Polívalente A, Hospital Central de Asturias, 33006 Oviedo, Spain

The incorporation of Communication and Information Technologies (ICT) at university level is generating the development of new educational resources. The Urology Department of the University of Oviedo has fostered the creation of Multimedia Educational Material (MEM), available on the net, as a complement to face-to-face learning. This MEM has been designed by a multidisciplinary team, Image Processing and Multimedia Technology Services (IPMTS), formed by specialists in urology and experts in pedagogy, computing and hypermedia. It is expected that, by means of the interaction with this MEM, the students will not only be able to deepen their knowledge of urology but to interpret and use its most usual procedures and techniques and work within the scientific and social content of this discipline as well.

How can we involve the information and communication technologies in the medical education process?

Rui Costa*, Pedro Sousa, Leonor Gouveia, Montserrat Fonseca, Isabel Neto, Manuela Campos, Anna Macedo Gabinete de Educação Médica, Faculdade de Ciências da Saúde, Universidade da Beira Interior, Rua Marquês d’Ávila e Bolama, 6201-001 Covilhã, Portugal

E-learning and the use of technology now an important aspect of medical education. The new medical school in Portugal (Covilhã) is implementing an innovative approach to teaching and learning, and we use the new technologies as a fundamental tool. The use of new technologies under teachers’ support will be able to help the students comprehend difficult-to-understand concepts and engage in learning, providing the students with access to information and resources and meeting their individual needs. In order to meet our educational objective, we have designed and developed our own INTRANET. To make the most of these technologies it is necessary to train the faculty in the skills of developing learning and teaching materials using new information technologies. We describe in this presentation some methodological strategies and actions addressing faculty’s needs.

CAMPUS-Pediatrics: An interactive case-oriented, web-based training programme for graduate and postgraduate education in pediatrics

S Kopf, S Huwendiek*, B Hocker, R Singer, J Riedel, F J Leven, G F Hoffmann and B Tonshoff
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CAMPUS-Pediatrics is an interactive, multimedia-assisted, web-based educational computer program, which uses authentic pediatric case presentations in a virtual Children’s Hospital to test and improve the case-solving competence of medical students and residents. In contrast to other case-oriented training systems, CAMPUS offers a great variety of investigative, diagnostic and therapeutic options. The user has to treat his patient in a realistic way in a stepwise fashion, leading to a maximum gain of active knowledge. For self-testing, a virtual tutor asks interactive questions. As users have a different state of knowledge, CAMPUS provides in a context-sensitive fashion systematic knowledge (expert commentaries, textbook on CD-ROM, internet libraries), if required. CAMPUS-Pediatrics is well-integrated in the medical curriculum at the University Children’s Hospital’s Heidelberg, Freiburg and Berlin (Charité). In a systematic evaluation in collaboration with the Department of Educational Psychology, University of Heidelberg, CAMPUS-Pediatrics has been graded “good”. Taken together, CAMPUS-Pediatrics is a good supplementation to traditional teaching methods in pediatrics.
PAEDIATOP: distance education for Pediatricians and General Practitioners

I Axelsson* and L Csáky
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The aim of the project PAEDIATOP (Promotion of Advanced Educational Innovations for Training of Paediatrics) is to provide Continuing Medical Education (CME) in evidence based pediatrics to pediatricians and general practitioners in Hungary, Sweden and other countries. The Internet was searched for free, educational tools in pediatrics. The results are given in the examples below (April 2002):

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<tr>
<th>Database</th>
<th>Systematic reviews</th>
<th>Inclusion criteria</th>
<th>Useful pictures</th>
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<td>seldom</td>
<td>Guidelines from US medical societies, incl.</td>
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<td>American Academy of Pediatrics</td>
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<tr>
<td>DermIS</td>
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<td>yes</td>
<td>Click PeDOIA: 2,000 color pictures of children’s skin disorders</td>
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<td>no</td>
<td>no</td>
<td>Recordings of pulmonary sounds</td>
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Links to high quality web sites with systematic reviews, good pictures, and recorded sounds from the stethoscope are of interest for high quality, low budget CEM.
Session 3G  Basic and Clinical Science

3G1  A new view of iMolecules and Cells as a basis of Molecular and Cellular Medicine in the Medical Course of the University of Minho

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School of Health Sciences, University of Minho, Medical School of University of Porto, Campus de Gaia/CP2 - Piso 3, 4710-057 Braga, Portugal

In the Medical Course of Minho University, “Molecules and Cells” constitutes a curricular area aiming to provide basic knowledge for practice of Molecular and Cellular Medicine. This is achieved through a pedagogic strategy allied to a core of contents of 4 modules: (1) the cell and chemistry of biomolecules; (2) from metabolism to cellular bioenergetics; (3) basis of molecular genetics; (4) organisation of cell compartments (cell cycle/cell death). This is aimed at understanding: (a) that diseases are caused by biochemical changes in cell systems; (b) the importance of laboratory training in emerging technologies; (c) that practice of Medicine is based on knowledge of Molecular and Cellular Medicine; (d) that genomics, proteonomics and metabolomics are the foundations of Molecular and Cellular Medicine. This constitutes a new approach to dealing with basic principles of “Molecules and Cells” constituting an adequate interface to other curricular areas of the Medical Course.

3G2  An example guided overview of the cell cycle and cell differentiation for first year medical students

Jordi Atimiras, Isabel Neto*, Ana Macedo and Ignacio Verde  
Universidade da Beira Interior, Faculdade de Ciências da Saúde, Rua Marquês d’Ávila e Bolama, 6201-001 Covilhã, Portugal

The standard coverage given to embryology, cell cycle (including regulation), apoptosis and tissue differentiation usually encompasses lectures in varying order. Despite the extreme importance of these concepts for the training of a medical student there is not an effective and synoptic format in the literature to facilitate the comprehension of such basic mechanisms, which constitute the basis of many current therapeutic strategies (namely in the stem cell reconstruction of organs or chemotherapy). In our organisation of the Cell Biology module (first year medical students) the topics cited are delivered in the same pedagogic unit (two weeks, corresponding to 32 h of tutor orientated discussion groups), emphasising its therapeutic relevance. The tissue source of stem cells (morula or undifferentiated cells in adult tissues) is used to cover embryology (up to the gastrulation stage) and also the regeneration of certain tissues and the differentiation process. Growth factors and chemotherapy protocols are used to introduce and discuss the cell cycle and its regulation.

3G3  A favourable model of teaching provides better relationship in the universe of education

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The medicine course began in 2001/2002 at UBI. The authors will present their teaching experience of “Anatomy of the Head and Neck”, aimed at the global clinical perspective and supported by a close relationship with the students. This integrative experience is one part of the organ-system-orientation module. From this experience, based on learning by objectives, the authors realised that the relationship teacher/student is improved, as well as the transmission of the practical medical and human experiences. The authors realised that this behaviour is not only part of the educational process but should be extended beyond the school, being present at all times and supporting all the behaviours and realities of the human relations in their medical environment as well as in life. In other words, the authors emphasise that an environment of affection should be the basis of educational procedures.

3G4  New methodologies of university teaching - the Anatomy case J Alfonso* and F Ferreira

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Nowadays the university student is more accustomed to the use of multimedia approaches than to the development of reflective thought. More appealing and stimulating than getting the knowledge essentially or exclusively on the basis of literary texts is getting the same knowledge using modern technologies of information. In this context the University needs to fight the traditional resistance to analyse its teaching methodology and look for new methodologies that make learning a better (and easier?) process. This is particularly true in the case of sciences such as Anatomy, traditionally boring and with concepts hard to integrate, since they are essentially descriptive – with the help of multimedia programs such as the one now presented it is possible to make learning more appealing and, at the same time, make the integration of knowledge more immediate.

3G5  Should we teach Abernethy and Zuckerkandl?

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Eponyms have been excluded from the official
anatomical terminology in the past. The latest edition of Terminology Anatomica, however, includes an index of eponyms, acknowledging continued use, especially by clinicians. To find out which anatomical eponyms should be part of active teaching, a Medline search of 419 eponyms in gross anatomy and of the Latin and English terms designating the corresponding structures was performed. The number of hits for a single eponym ranged from 0 to 23,410 (median 3). 230 eponyms produced less than 4 hits, and 150 did not appear at all. Of those titles and abstracts using eponyms, 79% did not supply the English or Latin term. In conclusion, many eponyms are unnecessary knowledge for medical students and could be confined to textbook indices while some should be a part of a student’s active knowledge. In referring to our question, the usefulness of a literature search will be discussed.

A new approach to learning cell biology in Universidade da Beira Interior, Portugal

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We organise the Cell Biology module enhancing the functional aspects and also making approaches with clinical matters when possible. The topics of the Cell Biology module were organised in four pedagogic units (PU) developed during two weeks each: First week: students had discussion groups, practical works (to clarify and complement some theoretical subjects) and self-learning. Second week: the students had discussion groups, self-learning and finally the evaluation of the subjects (knowledge, skills and attitudes). We make groups of students that discuss the contents in order to increase their participation in the construction of their knowledge. This was made with the orientation of the professors/tutors during the classes. The students also have a self-learning room that they use in order to consolidate their knowledge with the help of different tools (books, CDROM, Intranet, Internet).

The integrated learning of Biochemistry at the innovative Medical Faculty of Universidade da Beira Interior, Portugal

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Traditionally, Biochemistry as a discipline is taught during the first two years of the medical curriculum, structured as one or two courses, either year-long or semester-long. In this traditional organisation, biochemistry starts from a cellular perspective and then progresses to the tissue, organ or system levels. In the Objective Based Learning model adopted by the Faculty of Health Sciences at the Universidade da Beira Interior (UBI), biochemistry is integrated within the different systems of the body and the contents of the different disciplines (anatomy, physiology, histology, embryology, biochemistry) are found distributed in different modules that are spread during the first two years of the medical curriculum. In particular, learning of structural and functional cell biochemistry is carried out within the broader topic of Cell Biology, offered at the beginning of the first year. It is based on the recovery of previously acquired knowledge during high school, with further addition of contents and always from a functional applied clinical perspective.

Teaching Molecular Biology to medical students

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Molecular biology is playing an increasingly important role in the medical sciences. Training medical students to understand the basic concepts of this science and its applications in medicine is essential. Our department is involved in teaching Molecular Biology of the Cell to first year medical students at Lisbon University. Teaching is based on lectures and a practical course where students contact with the lab and practise molecular biology techniques. Developing scientific reasoning and an interest for biomedical research is an essential goal. In the practical course students are presented with a scientific problem involving the identification of a disease gene, and the search for its function. Lab work is directed towards the functional characterisation of the model gene. Problem oriented seminars provide the opportunity for developing strategies to identify new disease genes and developing diagnostic and therapeutic approaches. Usage of genome databases and bioinformatics tools have been introduced.

Evaluation of adult learning in an advanced course on Applied Biochemistry

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The Advanced Courses on Applied Biochemistry (ACAB) have been developed in the Institute of Biochemistry since 1986. The aim of the present work was to evaluate the adult learning gains of the 5th ACAB. The basic training of the 13 participants ranged from Medicine to Pharmacy, Chemical Engineering and Biology. The gains were evaluated applying two anonymous questionnaires: (i) An initial with two open questions regarding the reasons for the attendance and the Course expectations; (ii) A final one elaborated accordingly to the results of the first questionnaire, containing 4 conceptual questions. The answers obtained about the reasons of attendance and the fulfilment of the objectives indicate a full satisfaction about the learning of new knowledge and their application. Regarding the interpretation and integration of new knowledge, the answers indicate a lower
achievement. The evaluation of the 5th ACAB in terms of students’ gain were positive and the Course objective was attained.

3G10 iOrganic and Functional Systems: a case of successful negotiation between contents and educational strategy in the Medical Course of the University of Minho

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In the Medical Course of Minho University, Organic and Functional Systems (OFS) constitute a unit in Phase I, in the 2nd semester of 1st year (13 weeks) and 2nd year (30 weeks). OFS is developed following an integrated sequence, such that morphology, biochemistry and physiology are displayed with involvement of clinical specialities. Contents are organised in modules of objectives (2-3 weeks) developed in a sequence of different phases: (I) clarify concepts; (II) self-learning; (III) group discussion; (IV) tutor-supported learning; (V) assessment. Acquisition of knowledge, skills and attitudes should constitute the tools to be used at the end of Phase I: as the basis for understanding the scientific principles of clinical situations; for study of preclinical and/or clinical subjects correlating structure and function, as part of the tools for study and diagnosis of clinical situations; for problem solving; and in the development of the more specific capabilities communication.

3G11 The educational challenge in integrating basic and clinical approaches in a program of Neurobiology in health sciences

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The discipline of Neurobiology was planned in 1999/2000, for the curriculum of several courses in Health Sciences by teachers with expertise in Neurosciences. This discipline aimed to improve education in Neurosciences by incorporating the basic sciences within a framework of clinical subjects revisiting basic topics and integrating them in a set of clinical subjects dealing with clinical neurosciences and neuropsychology. The program lasted 12 weeks with 3-weekly hour-long interactive sessions. With a few adaptations the program has been delivered in the last three years in 2 different schools of Health Technologies. At the end of the program - developed using an action-research approach - a questionnaire was completed by the students and the outcomes showed that integration of the basic with clinical subjects obtained the highest approval; the level of organisation was also highly quoted, mainly due to the educational foundations underlying the organisation of the program.

3G12 From Medical Microbiology to Pathobiology: a 10-year experience of change in an old university setting

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There has been medical education at Lund University, Sweden, since the inauguration of the University in 1666. From the original two chairs, one “practicus” and one “theoreticus”, the number of teachers and disciplines increased over the following years and centuries. In 1889, the Medical Faculty decided to introduce a compulsory course in bacteriology. The course, although gradually profoundly modified, kept its name, “Bacteriology”, until 1967 when the term “Medical microbiology” was introduced. In 1992, a major curricular change was implemented at the Medical Faculty, replacing the classical discipline-based courses with a function-oriented, PBL-based curriculum. In this process, medical microbiology merged with i.a. relevant parts of pathology and pharmacology to form the course “Pathobiology I: inflammation/defense/microbes”. The design of the new course has shifted focus to the understanding of pathogenetic mechanisms in a broad sense.

3G13 Planning and implementation of Introduction to Clinical Medicine (ICM)

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The main problem of the traditional curriculum of medicine in Isfahan University of Medical Sciences was a considerable gap between basic medical sciences and clinical courses. In the previous curriculum, students could not learn the prerequisite skills for clinical practice. So ICM was included in the traditional curriculum. ICM is an integrated program beginning after basic medical courses and continues for 2 semesters. It is a “bridge” between the basic medical sciences and clinical courses. During a comprehensive curriculum revision process, ICM was designed to interweave the principles of clinical medicine with the principles of the basic medical sciences. It covers pathophysiology, pathology, pharmacology, as well as physical examination and history taking skills, preliminary surgery courses. It also includes problem-solving tutorials. It aims at providing students with the knowledge, skills and attitudes needed to start the journey ending as general practitioners and increases the effectiveness of their clinical clerkship.
**Session 3H**  
**Special Subjects**

### 3H1  
**Human Genetics in the medical curriculum**

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With the completion of the human genome project a milestone for research in human genetics has been achieved. This work is generating a new surge of experimental studies. Exciting prospects arise for the application of this knowledge to medical clinical practice. On the other hand studies show that (primary care) physicians misinterpret a lot of genetic test results. Medical educators are facing two problems: (1) to strengthen the knowledge about genetics among practising physicians by ensuring the quality of continuing genetics education; this is highly dependent on the motivation of this group; (2) to increase the emphasis on genetics in medical school curricula. Since changes in medical curricula are zero, a major problem for the latter undertaking is the incorporation of new knowledge into an existing curriculum. The ideas of German University teachers for human genetics are contrasted with the actual presentation of human genetics in regular curricula and in the reformed medical curriculum of the Charité.

### 3H2  
**Lectures for students**

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There is limited time for teaching Psychiatry to 5th year medical students and for practical reasons some lectures are necessary. With the objective of promoting the active participation of the students in the teaching-learning process, and to increase advantages of lectures whilst minimising the inconveniences, we assigned the lectures to the students. At the beginning of the course, 9 topics of the speciality were assigned to students’ groups who worked in a self-directed form with supervision as necessary, with the aim of presenting the lecture to the other groups. Students and tutors evaluated this activity at the end of the course. Most of the students evaluated positively the utility of the method, relevancy of the topics, supervision, assigned time and quality of the lectures. Assigning some lectures to the students facilitated their active participation in the teaching-learning process. This methodology was evaluated positively by students and tutors.

### 3H3  
**Human relationship centered curriculum**

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The reform of the Lisbon Faculty of Medicine curriculum brought in new (core and optional) thematic areas from a perspective focused on the student, on the problems and on community needs. The field of psychology, psychiatry and mental health appears as a vertical dimension with some horizontal integration along the whole pre-graduate curriculum. We describe the strategy adopted to develop a Human Relationship Centred perspective in this area (through the 6 years of training) and the specific interactive methodology used and evaluated.

### 3H4  
**Terminal care teaching: pre and postgraduate experience**

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The undergraduate terminal care teaching in the Faculty of Medicine of Lisbon started with a module in the complementary training in the sixth year from which we describe the evaluation process. Postgraduate teaching started with two multidisciplinary courses organised by the Department of Medical Education, giving opportunity for the creation of the first masters course on palliative care in the country from which we describe a particular teaching-learning strategy and programme.

### 3H5  
**Cultural competency curriculum in the medical school at Lund University**

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The Swedish National Board of Health and Welfare has advised medical schools to include cultural competency in their curricula. This study was performed in order to receive a comprehensive overlook of the current status of goals, teaching and examination on cultural competency at Lund University’s medical school.

We used a methodology that gave us a three-dimensional picture of how cultural competency is dealt with in the curriculum. We did a literature review of course learning objectives, interviewed course directors on their intentions and discussed learning outcomes with students in focus groups. This study allowed us to map the current location of a cultural competency curriculum: how cultural competency is taught, when it is taught, and how it is examined. This mapping, combined with ideas that arose during student and teacher interviews, gave us insight into how the current cultural competency curriculum can be improved.
3H6  Cultural awareness teaching for undergraduate medical students

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In the light of a piece of research undertaken by Bromwich et al (2001), it was found that some Leeds Pre-registration House Officers are ill-prepared in dealing with and caring for patients from different cultural groups. The paper will discuss the findings of one of the questions from a questionnaire that was circulated to all Leeds PRHOs in autumn 2000. The question, which will be the focus of this study, said: “Did the Leeds course prepare you to provide appropriate care for people from different cultures and ethnic backgrounds?” The paper will examine the data generated by the question. A cultural awareness workshop is to be delivered in spring 2002 to 5th year medical students who will be working at a district general hospital where a significant proportion of the population are from different cultural backgrounds. The results of the workshop will be evaluated and the findings discussed at the Conference.

3H7  What medical students expect from their Social Service

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In Mexico, as in other Latin American countries, after students finish their medical study, they spend one year in rural Health Centers; this year is called Social Service. In these small communities, they play an important role, not only as Health Professionals but also as leaders. In an open survey, 66 medical students were asked to answer the question: “What do you expect from your Social Service?” The answers showed that 25% of the students were concerned about their ability to establish an adequate physician-patient relationship. The physician-patient relationship is a difficult topic, and is not clearly specified in our curriculum. The fact that one in four students is concerned about this must be considered in curriculum planning.

3H8  Smoking cessation education for undergraduate medical students

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Smoking remains one of the greatest public health issues. 5% more smokers will quit following brief advice from their general practitioners. UK government guidelines now advise that GPs provide opportunistic smoking cessation advice to all smokers. However, research indicates barriers, including inadequate health education training, to the delivery of smoking interventions. This issue was addressed at the University of Aberdeen. Collaboration between the departments of Health Promotion, Medical Communication and Respiratory Disease enabled the design and delivery of an interactive seminar to undergraduate medical students. Pre- and post-seminar responses to a Smoking Cessation Knowledge Test indicated significant improvements in knowledge. 92% of students rated the seminar as a good/very good learning experience, while 90% rated it as useful/very useful (they would use what they learned in practice). A three-month follow-up of the Knowledge Test is planned to assess if learning has been retained.

3H9  Teaching of health promotion at the Medical Faculty of Szeged

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The poor health status of the Hungarian population strongly indicates that we need more specialists in the field of health promotion. In my poster I would like to explain the prominent role of medical students who are involved in health education and health promotion. Our university curriculum provides students the highest level of medical education which they can utilise in the field of prevention as well. Teaching of health promotion was organised at the General Medical Faculty of the University of Szeged 12 years ago and students have been prepared for this task since then. I would like to present the “Szeged model” and reveal the positive effect of the voluntary help provided by our students on the medical course at our university. We aim to integrate health promotion and community medicine into our official curriculum and the recent activity of our students can be considered as a precursor to modernisation in the medical curriculum of the 21st century.

3H10  Risk of bioterrorism and its influence upon medical teaching

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The events of 11th September and the subsequent anthrax madness have influenced heavily behaviour and perceiving of bioterrorism globally. It was clearly recognised such risks had been underestimated for years. To avoid panic reaction even among physicians, a system of training procedures has been established. The first level included Regional Public Health Officers, the second level District Health Officers and the third level General Practitioners. Different programmes for each level have been adopted. At the Public Health level, management of mass casualties, the role of an integrated emergency system and epidemiological countermeasures were stressed. GPs were trained as the first line contacts in diagnostics, treatment, reporting and handling specimens for labs. The next “advanced” level was developed for people from specialised facilities and volunteers. A new textbook was published, too. In a very short period the expert knowledge has been improved significantly in comparison to the previous period.
3H11 How the history of medicine can enhance medical education

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A recent survey of Anaesthetists showed that the vast majority felt that the history of medicine remains both interesting and relevant today. The question then is: how can it be usefully employed in an already overcrowded curriculum? Curriculum itself is very difficult to define accurately. However it does embody the subjects and information, the understanding of which is crucial for a given educational purpose. In this respect history can provide the background and perspective essential for a true grasp of the art of medicine. Furthermore, if it is taught in a way that emphasises the ‘why’ rather than the ‘when’ it has a unique ability to enhance critical evaluation and teach reflective medical practice. These factors are essential if we are to maintain, at least to some degree, the ‘professional artistry’ approach to practising medicine rather than the ‘technical rational’ one.

Session 3I Postgraduate Education

3I1 The Swedish Medical Association logbook for the pre-registration training

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The Swedish medical undergraduate training extends over 5 1/2 years. In order to work independently as a physician a registration (medical licence) is needed. The registration is obtained after successful completion of the pre-registration training (AT) following after the graduation from medical school. The “AT” extends over minimum 18 months and is fulfilled by working as a physician under tutorship. The “AT” should include at least 9 months work within medical fields pertaining to internal medicine and surgery, minimum 3 months within psychiatry and minimum 6 months within family medicine. In addition to these time specifications there is a formal description of the goals and objectives pertaining to the “AT” training, approved by the National Board of Health and Welfare. In order to give advice and support to the junior doctors on the planning and realisation of their “AT”, the Swedish Medical Association and the Swedish Society of Medicine have developed a logbook for the AT-training. The main intention of the logbook is that the doctor at the start of the AT-training should have a clear picture of the requirements concerned and what skills, knowledge and attitudes the doctor should possess once the training is finished. The logbook should also serve as a support for the doctor in discussions with his/her tutor and head of department/clinical medical director.

3I2 Is there a future for pre-registration house officers (PRHOs) in general practice in the UK?

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In the year following graduation from medical school, the pre-registration (PRHO) year has historically consisted of 6 months surgery and 6 months medicine. More recently, rotations have been established which comprise 4 months in medicine and surgery with the remaining 4 month period being spent in another speciality. One of the speciality options is general practice. To review the value of the PRHO experience in GP a national (UK) conference was held in Edinburgh in March 2002. Highlights of the GP rotation include communication skill development, continuity of care and the educational experience. Concerns raised by participants were risk management, trainer recruitment and patients’ views. Research on “what do patients think of seeing PRHOs?” is ongoing. The conclusion of the meeting was that the GP rotations are popular and educationally valuable but may not be viable because of the additional funding required to support this experience.

3I3 Critical moments in trainee education: the telling space

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Typically, trainee doctors learn by presenting cases to consultant trainers and consultant trainers teach trainees through telling the case story which illuminates the particular, important learning outcomes. However, consultants from different professional viewpoints and experiences and different trainees do not necessarily ‘see’ the ‘case’ the same way. Nor do they necessarily draw the same conclusions. It is this moment in time where space is created within the busy schedules of professional practice that is critical to ‘training’, professional development and the formation of professional identity. Drawing on three funded research projects covering fifteen specialities I shadowed twenty consultants and trainees analysing in detail the processes of teaching and learning within what I call ‘the telling space’. I will present the implications of this research for (a) employing case presentation as a learning tool; (b) improving the quality of consultant-trainee educational encounters; (c) tailoring teaching strategies to trainee needs.
New system of postgraduate medical training in Hungary
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In Hungary, postgraduate medical education was centralised until 1997 when the Higher Education Act empowered the Hungarian medical schools to organise postgraduate medical training. Recently the government passed appropriate regulations to facilitate postgraduate medical and health sciences education catching up with European norms. This raised new requirements for university medical schools and postgraduate education centres were established with the task of organising the residency programme for medical specialisation. The financial support in the first two years is provided by the government and the remaining period is covered by the trainee’s final working institution. New curricula were elaborated for trainees. Quality control rules have been set up and permanent supervision has been established by the National Council of Medical Postgraduate Education. At governmental level this Council is also responsible for supervising the correct distribution of the specialists in different regions and it determines the number of positions available annually.

Goals for postgraduate training in Gynaecology: the missing link
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These days, the goals for training registrars seem to be better defined. The Dutch Society of Obstetrics and Gynaecology has written terms of knowledge and skills that should be met at the end of six years of residency. We assessed these terms in order to answer the question whether the learning process should indeed consume six years. Our calculation showed that the terms could be effectively met within 3 years of residency. However most teaching professors in O&G claim that 3 years of residency would be insufficient. We assume that besides the terms of knowledge and skills another set of goals for successful training would exist: the missing link. We put forward the hypothesis that the missing link is the integration of knowledge and skills. A dozen teaching professors were interviewed to test this hypothesis. The results of this inquiry will be presented at the Lisbon AMEE Conference.

Bioethical Centre activities of the Lisbon Faculty of Medicine
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The Bioethical Centre of the Lisbon Faculty of Medicine was founded in 1998. The main issues are the following: (1) Two years courses, in order to obtain a Master Course degree; (2) The teachers of these courses belong either to the Portuguese University or to other international Universities. Organisation of seminars on such themes as the following: Ethical committees, Bioethics and Aids, Globalisation and Ethics, End of life problems, Children’s rights, Bioethics and Migrations, Bioethics and religions. (3) The Bioethical Centre organises
specific training seminars and workshops for members of bioethical committees. (4) The Bioethical Centre publishes books on contemporary Bioethics in Portugal

319 Changing attitudes in Oncology and Palliative Care: from a ibatoni to a three-legged race

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Cancer patients are often transferred from oncologists to palliative care physicians in the terminal phase. In Cheltenham a “shared care” approach has been adopted with referral at an earlier stage. This may appear slower, more uncomfortable and is different from models experienced by registrars in other hospitals. An oncologist, palliative care physician and registrars from both specialties met monthly to discuss current inpatients. The oncology, palliative and ethical issues were analysed and the registrars were asked to write a paper on the themes emerging from the discussions. Evaluation was by questionnaire following four sessions and by independent review of a video of a session by a medical educationalist. Participants reported increased knowledge of oncological, palliative and ethical principles, an intention to apply them, a greater understanding of the perspective of the other specialty and identified the need to reduce the divide between the specialties as an important theme.

312 Higher specialist training in Geriatric Medicine, North West Deanery

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We investigated the Geriatric Medicine Specialist Registrar training in the North Western Deanery, documenting how training in ten core topics was delivered. We envisaged a more co-ordinated approach might avoid gaps in teaching, often found at annual assessments, even late in a doctor’s training. A questionnaire assessment tool was developed. Grades for eighteen relevant hospitals in each topic were collected. We found examples of excellent experience, particularly stroke and rehabilitation areas. Also topics where training is patchy, such as continence, long term care and intermediate care, with too few centres teaching them well. With this finding, it was impossible to simply rearrange tracks to redistribute experience, one of the initial project objectives. Instead recommendations are made which will enable the track directors to identify what exactly trainees require to ‘pass’ in these problem topics, develop training centres and direct them to where such training could be offered.

310 When is postgraduate education happening?

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In postgraduate education, clinical work and clinical education are inseparable. Asking trainees what they have learned during a working day often gives diffuse answers. In this project five trainees in anaesthesiology specialist training at Vejle Hospital in Denmark have registered all their episodes of giving and taking education day and night through a month. The trainees have registered where, when, for how long and with whom the episode has taken place. The subject as well as the follow-up on the episode has been registered. The trainee has estimated the level of participation and the subjective value of education on an 8-point scale. The results will be presented on the poster. In the department the results will be a part of an educational account.

311 AHA!

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During a two-year educational project at Vejle Hospital in Denmark, physicians at three departments have registered AHA-experiences day and night a weekend. Throughout one year this registration has been repeated four weeks in all. An AHA experience is defined as an experience where the physician achieves a skill, subjectively is becoming better, realises coherence or is becoming wiser. The physicians have registered when and where the AHA experiences took place, and who was involved. Also the level of novelty is registered. The registration has been done partly on paper and partly electronic using handheld computers. The registration will give a picture of when, where and between whom education is happening during clinical work. Results from the registration-weeks will be presented.

313 Morning report: an analysis of curricular content and comparison with national guidelines

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Morning Report is a long standing tradition for internal medicine residency programs, but format and content vary greatly and have not been compared to any accepted curriculum standards. The Federated Council for Internal Medicine (FCIM) Task Force on the Internal Medicine Residency Curriculum has published curriculum guidelines for residency programs. We compared our institution’s Morning Report topics with FCIM curriculum guidelines to determine the feasibility and validity of these guidelines in a residency program. All 583 Morning Report conferences over three years were reviewed. With the exception of general internal medicine topics, between 60-86% of all FCIM organ and system competency focus areas were the subjects
of a Morning Report during the study period. The content of our Morning Report conferences closely paralleled FCIM guidelines, suggesting that the FCIM guidelines are feasible and valid. These guidelines can provide guidance for Morning Report content.

3114 Vocational training for dentists - moving forward

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The limited work evaluating vocational training (VT) for dentists indicates that programmes of VT vary considerably. Causes suggested for variation include the different pedagogies, aims and methods prioritised in VT and the variable quality of trainer-trainee relationships. In contrast to most existing work, this one year project - interviewing trainees across their first year of work - was qualitative, gathering in-depth information from trainees at regular points in their first postgraduate year. Two main conclusions were drawn: (1) strong benefits may emerge from the tutorial support of an experienced dentist, though experience of trainees differs greatly; (2) skills of new dentists differ, depending on the nature of undergraduate training - there is therefore a need for a skills audit at the beginning of the year. Continuing work will examine the nature of the trainer-trainee relationship and skills needed by trainers, and the content and scheduling of taught elements of VT.
Session 3J  Continuing Professional Development

3J1  Results of a needs assessment survey in Psychiatry
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At the time the Royal College of Physicians and Surgeons of Canada was putting into practice its Maintenance of Certification Program (1999-2000), the Québec psychiatrist association (AMQP, Canada) realised a needs assessment survey for its members, with the aim of a better targeting of their continuing medical education. The objective of the study is to present the needs assessment tool (characteristics, distribution mode), as well as the profile of psychiatrists in Quebec, their educational needs and their informatic utilisation. Among the 1194 psychiatrist in Québec, 580 (49%) completed the survey. These identified notably educational needs in regard to cognitive therapy (46%) and personality disorders (42%). A needs assessment survey is a critical step in continuing medical education planning. With its participation turnout, the survey realised will allow AMQP to plan professional development according to the needs identified by 49% of its group.

3J2  Assessing continuing education need of Pharmacists
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A cross sectional study was designed to assess the needs and interests of Isfahan pharmacists with respect to continuing education (CE). The questionnaire of this survey consisted of 58 questions in five domains (knowledge, pharmacy practice, communication skills, pharmacy management and CE methods). It was distributed between 183 pharmacists with 82% response rate. Results indicated the greatest needs for new therapeutic approaches, essential comments on drugs, herbal medicine formulation, anticancer drugs, use of computers in pharmacy, accountancy and management skills of pharmacy in the above domains. They suggested a change in continuing education, using other methods instead of lectures and improvement of CE content (more applied community oriented information). These survey findings can be used by CE providers to develop CE programs of most interest to pharmacists and target them to more efficient, applied contents.

3J3  Continuing Medical Education network in Isfahan University of Medical Sciences, a solution to overcome shortage of human and financial resources and improve the quality indicators

Tahereh Changiz
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A mandatory CME act was established ten years ago in Iran. Accordingly, every medical professional has to earn 25 credits annually in order to be recertified in 5 year periods. Medical universities are responsible for management and quality control of all CME activities at the provincial level. In most cases they also act as CME providers. Therefore they are faced with shortage of resources to support such a huge demand for CME programs. Also, improvement of quality indicators remains a main concern. We planned a CME network in Isfahan University of Medical Sciences and Health Services that includes all professional and scientific associations, academic departments and insurance organisations to serve the population of 5,000 medical professionals in a convenient manner. This network benefits from technical expertise of the University Educational Development Center, faculty members, university spare facilities and financial support of private and volunteer organisations. The network is utilised and served by the public health sector (at all levels) so that all health centers act as a CME node. The model with details of procedures and evaluation results may be used for CME management in developing countries.

3J4  New evidence supporting the use of SCRIPT Concordance Tests in small group CME activities
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In the last few years, CME workshops based on SCRIPT concordance tests (SCT) have become increasingly popular in Canada. This innovative educational method allows educators to conduct ongoing assessment of participants’ demonstrated learning needs in order to focus the activity around these needs. SCT-based workshops constitute an application of the recent advances in cognitive psychology in the assessment of specific clinical competencies. However, there is no data on the effectiveness of this new educational method. This poster reports on the results of a study designed to compare the effectiveness of a SCT-based workshop with a traditional workshop on the same subject. Results demonstrate that both educational methods are effective ways to improve knowledge of physicians in a specific clinical area and provide the first evidence supporting the use of SCT as an alternative method to traditional workshops in medical education.

3J5  Learning opportunities for academic specialists

- 4.49 -
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This study provides the first description of learning activities undertaken by specialists working in university-affiliated teaching hospitals and their perceptions of the value of learning opportunities available in that practice environment. In June 2001, 98 specialists representing 19 medical and surgical subspecialties responded to a survey conducted at the McGill University Health Center. Learning activities used in the previous 12 months were generally consistent with the literature, with reading and attending hospital rounds being the most frequently used. In contrast with the literature, formal and informal consultations with colleagues, teaching, computer searches and patient interactions were also frequently used. Academic specialists placed a high learning value on all of the above activities. Self-directed activities that allow assessment of practice and reflection were among the least frequently used and were perceived as having low educational value. However, perception of their learning value was higher amongst those who used them.

Parallelism and complementarity learning in continuing education
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Adult learners use various learning methods to fulfil their specific needs in their day-to-day profession. The FMOQ, Family Physician union organism, provides two parallel cycles in continuing education of 24 months length, each cycle being moved forward twelve months. In this pattern, the practitioner can update different distinctive points from his practice such as group or association activities (medical convention) or individual process (reading). He/she can choose the points and the way that will be appropriate for his/her learning style (Kolb). The Family Physician committee, following andragogic principles, supervises each activity: target audience identification, learning objectives, current adapted methods with objectives and activity appraisal. The activity appraisal analysis allows us to improve the product in the next cycle. The general practitioner taking part in the learning cycle updates his/her knowledge, skills and attitudes, ultimately belonging to the Quebec general practitioner group.

CME Department of the College of Physicians of Barcelona: evolution of activities and participants' profile
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The objective was to analyse the evolution of CME activities issued by the CME Department of the College of Physicians of Barcelona (CPB) and their participants' profile. The data obtained between 1994/95 and 2000/01, by means of reports and validated questionnaires, were analysed and compared. The total amount of supplied courses and participants has increased (273.7% and 419% respectively). Between 1995-2001, the percentage of women remains the same; the average age goes from 34 to 40; most of the participants have a regular job and reside in Barcelona’s province. In 2001, 54.7% of students participated in Computing, Internet or distance courses. It is concluded that: (1) a greater supply of activities in distance and face-to-face education provides access for more extensive groups of professionals; (2) Evolution of the participants’ profile shows an older professional, interested in more operative, intensive and flexible courses; unlike the youngest participant, interested in undergraduate subjects (1994).

Peer appraisal in General Practice - a UK view of how and why
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Peer review of performance has not been routine in UK general practice. However, some general practitioners (GPs) are setting up peer appraisal systems within their practices, acknowledging the value of shared reflection and feedback to identify learning needs and plan continuing professional development. This has not been fully evaluated although its potential contribution to professional education and development is acknowledged. The authors carried out two studies on peer appraisal in 550 GP practices in Northern England in 1998 and 2000. The content and process of peer appraisal activity in these practices was described, and the changing attitudes to peer review over this two-year period were documented. The aim of this presentation is to draw some conclusions from the study findings and the authors’ own experience of participating in regular peer appraisal to provide some answers to the questions ‘Why do it?’ and ‘How to do it?’.

What do General Practitioners think about annual appraisal? A questionnaire based cross-sectional study in SE Scotland
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This survey of all Lothian general practitioners’ views on appraisal found that as long as time is protected for appraisal; that resources are made available to allow the personal needs identified by the process; and the process is sensitively handled particularly with regard to confidentiality by a trained colleague they trust, most general practitioners will accept and even welcome appraisal. More than 80% of those who replied thought that appraisal should include successes and difficulties in work, obstacles to improved working, learning needs in relation to work, career ambitions, goal setting for the following year, review of previously set goals and complaints made against them. The most acceptable
option was for a GP appointed by the director of postgraduate education in general practice although a practice partner was the most frequently “preferred” option.

3J10 Evaluation of medical doctors before appointment as consultants at Danish hospitals

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In Denmark, all consultants are evaluated, prior to appointment, by regional committees. To be appointed a consultant in Denmark, your education must meet certain demands described in paragraph 14 of the law of medical practice. A regional committee consists of three consultants from the medical speciality of the applicant. One of the consultants must work in another hospital unit. This colleague has to secure the objectivity of the evaluation. The basis of the evaluation is a description of the department and of the vacant post. The description includes the professional function of the department, including expert functions, national or regional medical function, and pre- and postgraduate educational obligations. The professional evaluation consists of an appraisal of medical authorisations, clinical and scientific skills as well as educational experience. Administrative experience is not evaluated. The regional committee makes a conclusion, which is submitted to the National Board of Health. At the Board all applications for consultants in Denmark are evaluated and a conclusion is made within a 10 days time limit. The evaluation is called §14 after the law/report.

3J11 Changing physician behaviour: the dramatic effect of the HOPE trial on Ramipril prescribing

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Changing physician behaviour through a variety of continuing education strategies has met with limited success. In an attempt to further understand the drivers of physician prescribing behaviour and their interpretation of evidence, we examined the impact of the release of the Heart Outcomes Prevention Evaluation (HOPE) trial results using linked administrative databases of over 1.2 million elderly residents in Ontario, Canada. New prescriptions for ramipril rose over 500% after the HOPE trial. Ramipril significantly increased in market share after the HOPE trial for patients with diabetes (p<0.01), newly treated hypertension (p<0.01), non-diabetic renal disease (p=0.02) and congestive heart failure (p<0.01). The impact of the HOPE trial can serve as a lesson to physician educators in trying to effect change in physician behaviour. Physicians appear to be responding, if not over interpreting evidence from clinical trials even before publication in print journals. It is likely that a simple well-advertised message based on evidence can effectively produce change in prescribing behaviour.

3J12 Women’s ways of learning for CME

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The number of female physicians in practice in North America is growing. These demographics are not reflected in attendance patterns of female physicians at CME events or in the number of women acting as CME faculty. The results of a two year Canadian study on female family physicians and specialists will be presented describing women’s experience of what constitutes effective CME. The data that have been collected belongs on a continuum. Many men have similar preferences to women in the ways they learn. Many women are content with the methods and approaches currently being used in CME. This being said, the research indicates that many women tend to have their own culture of learning that is based on connection. As most traditional learning is based on some form of hierarchical learning, this orientation towards connection leads to some differences in ways in which women prefer to learn.

3J13 Best practices in CHE

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The objective was to evaluate the impact of a new CHE training program for pharmaceutical representatives on the quality of CHE activities offered by Canada’s Research-Based Pharmaceutical Companies (Rx&D). This program was developed by a Consortium of Health Education, constituted of a group of dedicated professionals from across Canada representing academia (CHE offices of medical schools), industry (Rx&D Canada), and medical organisations (Quebec Council of CHE). This is a comparative follow-up study of pharmaceutical representatives, who finished successfully the training program in CHE. Two comparison groups will be established to evaluate the impact of the new training. The first comparison group will be composed of a cohort of representatives who will get the training. The second comparison group, called the reference group here, will include all industry representatives. This group will be both a historic group and a parallel group. This group will serve to follow the quality of the CHE programs developed by pharmaceutical representatives over time. Measures will be the quality and quantity of CHE programs developed by pharmaceutical representatives according to an evaluation grid; and obstacles encountered by representatives registered during the planning of CHE activities before and after the educational training.

3J14 Teenage depression: how to be aware of the initial symptoms. The story of a CME workshop

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Friday 30 August
The objectives were to help physicians, social and health professionals detect depression in teenagers and to create a relationship of trust with the teen. A 90-minute interactive workshop was developed and offered in all regions of Québec. The workshop uses a videotaped interview with a teenager, followed by interactive presentations with discussion groups. A closed and open-ended questionnaire immediately after the workshop was completed by participants. Between May 2001 and January 2002, 895 people participated in one of the 62 workshops presented in all regions of the province. Out of this number, 600 were physicians; 761 participants completed the questionnaire; 64% of the participants were female and 70% were between 30 and 49 years old. On a Likert scale (-3 to +3), the degree of achievement of the objectives was high 2.09 (SD: 0.69). Participants made 566 comments. Among the comments from participants, 54% dealt with the interview technique with the teenager in order to establish a relationship of trust; 25% dealt with a questionnaire more focused on detection and diagnosis of mental health problems; 6% dealt with the specific estimate of risk of suicide. The participants demonstrated a good achievement of the objectives.

**3J15 The Québec Council in Continuing Medical Education; a joint action organisation**

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Since 1975, the Québec Council in CME brings together members of medical schools, professional associations, licensing authority and pharmaceutical industries and gives them the opportunity to develop a model of collaboration. The mission of the Québec Council in CME is to promote and improve Continuing Medical Education in Québec. Its mandate is to foster discussion and develop agreements between organisations to harmonise their actions; to support training activities for CME providers and to inform physicians of CME activities. The Québec Council also publishes L’Organisateur d’EMC, a quarterly newsletter, the handbook in CME and a CD-ROM of tools for CME providers, a code of ethics in CME, the accreditation criteria for CME activities, a data bank of CME providers in Québec and finally maintains a Website of CME activities offered to physicians.

**Session 3K Assessment**

**3K1 Evidence based Multiskill Assessment Method**

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The assessment methods in the discipline of biochemistry of the nurse course of Atlantic University of Lisbon is based on (i) written examination (EXAM) and (ii) scores on (a) lab activities (LAB); (b) a written report of lab work (REPORT); and (c) poster presentation of results obtained in the lab (POSTER). The aim of the study is to test the hypothesis that each one of the assessed components quantifies different students skills. Classifications of the 60 students registered in the discipline in year 2001/2002 were submitted to the Pearson correlation statistical method. The mean score obtained by the students in each component is around 14 values. However, the classifications obtained in REPORT were negatively correlated with those of LAB ($r = -0.42, p<0.001$) and of POSTER ($r = -0.57, p<0.001$). No correlation was verified between scores of EXAM, REPORT and POSTER. These results showed that in assessing different student activities we evaluate different students skills.

**3K2 Quality of MCQ tests set for medical students taking biochemistry at the Faculty of Medicine, Khon Kaen University, Thailand**

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This research assessed the quality of Multiple Choice Question (MCQ) tests set for the exams of biochemistry courses taken by medical students. We wanted to determine the reliability of the tests, the difficulty indices, the discrimination indices and the effectiveness of distractors. Of the 15 tests, 13 had a reliability coefficient $>0.9 = 0.60$. Two-thirds of the 723 MCQ questions had a difficulty index between 0.20 and 0.80. The questions rated as “quite easy” ($P = 0.61$ to $0.80$), “easy” ($P = 0.81$ to $1.00$) and “fair” ($P = 0.40$ to $0.60$) were $32.5, 30.3$ and $25.7$ percent respectively. Sixty percent of the questions had a discrimination index of $>0.20$ and 72% of the distractors were ineffective. On the whole, the reliability of the tests, the difficulty indices and the discrimination indices were acceptable. The suggestions for improving the quality of the tests included adjusting the distribution of the difficulty indices for each level of difficulty. This could be accomplished by constructing objectives and curriculum contents and developing more relevant questions.
**3K3** Evaluation of results from ethics questions in the Progress Test

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In applying the Progress Test at the University of São Paulo’s Faculty of Medicine, questions on ethical procedures were included. In the first application, there were 30 questions and in the second, 20 questions. The Brazilian medical course was subdivided into three cycles: basic, clinical and internship. The evaluation of results from ethical questions in the first application showed that students in the basic cycle gave correct answers to 67.7% of them, compared with 73.8% for those in the clinical course and 75.0% in internship. In its second application the numbers were respectively 66.9%, 70.0% and 67.0%. The results demonstrated very similar scores for students in different cycles. These preliminary findings indicate that medical students choosing to become doctors have similar ethical principles that are maintained throughout the medical course. The presence of possible bias caused by lack of experience in drafting questions on Ethics cannot be discounted.

**3K4** Perception of assessment by the IMU Faculty

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Pitfalls in assessment may not be the fault of the assessment tools alone. The handlers of tools also need to have the correct attitudes and expertise. This study was done to assess these aspects through a questionnaire given to academic staff of IMU. Thirty-nine out of 58 responded. Twelve had <5 years’ experience; 14 had 5-15 years’ experience and 13 had >15 years’ experience. The consensus was that assessment was a necessity and that the advantages outweighed pitfalls. Criterion-referenced cut-off points were preferred above norm-referenced (26 vs 11). But the issue of cut-off point itself was unresolved. Twelve thought >50% should pass whilst 5 settled for 90%; 14 were undecided. Forty-six responses did not agree to both 50% or 90%. More staff were in favour of formative continuous assessment (25) over summative (17). All agreed that assessments should reflect objectives.

**3K5** Length (number of questions) and validity of the exams

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In the Faculty of Health and Life Sciences at the Pompeu Fabra University in Barcelona, essay questions are used in the exams for most subjects in addition to the MCQ test. In some cases these tests cause tiredness and psychological unease which can affect the performance of the students. In this work we have compared the real results achieved in two subjects which use many essay questions, with the theoretical results which the students would have achieved if half of the number of questions had been used. The results obtained by the students were practically identical. Our conclusion is that the relevance of the questions is of greater importance than how many there are.

**3K6** Continuous assessment: fixed days vs random days

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During the last academic year we introduced a system of continuous assessment which represented part of the final mark of students studying Microbiology as part of their Biology career at the Pompeu Fabra University, Barcelona. There was a weekly evaluation, but the students did not know which day it would be on, as it was programmed randomly. The experience was viewed as very successful not only because of the marks obtained by the students but also because of their level of attendance and participation. As not knowing the exact day of the exam generated a sense of anxiety in the students, we have set a fixed day of the week for them to take it in the current academic year, so the students now know the day of the week it will be on. In our study we will compare the academic performance, level of participation and attendance of the students during the current academic year with those of last year.

**3K7** Performance of final year medical students in cognitive skills according to different curricular structures at the Faculty of Medicine of Ribeirão Preto, University of São Paulo, Brazil - FMRP-USP

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As part of a project of final evaluation of students of FMRP-USP, students educated on the basis of two different curricular structures were assessed by multiple choice tests with a content encompassing five internship areas. A total of 483 students were evaluated (222 - previous curriculum; 261 - new curriculum). The results were: previous curriculum: mean=55.33, sd=8.16; current curriculum: mean=63.12, sd=8.92 (p<0.001). Scores over 70 were obtained by 1.8% of the students from the previous curriculum and by 24.5% of the students from the current curriculum (p<0.0001) and scores below 50 were obtained by 26.1% of the students from the previous curriculum and by 7.7% of the students from the current curriculum (p<0.001). These data indicate that the curricular restructuring of FMRP-USP favoured an improvement of the cognitive skills of the students.
3K8 Preliminary results of a new approach to assessment in medical education at Universidade da Beira Interior

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Assessment determines the extent to which the educational goals are reached, serving to monitor the didactic elements and the pedagogical methods. We believe that the main role of assessment is to set the basis for a value judgement that allows improvement of the pedagogic dimension and consequently is intended to determine the students’ work both in terms of knowledge acquisition and in terms of skills and attitudes. Therefore, a system of periodic assessment was adopted for the Cellular Biology of the Medicine Degree that has a model based on learning by objectives and is divided in pedagogic units with two weeks’ duration. The fact that all the students attended each test allows validation of the results. There were no significant differences, in relation to grades, across the four groups and four pedagogic units, leading to the conclusion that this assessment allows us to appreciate the student’s progress and that the learning is uniform regardless of the subject and the teachers.

3K9 Ethical competence in medical school applicants

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In this millennium, a growing awareness of ethics in practice has made large differences to how doctors practice medicine. Given the challenges facing our future doctors, it is appropriate to assess attitudes towards ethical issues and ethical sensitivity among medical school applicants at all stages in their training. In our research we have sought to measure ethical maturity in pre-medical students and thereafter to continue to test ethical awareness and competence at all stages of the curriculum. We have carried out a questionnaire survey of prospective medical students and would like to report our preliminary findings. These findings will be part of a larger cohort study examining changes in students’ attitudes, beliefs and ethical competence throughout the course of the medical curriculum and extending into the first two years of postgraduate education.

3K10 A pilot test to assess the formative programme for Family Medicine Residents in Catalonia

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Formative assessment allows the detection of progress in learning, the identification of weaknesses and the introduction of mechanisms for educational improvement. In Catalonia, a pilot test was designed to assess the formative program for family medicine residents, before generalising its administration among all Catalan residents, in order to evaluate its feasibility and acceptability. The pilot test was conducted in 17 health centres of Catalonia. In the first part of the test a clinical case was administered to analyse progress in competencies using different evaluation methods. In the second one, residents together with their tutors analysed the first part. Afterwards, both completed a questionnaire on satisfaction. Once validated, the test and the questionnaire have been administered to 400 family medicine residents and tutors, working at 60 different health centres. The results of the satisfaction questionnaire, measured on a Likert scale, for the first 134 participants analysed are: organisation: 8.6 (sd: 1.2), comfort during the test: 8.6 (sd: 1.3), case representative of daily practice: 8.1 (sd: 1.9), information received: 8.2 (sd: 1.6) and good assessing method for tutors: 8.0 (sd: 1.5). Results have proved that formative assessment is feasible and well accepted, and is a good method to improve the learning process of Family Medicine residents.

3K11 Assessing clinical competence during the Internship

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The objective was to assess clinical competence in six areas for Internship students of the Faculty of Medicine. The study design was a descriptive, transverse type. We assessed 434 students who had finished every field rotation in the six areas with the Objective Structured Clinical Examination. The criteria to consider a competent performance level was arbitrarily set up at 60%, both for individual problems and for the exam’s global result. The global average in Family Medicine was 55.6; Internal Medicine 48.3; Surgery 53.5; Pediatrics 53.6; Emergency Medicine 50.5; Obstetrics/Gynaecology 49.6. The best performances were achieved in the dynamic stations, physical examination 59.4 and history taking 52.6. The results show the advantages of this instrument in assessing clinical skills that justifies its application in the formative process. This work shows that it is necessary to improve the acquisition of basic clinical skills through systematic instructional strategies and greater opportunities of learning.

3K12 Comparison of grades for case reports when reviewed by one or three reviewers

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The assessment of the elective clerkship in Groningen encompasses a written case report, graded by one of three independent reviewers. The overall distribution of grades was comparable among reviewers and consistent over the years. However, reviewers might differ in grading of individual reports. Therefore 30 reports from 1999 were regraded by all 3 reviewers in 2001, without knowledge of the prior grade. For each case report the average of the 3 new grades was established and compared to the corresponding 3 new and 1 prior grades. New grades were the same as the corresponding average in 53/90 (59%) assessments, differed 1 point in 36 (40%) and 2 points in 1 (1%). Prior grades were the same as the average in 15/30 (50%) and differed 1 point in the other 15. To improve the reliability, while avoiding the extra workload of multiple-reviewer grading, the scoring criteria were more strictly defined.

3K13 Record of In-Training Assessment for SHOs - evaluation of a pilot study in West of Scotland

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During 2001, the West of Scotland Deanery piloted the introduction of documentation and procedures for conducting Records of In-Training Assessment (RITAs) for Senior House Officers (SHOs). This pilot implementation was evaluated between June and October 2001. The aim of the evaluation study was to collate feedback from a range of stakeholders, which could inform subsequent implementation of procedures and documentation. Qualitative methodology was used to generate comments from SHOs and consultants, and focus group discussions were audio-taped, transcribed and analysed using appropriate software. Overall, consultants and SHOs were positive in wishing the introduction of SHO RITAs to be successful. However, mixed responses emerged around specific aspects of the pilot implementation, including content and criteria for assessment, need for advance preparation, and role of third party. The main findings of the evaluation will be summarised, along with the principal recommendations resulting from these.

3K14 Assessment of doctors in training, for Senior House Officers

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Assessment is an essential part of training. We describe a pilot to evaluate a generic assessment process that has been used on 5 occasions since January 2000 to assess Senior House Officers in Mersey Deanery, UK. The essential components are: (1) a Portfolio Log Book for the collection of assessments; (2) initial appraisal, mid-term review and exit assessment provide the evidence for a RITA review. At the final assessment, the SHO and the supervisor meet in the presence of an external assessor. (3) RITA Grading is awarded after the final assessment. “C” is satisfactory, “D” indicates minor deficits. “E” needs referral to the Deanery. The process has been carried out on five occasions at one large hospital, involving the assessments of almost 350 doctors. Nine doctors were awarded a “D”. No doctors were awarded an “E”. All the other doctors were awarded a “C”. The talk details our experience with assessment and the RITA process.

3K15 Developing nationwide written examinations for professional Psychotherapists

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As the central Institute for the examination of academic health professionals in Germany we started developing written examinations for ‘psychological psychotherapists’ (PP) as well as ‘child and adolescent psychotherapists’ (KJP), two newly established health professions. Written examinations (as part of the requirements for licensure) had to be designed for behaviour therapists, psychoanalysts and other psychodynamically oriented psychotherapists, whose curricula differ partly; moreover, differences between the professions (PP, KJP) had to be taken into account. In cooperation with a board of experts, we elaborated test questions assessing elements of basic knowledge regarded essential for psychotherapists. An 80-item comprehensive pretest covering all relevant areas was developed. Item formats were multiple choice, pick ‘N’ and short answer questions. Pretest scores of >470 voluntary candidates from nearly 50 German university-related or private schools were analyzed. Psychometric results and consequences for future licensing examinations of psychotherapists are discussed.

3K16 Certification examination for foreign medical graduates

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In 1995 we began to use an assessment procedure that is a basic prerequisite for foreign physicians to enter the health care system and obtain legal permission to practice as physicians in the Czech Republic. The purpose of this certification examination is to confirm that the level of clinical knowledge and skills of foreign physicians is comparable to the level of Czech medical school graduates. The examination has four components: computer knowledge test, structured oral exam, supervised six month practice with written report, and a final oral exam. In addition to the assessment of clinical knowledge and skills, the communication skills of the candidate in the Czech language are assessed. This paper describes some results of the examination among candidates since the 1999 implementation of the innovated assessment procedure, including the rate of success in the different components of the examination, and experiences with this type of examination.
Session 3L  The OSCE

3L1  OSCE! Three variations on a theme by Harden

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In 1970 Harden described an examination like no other. The OSCE had parts for actors and choreographed movements like a stage performance. Indeed the dramaturgical metaphor is useful when we consider that performances can be understood on many levels, and that good scholarship can explore deeper meaning in order to shed light on the human condition. Yet, while OSCEs are complex social interactions, most scholars have undertaken superficial ‘fine-tuning’ research to improve performance precision but not to increase our understanding of professionalisation. Alternatively, sociologist Ervin Goffman’s work could be used to explore OSCEs as social dramas that train students to ‘play doctor’. Or philosopher Michel Foucault’s work could show us how OSCEs create and control medical professional power. Alternate perspectives challenge our fundamental assumptions about what we ‘know’ and how we do research. There is exhilaration in understanding a good dramatic performance, and the OSCE need be no exception. We simply need to open our eyes, our ears and our research paradigms.

3L2  Computer-based OSCE-station - does it work?

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Despite their high manpower costs, OSCEs are promoted, supposedly to assess competencies beyond factual knowledge. Computer based OSCE stations might offer attractive alternatives. The objective was to evaluate the feasibility and utility of a computer based OSCE station. A HTML- and JavaScript-based test module was developed for the interpretation of peripheral blood smears. Results are collected continuously and printed out automatically after task completion. Four test stations were supervised by one person. Students have opportunities to practise with the module prior to the exam. The stations functioned flawlessly. Performance at this station correlated highly with the results of an MCQ test but showed a ceiling effect due to its relative easiness. Computer based OSCE stations are practicable. We were not able to demonstrate the ability of this station to assess anything but knowledge. An adequate degree of task difficulty is required, to avoid a ceiling effect.

3L3  OSCE and oral examination. What do teachers think?

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The students of the Department of Surgery at Campus Oriente of the University of Chile are evaluated by means of oral examinations and, since 1999, by OSCE. To state the degree of satisfaction with each type of evaluation a survey was applied. It considered the following issues: (1) Methods; (2) Contents; (3) Grades. The analysis proved OSCE to be more satisfying. However the use of OSCE does not necessarily mean exclusion of oral examinations.

3L4  Comparing two evaluation methods of practical skills in clerkship

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At our school, during the 5th year rotation in internal medicine, 98 students are divided in three groups for rotation at wards and ambulatory setting for 3 months. They were evaluated by two different evaluation methods, based on 37 key features (brief clinical cases) using: (1) web-based multiple choice test of clinical decision-making (WMCQ) and (2) modified OSCE using slides projection. There are no differences between WMCQ and OSCE in the whole group of students (TT) as well as in each subgroup (T1-T3): TT: 6.8+/−0.9 vs 6.8+/−1.1; T1: 6.3+/−1.2 vs 6.6+/−1.1; T2: 7.1+/−1.0 vs 7.1+/−0.8, T3: 7.0+/−1.0 vs 6.9+/−0.8, p>0.05. WMCQ evaluation is feasible as a component of practical skills assessment.

3L5  Comparison of pelvic examination technique assessment in an OSCE station using a standard pelvic mannequin and the iepelvis

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Pelvic mannequins are widely used for assessment of pelvic examination technique within OSCE stations in graduation examinations. The marking schemes rely on visual interpretation of student performance by trained examiners. During a 4th year OSCE using this methodology we collected data using the “epelvis”, a pelvic mannequin incorporating sensors measuring pressure applied to important points i.e. ovaries, fundus. Epelvis results were not revealed to examiners. The pass mark for the station was determined before the examination. 167 students (of 334 in the OSCE) were studied. Of these, 86% passed the station. On epelvis assessment of those who passed, 24% did not examine the fundus, 44% did not examine either one or both adnexae and only 10% examined both adnexae. The use of a standard pelvic mannequin and examiner is not an appropriate method of assessing pelvic examination technique for medical graduate examinations.
3L6 OSCE as an effective assessment tool for clinical skills

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YU-MC (Yonsei University College of Medicine) operates OSCE for third year students every year. This year YU-MC enforced a survey on OSCE as an assessment tool to 189 students and 34 examiners. The questions were mainly based on the level, difficulty, validity, necessity of the examination, the environment of the OSCE stations, the dexterity of the staff, and the time pertinence. The result was positive in most areas except some answered that the validity in one of the stations was relatively low. Also there needs to be some improvement on the environment of the stations such as the location, equipment arrangement and preparation. Both the students and the examiners answered that OSCE is necessary for clinical skills training, and the staff were adequately administrating the examination. Thus we can conclude on the whole, OSCE can be valued as an effective assessment tool.

3L7 New trends in the syllabus and educational approach in a Japanese private medical school

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Recently, the OSCE was introduced and application of evidence-based medicine has begun in medical education in Japan. A new educational approach using information technology is also being developed. This is an introduction to a new educational approach in a Japanese private medical school. Lectures on 23 subjects, such as angiocardiology and neurology, begin in the fourth year and are divided into courses according to organ systems and function. Attempts are made to combine clinical and basic medicine, clinical genetics, etc., within each lecture. Small tutorial groups and the OSCE will be offered to help students excel in Bedside Learning (BSL). The student then takes a comprehensive examination. Those who pass will participate in BSL. BSL consists of 19 subjects taught in 49 weeks and includes 10 weeks of internal medicine and 2 weeks of emergency medicine.

3L8 The confidence of undergraduate medical students in performing pelvic examination is not always related to their ability

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154 volunteer medical students (mean age 23 years) undergoing clinical teaching in obstetrics and gynaecology completed a questionnaire about their experience and confidence concerning pelvic examination. Their examination technique was evaluated using the “epletvis” a pelvic mannequin loaded with pressure sensors which collect detailed information about pressure applied to important points within the pelvis such as the uterine fundus. On epletvis examination 33% were unable to palpate the uterine fundus. Neither the level of confidence nor the number of vaginal examinations performed prior to testing were significantly related to ability to palpate the fundus correctly. Confidence was strongly correlated with number of vaginal examinations previously performed (Spearman r = 0.412, p<0.001). Undergraduate ability to perform vaginal examination is not related to confidence nor to the number of examinations previously performed. Further data concerning other components of pelvic examination and factors influencing confidence in examination will be presented.

3L9 Evaluating self-assessment skills in an OSCE context

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The purpose of the study is to explore the utility of Objective Structured Clinical Examinations (OSCE) for evaluation of undergraduate medical students’ self-assessment skills. The study uses results from four classes participating in 5 OSCE examinations in the course of three years. For self-assessment, students completed a checklist of their performance in the immediately preceding station. The checklists were identical to those completed by the assessor in the preceding station. The measurement properties of self-assessment indices of group and individual performance are explored and the effect of station context (communication skills, history-taking, physical examination) is evaluated.

3L10 Do students’ self-assessments of competence on Objective Structured Clinical Examinations correlate with examiners’ assessment of student performance?

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Medical students’ skill in self-assessment is necessary for developing competency and as an internal standard for improving skills. At our faculty, self-assessment is a component of the Practice of Medicine and Dentistry Block that is taught in the first two years of the curriculum. The purpose served by this study was to determine the congruence between student self-assessment and examiner’s assessment of student performance on an OSCE. Two different OSCEs, were administered to first year students and one for second year students. At the conclusion of each OSCE, students were asked to complete a checklist identical to that completed by an examiner. Results showed that students’ self-assessments were congruent with the
faculty assessments using the same assessment forms. The congruence was greatest for specific checklist items and slightly less so for ratings of overall performance.

3L11 Inter-examiner reliability in the assessment of psychomotor skills: the problem and a way forward

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In assessing students’ skills when performing spinal manipulative procedures, it became apparent that they performed consistently better with some examiners than with others. Furthermore, when two or more examiners assessed the same student concurrently, there was frequently a significant disparity in their scores. In this study, thirty examiners, of varying experience, were played 9 video clips of students performing specific spinal manipulative procedures, and then asked to assess the skills of the students in terms of the same six criteria for each procedure. The examiners could have each clip played as many times as they wished before they recorded their scores. An analysis of the data using inter-correlation coefficient, revealed only a moderate correlation (mean O.6223, range 0.0714-0.9718). Implications of this data are discussed in terms of better identifying the components of a “good” manipulation, as well as the teaching implications.

3L12 The Cusum analysis - a technique for assessment of competence

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The Cusum analysis has previously been used in assessment of competence of medical training. We examined the validity of the test in qualitative assessment of competence and as a technique for monitoring specialists’ competence. Anaesthesiologists plotted the Cusum when performing four different procedures. Data were collected over a year. Plots were returned by 75% of first year trainees, 50% of second and third year trainees, 20% of the fourth and fifth year trainees, 66% of staff specialists and 50% of consultants. When showing the plots graphically the correlation according to the different levels of competence are clearly demonstrated. The Cusum analysis is a valid and practical technique for qualitative assessment of clinical competence and for monitoring continuous professional development. With increasing demands in health care for continuous quality assurance the analysis can be used both in personal professional monitoring and in monitoring performance during training.

3L13 Assessment of faculty staff performance using generalisability theory in dental skills assessment

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Measuring attachment levels in ‘phantom parodontal jaws’ is one of the students’ technical dental (hygiene) skills assessed by faculty staff members. Knowledge of measurement error is necessary to judge whether staff performance is correct. Measurement error was assessed using a generalisability- and a decision-study. Seven faculty staff members measured 6 pockets per element repeatedly. Variance components were the teeth, observers, pockets, repetitions and their interactions. All components were estimated in a “generalisability study”. In a “decision study,” the standard error of the measurement and 95% confidence interval was calculated. Of the total variation 74% was error variance, 16% is due to the pockets, 59% are interaction effects. The 95% CI is 3 mm in case of one measurement, repeating the measurement the 95% CI is reduced to 1 mm. For reliable assessment (Gen. Coef. 0.74) of students’ performance, faculty staff members should measure 6 pockets 3 times repeatedly.

3L14 Does a short and intensive course for the medical interview make a difference to medical students’ performance in OSCE?

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The staff at the Department of General Medicine at Nagoya University provides students with a short (three half-days) and intensive seminar for the medical interview as part of rotations in clinical clerkship. We sought to determine the effectiveness of our educational intervention by analysing the videotapes of the interview with standardised patients at OSCE at the middle of the academic year. By that time, about half of the students have received our intervention and the other half have not. The students were assessed for the skills in allowing the patient to talk without interrupting at the start of the interview, being attentive and empathic non-verbally, and understanding patients’ perspectives. Among 106 students who had OSCE, 103 provided written informed consent. At the time of the abstract submission, we are in the process of reviewing and analysing the videotapes. The results are to be reported at the meeting.
Session 3M  Students and Trainees

3M1  Questionnaires concerning study conditions of final-year medical students

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Since 1996 last-year medical students at the Hannover Medical School were asked questions concerning their experiences in the so-called practical year. Since 1999 these surveys also cover the willingness of the students to study at least several months abroad. Similar surveys were implemented for first- and third-year medical students. Although only a minority of the students returned the questionnaires the results of these surveys offer interesting results concerning the satisfaction with the curriculum and working conditions of the different cohorts. Special emphasis was given to different strategies of questionnaire distribution and the influence of these methods (personal distribution, postal distribution without reminder, postal distribution with reminder, postal distribution with self-addressed envelope) was analysed.

3M2  Mentorship in medical education: an experience in Iran

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In this pilot study a mentorship program was implemented for the first-year medical students of Qazvin University of Medical Sciences during the 2000-2001 academic year. The mentors were selected from third-year volunteers. Forty-five students and nine mentors (five novices each for one mentor) entered the study. At the end of the year the views of the mentees were surveyed through a self-administered, structured questionnaire and the mentors participated in group discussion. The interpretation of the data indicated that both mentors and mentees were satisfied with the mentorship program and stressed that it should be continued in the coming years. They had found mentorship a give-and-take process useful to their careers. It is suggested that more studies be conducted to define the role of mentors more clearly and to evaluate the effects of mentorship on Iranian medical students’ educational development.

3M3  Some pre-examination habits explored in first year medical students

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This preliminary, prospective, longitudinal study explored some pre-examination behaviour habits exhibited by the first year medical students in a Faculty with a traditional curriculum. A survey was filled out by a cohort of 399 first year medical students, before four examinations. The three first were partial examinations and the last one was the final test. We asked about: study hours in the previous two days before the test; if they considered that the time they studied was “adequate”; sleep hours in the last day; results in the previous tests; if they were nervous at the time of the current examination, among others. The data were recorded and analysed with the SPSS.10.01 package. We detected some habit trends, but using the sci-square test at the level of confidence of 95%, we did not find any significant difference between results of the previous test and the variables already mentioned.

Supported by CIISA-Center of Interdisciplinary Research in Animal Health

3M4  The new university students life

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As well as new methods of learning, the new university student faces, in many cases, other problems such as: living in a different place, making new friends, etc. In our poster session we present a study made from the responses to a questionnaire distributed to the first year class. In this study we try to understand how external variables can interfere with a student’s performance.

Supported by CIISA-Center of Interdisciplinary Research in Animal Health

3M5  Student support by students

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The Faculty of Medicine at the University of Oslo has an office run by students, “Studentveileddningen”, where students can ask for specific help and/or information. The office has been working since the early nineties and is financially supported by the Faculty. The tasks are: (1) Drop-in consultations; (2) Information and discussion meetings; (3) Exchange programs; (4) Information on Educational Fairs. The consultations relate to exchange programs (23%), curriculum/study progression (17%), exams/failures (5%), finances (4%) and various (33%). The office is run by a group of four students on a rotation basis and is open four days a week, with 500-700 consultations a year. “Studentveileddningen” is one of many links between the students and the faculty. The fundamental idea is that it is easier for students to ask other students. At regular meetings with the study administration and the Dean of Education, office-strategies and ongoing work is discussed.
**3M6**

How to handle a phase of transition: comparison between first year students' perspectives in a reformed and a traditional track at Charité, Berlin

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Beginning to study can be seen as a transition to the status ‘student’: new friends, advanced learning and different anthroposphere. This situation requires adaptation to an unfamiliar world. We were interested in students’ reasons to choose a particular curriculum (pbl-based or lecture-based), and which study conditions are helpful in managing the transition. Questionnaires given to first-year medical students (reformed and traditional track) to gather information about the sociodemographic background and their first experience with studying, revealed no major differences between both groups concerning the sociodemographic background. Reasons to choose the reformed or traditional track varied. Students in the reformed track felt more supported by study conditions, study-related living conditions, and their own attitudes toward studying. Differences between advanced students were attenuated. Results and discussion will be given.

**3M7**

What kind of theory is needed? Experiences with a course on epistemology in medicine at the Charité Medical School of the Humboldt University in Berlin

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In Winter 2001 we offered an innovative course on “Epistemology In Medicine”. It was part of the special study module “Basics of Medical Theory and Practice” at the reformed medical track in Berlin. This section of the curriculum comprises a variety of disciplines (among them medical ethics, theory of medicine, sociology, anthropology and alternative medicine) from which students can choose courses of interest. Our seminar aimed at sharpening the awareness for individual responsibility. Philosophical terms such as “truth” and “objectivity” were discussed in the context of different methods in epistemology (dialectic, hermeneutics, analytical approaches, phenomenology), thereby elucidating the role of subjective theoretical knowledge for medical conceptualisation, decision making and practising. Both the course concept and its structure (discussions, literature studies, case-based learning) proved successful. Our presentation gives a critical survey of the course, considering the students’ evaluation as well as our own experiences.

**3M8**

Specialty choices of women doctors in Kuwait - 1974 to 1998

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This study investigated, through review of records, the specialties selected by women doctors in Kuwait for postgraduate qualifications, during 1974 to 1998. Personal background, training abroad, specialties selected, and qualifications (Fellowships/ Memberships, Board Certifications and academic qualifications (Ph.D.)) were analysed. Of 603 trainees, 543 (90%) were Kuwaitis. 358 (59.4%) were Kuwait University graduates, and 159 (26.4%) had graduated in Egypt. The rest possessed basic degrees from Bahrain (Arabian Gulf) (4.3%), Ireland (3.3%), Pakistan (1.5%), UK (1.3%), and Iraq (1.0%), and from other countries in the Middle East. 152 (25.2%) obtained higher qualifications (Family Medicine (8.0%), Pediatrics (5.3%) and Obstetrics & Gynecology (4.1%) Medicine 18 (3.0%) Surgery 3 (0.5%),) 64 (10.6%) passed Fellowships/Memberships of UK Royal Colleges. Training for the Kuwait Board was highest in Family Medicine. The findings are similar to those from other countries. The local socio-cultural factors may promote choice of specialties that offer ‘controllable life styles’.

The study was funded by Kuwait Foundation for the Advancement of Sciences, Project Code 97-07-12.

**3M9**

Stressful academic events in first year students of the Medical School of Universidad de Chile

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Seyler states that stress is the accommodation and stereotyped and unspecific response to the stimulus that demands an answer from a person. Concerning students from medical school, previous research suggests that high degrees of stress cause higher rates of depression accompanied by somatic symptoms, as well as a direct relation between stress and low academic results. We wanted to know the degree of stress that first year students of medical school have when they face habitual academic events and identify those events which most affect students. An inquiry was designed in relation to academic events concerning neurovegetative physiological parameters produced as a response to stress stimulus. As a result, the inquiry showed that the most stressful events were final global examinations. There were no significant sex or age differences (p = 0.05). This supports the idea that this stressful situation (medical career) affects everyone in the same way.
3M10 Science-based evaluation of well-being, self-control, and learning effectiveness among younger doctors

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This paper presents and discusses a unique technique for gathering immediate experiential data regarding the degree of well-being, self-control and learning effectiveness in clinical practice. This so-called Experience Sampling Method, employing electronic beepers and self-reports, has been used among younger Danish doctors as an important supplement to more rigid curriculum based assessments. The latter often tend to disregard the high correlation between learning effectiveness and degree of well-being and self-control – thereby inhibiting learning and retention of whatever has been learned. By this social-science-based way of documenting essential traits of the social and psychological climate in clinical settings, important improvements in medical education are made possible and realistic as the data are very difficult to disregard from a managerial, or even a political, perspective.

3M11 A description of cognitive development from a constructivist perspective

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This paper highlights cognitive development within students at an academic level, in this case medical and nursing students. An intentional method for analysis is used, i.e. the students’ verbal actions are focused on, and meanings of these actions are highlighted. The analysis is based on written essays, interviews and observations. The results describe a differentiation of cognitive structures related to the instruction, and the relationship between students’ cognitive development and the culture of education.

3M12 Medical students’ cognitive styles based on Multiple Intelligences Theory

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Since the evolution of theory of Multiple Intelligences, number of studies has been carried on to investigate the cognitive styles (CS) of different groups. Only a few of these studies have investigated the disposition of medical professionals. This paper investigates the types of intelligence medical students have or tend to use and how these intelligences correlate. Multiple Intelligences Assessment Scale (MIDAS) questionnaire was distributed to undergraduate medical students at Sultan Qaboos University, College of Medicine, to study their intelligences. The results showed that there is no significant variation in CS (intelligences) between different groups of medical students according to their year of study, but the CS vary significantly from one student to another. Furthermore, medical students’ intelligences have very similar patterns to other individuals.

3M13 Sociodemographic characteristics and expectations of undergraduate training and of the medical role from the medical students of the first level of the University of Chile

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This investigation was carried out between 1998 and 2001. Our objective was to look at the elements that improve the medical training of the students by identification of the sociodemographic characteristics and expectations of undergraduate training and of the medical role. We carried out different tests, which were administered to 160 students of the first level during the first class in the course of Conceptual and Practice Bases of Medicine. Analysis of the answers has given information about the profile of the students, (distribution in relation to sex, age, demographic origin and school); reasons to choose the university (prestige, pluralism, etc.); and the medical career (training, community health); expectancies of undergraduate training and of the medical role (scientific expertise and communication and interaction skills). We have taken these outcomes to improve the implementation and development of the new curriculum.

3M14 Sources of stress, cognitive and behavioural coping strategies among 1st and 2nd year medical students

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Much has been written about stress in medical education and training in recent years, particularly in Western societies. Cognitive and behavioural elements are involved in how individuals perceive and cope with stress. Furthermore, the way medical students cope with stressors of their education and training are believed to act as a blue print for how they will deal with future professional and personal stresses. This study seeks to contribute to our understanding of stress and coping strategies in medical education by exploring the perspectives of students at one medical school in the Middle East. Data were collected via a researcher-designed questionnaire in 2001. The instrument measured importance of 32 individual stressors and 12 coping strategies of ninety-four 1st and 2nd year medical students. Data will be analysed to reveal main sources of stress, cognitive and behavioural coping strategies of these students. Gender, age and year of study differences will also be explored. Educational implications will be discussed.
3M15 Mentoring: a therapy for medical education?

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In order to provide needs assessment for the implementation of a Mentoring Program for the undergraduate students of Faculdade de Medicina da Universidade de Sao Paulo, two focus groups were assembled, one from the 2nd year, the other the 5th year. The students think there is a need for mentors, but as the demand is not explicit, their role should be clarified. They also suggest flexibility in the groups’ functioning and are concerned that, in heterogeneous groups, the oldest could “contaminate” the youngest with negative opinions. They suspect that changes would be palliative in the beginning, but could be “curative” in the long run, and see disinterest, lack of empathy, and narcissistic mentors as possible difficulties. They further suggest exchange of experiences among the mentors and think self-evaluation by both mentors and students, as well as continuous evaluation of the program, are the key to success.

3M16 A mentor for what? Investigation of themes and needs in a group of medical students

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The investigation of the student’s needs is fundamental in order to meet his/her needs. In the introduction of a mentoring system in Brazil (Programa Tutores FMUSP) the answers to a questionnaire with this objective showed that the students look for, since the first year, orientation relating to professional development. Soon after, the teaching-learning subjects are very important to the students of the 1st to the 4th year, while the doctor-patient relationship theme is a priority for the internship students. The theme “to be a medical student” (adaptation, vocation, etc) appears later in order of importance to all students of the course. The themes less mentioned in general by the students were those related to personal life and those not related to the medical area. The themes list was very important for the orientation of the future mentors during their training.

3M17 Twenty students experience of gender discrimination in medical school in Uppsala

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In Sweden, 60 percent of the medical students are females. Earlier studies of undergraduate students in medical schools have found that women experience more mistreatment and gender discrimination than men. Twenty students, ten women and ten men were asked to fill out a questionnaire. All the females and eight of the males answered. The results showed that female and male students had experienced approximately the same positive and negative sides of their role in clinical practice. Ninety percent of the female and 38% of the male students had experienced a difference in how nurses and other nursing staff treated them depending on the student’s gender. Seventy-five percent of the women and 25% of the men had been in a situation where they felt treated in a particular way that depended on their gender. A larger study of all medical students in Uppsala University is in progress.

3M18 A preferential access program to a Faculty of Medicine for outstanding socially disadvantaged students: preliminary findings

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Outstanding socially disadvantaged students have restricted access to university in Chile. The Faculty of Medicine and the municipality of a high social risk district are working on a comprehensive program, to offer last year high school students of the district a real opportunity to study a career in the Faculty. 10 students were preselected by academic performance, interests and family support. They received reinforcement in main subjects to enter and be successful in the Faculty (biology, chemistry, physics, and mathematics), life skills training (self-esteem, communication, conflict resolution, anxiety/frustration management and critical thinking), mentoring and vocational counselling. The final selection was based on school grades, performance during the program and national university selection test score (PAA). Vacancies were given to 5 chosen students in Medicine (2), Nursing (1), Occupational Therapy (1) and Phonaudiology (1). They will have free education, food, transport and book aid, and mentoring. Participation in the program was associated with subject knowledge, life skills and PAA score improvement. Other educational opportunities for non-selected students, teachers’ update and community educational expectations and health information increase, were indirect benefits.
Session 3N  Staff Development/International Aspects of Medical Education

3N1  Training of PBL tutors - the Dresden Curriculum

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Since 1999 our faculty has an alliance with Harvard Medical International to establish problem based learning (PBL) in the Curriculum of Dresden medical school. The role of teachers in the PBL-concept is quite different from the traditional role of teachers. Therefore we created a tutor training to make our faculty members familiar with concepts and methods of PBL. Our aim was to encourage special competencies: (1) to chair PBL-tutorials; (2) to design PBL paper-cases; (3) to integrate new didactical techniques; (4) to use PBL-related types of exams (like triple jump). The training is offered every six months with a maximum capacity of 40 participants. Up to now more than 200 faculty members have undergone our five-day training course. In this paper the curriculum and evaluation data are presented.

3N2  How we can involve faculty in the medical education process at the innovative medical school at University of Beira Interior, Portugal

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The new medical school in Portugal (Covilhã) is implementing an innovative approach to teaching and learning medicine, based on competences. Faculties have no previous experience in teaching; if they have any, it was in a very traditional curriculum. Faculties are not very engaged in the process for many reasons or resistances: the new role as a teacher/tutor, less power over the process, the existence of educational structure (in our medical school it is called GEM: Medical Education Unit). In this situation, faculty development is very important. In order to overcome this and other aspects of teacher training, we have implemented a program of medical teaching training for clinical and basics teachers. We describe in this presentation some methodological strategies and actions addressing faculty’s needs for developing competencies in teaching and evaluation of students.

3N3  Teaching the teachers course attendance: motivations and barriers

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With the recent merger of the Royal Free and University College London Medical Schools, teacher training across the three main campuses is particularly pertinent as part of the ongoing strategy for standardisation. Our earlier research investigated attendance at two-day basic teacher training (tips) courses for clinicians. Courses have been well attended but marked differences appeared between specialties and trusts involved in undergraduate teaching. Uniformly promoting such training to all staff failed to attract a uniform response rate. Five focus groups were held amongst course participants and facilitators to explore reasons for attendance or non-attendance at teacher training courses. Focus group participants identified internal and external factors influencing motivation to attend and barriers to attendance. These groups also proposed solutions to redress lack of attendance in some areas, which may be implemented on the level of policy, department, organisation and administration. These outcomes, which form the basis of further in-depth research into current perceptions of the training process, are presented.

3N4  Will the implementation of systematic appraisal for consultants throughout the NHS improve teaching?

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We describe implementation of the new NHS appraisal scheme for Consultants in the largest Teaching Hospital in the UK. By the autumn of 2002, we aim to have completed the first appraisals of our Consultant workforce of just over 500. Many of our Consultants are teachers and we will describe our approach to joint appraisal with the Leeds Medical School in line with the Follet report. Training for appraisers and appraisees has occurred and we will share our learning from this. Particular emphasis will be given to the section in the appraisal on teaching with reference to forms of assessment and use of student feedback. We believe that over time proper appraisal for consultants in the NHS will improve teaching and education with appropriate personal development of individuals.

3N5  Peer participant observation of teaching as an approach to tutor development

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Teaching quality is a perennial issue in medical schools, both institutionally and in the face to face encounter between tutors and groups of students. Approaches to giving tutor feedback range from peer review of teaching (PRT) to peer observation of teaching (POT).
An alternative to these in the context of small group teaching is a tutor support programme where the peer is neither a detached observer nor an extra tutor, but is rather an active participant in the group for the occasion. Tutors report that peer participant observation of teaching (PPOT) is effective in supporting and developing their practice, as well as being a non-threatening approach. Instead of auditing and debriefing on the teaching session, the peer participant observer facilitates shared reflection on the educational practice that took place. This is followed up by a letter documenting the discussion, with feedback on the process received from the tutor.

**3N6 Developing the teaching instinct at the click of a button**

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At previous AMEE meetings we have described an introductory series on a range of topics relating to teaching. This series was being developed in printed format. To date 16 topics have been developed and specific topics have been distributed in printed format throughout Scotland via the Training and Education Managers in the Postgraduate Regions. This series has been further developed and is available now in electronic format. The five main advantages of this medium over the printed format are as follows: (1) it is easy and economical to distribute to a wide target group; (2) it allows direct links to other web sites; (3) it is more individualised towards the learner; (4) it offers easy links between the range of topics covered; (5) the full colour presentation and graphics add interest.

**3N7 Introducing undergraduate medical students to educational research**

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Educational research is often a neglected and undervalued academic activity. At the Office of Biomedical Education we offer a program on educational research to undergraduate medical students after completing a yearly elective program on teaching skills and principles of medical education as teaching assistants. Students willing to participate have to select a research question about teaching issues of the course they are assisting and submit a research proposal. Once we approve it, we help students design an individualised program to address specific needs of each proposal. During the program students approach issues such as research methods, principles of qualitative research and educational topics related to their questions. Seven students chose to participate in this program out of 25 that took the elective teaching assistantship course. The program is currently developing. We expect students to deepen their knowledge on medical education, complete and communicate a research project, and promote medical education.

**3N8 Continuous Medical Education (CME) - Perinatal training programme in Skopje, Macedonia**

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Perinatal training of 25 trainees (pediatricians & nurses) was conducted by RPAH in Sydney for clinicians from Macedonia during 2000/2001. It was successfully developed and delivered by the consultant of the World Bank and MOH, Professor Heather Jeffery, and her team. Seven doctors and three nurses were recommended to provide CME at a local level. A purpose-built Perinatal Center for CME in Skopje (capital of Macedonia) was established in June 2000 with equipment and manikins and an environment conducive to teaching and learning. Internet access was provided by 12 PCs for EBM learning resources (Pub Med, Cochrane Library, Medline, etc). Methods of teaching and learning: SCORPIO, PBL, SDL, “fish bowl”, small group work, individual presentations. Evaluation of the teaching methods was done at the end of each week by questionnaire completed by the participants. Methods of assessment of knowledge and skills acquisition: MCQ, SAQ and OSCE. Three cohorts of 4 modules (two weeks each) were completed by January 2002. Attendance was 34 in the first, 29 in the second cohort and 30 in the third one. Participants were working as teams (doctor and nurse/s). Approximately 50% of all paediatricians and 25% of the nurses/midwives from Neonatal Departments at bigger maternity units successfully passed this CME program.

**3N9 Medical education for refugee doctors: enabling their return to practice in the UK**

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Every year, qualified doctors are forced to flee their countries and come to the UK as refugees. They are unable to use their medical skills until they have satisfied the authorities of their medical competence. The Department of Postgraduate Medicine has introduced initiatives to help refugee doctors in Manchester to pass the relevant professional medical examinations (PLAB), including NHS adaptation courses; “Update in Medicine” talks; access to specialist clinical skills equipment/textbooks; and clinical attachments. Thus far, 4 of the 14 doctors who have used the department’s services have passed the relevant PLAB 2 examinations and joined the NHS, and 5 others are progressing well, having passed PLAB 1. An increasing number of refugee doctors are now able to use their skills and training to practise medicine and benefit patients in the UK. It is also planned to extend support to other refugee health care workers.

**3N10 Experience with a geographical department in a multicampus medical school**

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St. George’s University’s primary campus is on the island of Grenada, West Indies. The university is composed of Colleges of Arts/Sciences, Medicine, Veterinary Medicine and Public Health. The College of Medicine 5th/6th term is taught on the island of St. Vincent. Courses are Pharmacology, Pathophysiology and Clinical Skills over 18 weeks. The day consists of morning lectures for 4 hours and an afternoon of Clinical Skills, therapeutic case discussions, or a comprehensive case discussion. The intent is to integrate the 3 courses into a seamless experience: example, a student would have cardiovascular pharmacology, pathophysiology and clinical skills simultaneously. Not only would the overall subject matter be integrated but so would the areas within the field. The chairman of the geographic department coordinates the teaching with the course directors. This approach prevents duplication and maximises the course. The students are well served by this approach and the St. George’s USMLE Step 1 scores reflect this.

3N11 A problem-based and communication-centered preparatory course for immigrant physicians

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Physicians in Sweden with a foreign education fail examination after internship in larger proportion than domestic. Physicians from non-EU countries must pass an additional examination before internship, and often fail the clinical part of this examination. To prepare such physicians, a new 6-month course was developed. The course focuses on training of communicational skills and problem-based learning. Twelve physicians from non-EU countries were admitted. Before the start participants rated their educational needs from most to least as follows: 1) self-studies of literature; 2) training of communicative skills; 3) lectures; 4) clinical training; 5) working in problem-based study-groups; 6) seminars. In spite of this evaluation so far participants show good development of both problem-based study group and clinical activities. There are lack of skills in communication abilities, medical knowledge, language skills and health-care logistics.

3N12 E-learning course iMan and Planet Earth: situations of adaptive challenges

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The aim of this academic activity is to introduce medical students to the different life conditions around the planet that suppose the activation of general mechanisms of adaptation and integration of the human body and other species. I.e., to extreme climates, high altitudes, diving, gravity changes, transcontinental flights; moreover, to explore and discuss the effects, consequences and prevention. New e-learning technologies are used to develop this academic activity and teachers from different continents are involved. Thus, a parallel main objective of this course is to introduce medical students to the use of new technologies for self-learning and to introduce them to properly work and collaborate with remote colleagues. We will present the results and experiences of this academic e-learning international activity and the approaches to assessment of knowledge.

3N13 A comparison between educational aim and its coordination with offered courses and the patterns used in medical students in the curriculum of Iran and the rest of the world

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To determine the similarities and differences between educational aims, curricula and the courses used for medical students in Iran and six other countries, descriptive research was carried out based on the current Iranian Curriculum for Medical Education (ICME) and data retrieved from the internet concerning medical education curricula in six other countries. Data analysis showed although there were a lot of similarities in the medical education aims in Iran and the countries studied, some differences were also seen. There were few quantitative differences, while they were significant from a quality point of view: manpower training was characterised by deeper scientific thinking ability about issues and life-long learning skills. It is likely that the existence of such educational aims influences the patterns used in the curriculum, in teaching methods and in evaluation. In six countries studied, standard curriculum patterns are comprehensively applied, while in Iran the patterns are only based on course subjects and special skills. Some other differences were also seen between aims and offered courses in the Iranian curriculum: it is devoid of management and communication topics, lacks an environment for developing research abilities among students and ignores the familiarisation of students with behavioural sciences. ICME should be carefully formulated based on international standards.

3N14 Teaching Primary Care physicians rational drug prescribing

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Faculty from the University of Pittsburgh in collaboration with the Macedonian Ministry of Health have developed a training program in rational drug prescribing (RRx). The long-term objective of this project was to develop a self-perpetuating educational program that would promote rational drug use. The three-tiered program consisted of Teaching the Teachers (Pittsburgh) and Facilitators (Skopje) training and six 4-day workshops (Skopje) for primary care physicians. The local educators were exposed to different teaching
formats and provided with knowledge and skills needed to develop educational interventions in RRx. A survey was conducted to determine physicians’ prescribing behaviour. Using the “Personal Formulary” concept and different educational formats (interactive presentation, self-study, small group discussion), a total of 152 physicians were taught principles of drug selection and rational pharmacotherapy of common medical problems. The participants rated all components of the training excellent (4.6-5.0 out of 5.0). This extremely positive evaluation strongly supports future training in RRx for primary care physicians.

3N15  Towards international standards in postgraduate medical education

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Encouraged by the project on setting global standards in Basic Medical Education, which has attracted worldwide recognition, WFME appointed an International Task Force in June 2001 to work out standards in Postgraduate Medical Education – based on the same concepts. The report from this endeavour defines a set of international standards in postgraduate medical education designed to help postgraduate medical training institutions of great variety in the world to use the system of standards in a context appropriate to them. As with the standards in basic medical education, the standards in postgraduate medical education aim to function as a lever of change and reform – when needed. The proposed set of standards uses NINE AREAS defined as broad components in the structure, process and outcome of postgraduate medical education and training. The poster will contain a summary of these: Two levels of attainment have been delineated: Basic (must) Standards and Quality Development (should) Standards.

3N16  Compulsory didactic education for the Medical Faculty in Innsbruck

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All Austrian faculties are entitled by law to start new curricula by the study year 2002/03. To support the implementation of this new curriculum and also in agreement with the standards of the WFME we have embarked on a program providing basic didactic training to the medical faculty of Innsbruck. In order to secure a higher standard of its teachers the faculty has made the attendance to this program (or to a comparable other) compulsory for every candidate for Habilitation (venia legendi). The program that is mainly held in a workshop format comprises 4 themes: medical education, planning and conducting of an educational program, assessment, and problem based learning. International experts have been invited to lead these courses. The participation is free of charge because the expenditures have been covered by external sponsors. The experiences and evaluations of three courses (total 90 participants) will be presented in Lisbon.

Session 3O  Curriculum Evaluation

3O1  Students’ evaluation of education at Jessenius Medical Faculty of Comenius University in Martin - Slovak Republic

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Students of our faculty actively participate in education evaluation within the Comenius University Quality Assurance System. Using an anonymous questionnaire with five-grades evaluation system, students of 1st to 5th grades were asked to evaluate 16 subjects completed in the winter semester 2001. The questions were related to assessment of: (a) teaching process quality (content, organisation and forms); (b) teachers’ qualities (approach, communication and effectiveness); and (c) students’ self-evaluation (participation, activity and satisfaction). The questionnaire was answered by 62-78% of all students in each grade with a high rate of self-criticism in part (c). Depending on an evaluated subject, 39-100% of students expressed their positive opinions in parts (a) and (b). As the questionnaire was aimed to be “uniform” for the whole university and to be used for continuous evaluation in all subjects, now it seems to be necessary to modify it partially. We believe, however, the information yielded from students might help to improve our educational system.

3O2  Students’ perceptions about the teaching in the eight schools of health sciences in the University of Chile

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This is a study about students’ perceptions about their adaptability to the university life, teaching quality, physical and affective environment, and attainment of students’ expectations in the eight schools of the health sciences in the University of Chile. A questionnaire with 66 affirmative sentences was designed. 496 questionnaires were received. 26% of the students felt positively adapted to the university life; reverse factors were “great amount of content to study”; “too many hours a day attending classes”. Affective environmental: 80% of students think “it is good”, but “it may be improved changing some teachers’ attitudes”. 75% of the students perceived teaching as fair. Evaluations test are not pertinent to the teaching programs’ contents. 15.5% of the students think physical environment “good”. They perceived problems with classrooms, space and number of books available in the library. 88.5% of the students felt that their expectations were attained.
303  Studentsí opinion about methodological changes
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In this research we tried to determine the level of importance that university students of Kinesiology at Universidad de Chile gave to the utility of using participative educative methodologies from teachers in their classes. For this, we applied a questionnaire to 159 students in all years of the course. This questionnaire included variables of identification, the students’ opinion about the importance of different methodologies used by teachers, profile of the students, how he/she prefers to participate during the class, and the style of learning. The results show, with a high significance (p<0.005), that the students placed much importance on the teachers who used participative methodologies in their classes. Opinions about the traditional methodologies demonstrate an equivalent percentage of students that placed importance on these methodologies and those who do not place any importance on them. The results are maintained when we compare the groups in the different variables.

304  Results of a student survey regarding the role and place of Infectious Diseases discipline in the undergraduate medical curriculum at the Iuliu Hatieganu University of Medicine and Pharmacy, Cluj-Napoca Romania
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Iuliu Hatieganu University of Medicine and Pharmacy, 13 Emil Isac St, RO-3400 Cluj-Napoca, Romania

A questionnaire-based survey was addressed to 77 undergraduate final year medical students at the end of their module of Infectious Diseases. The students reported that they had learned elements of infectious diseases under other modules such as Paediatrics, Internal Medicine (56.64 %); Epidemiology, Microbiology (32.46%) etc. 97.40 % of the students considered that Infectious Diseases should be kept as an individual discipline during the final year (76.62 %). Diagnosis (57.21 %), treatment (49.35 % each), and acute respiratory tract infections (44.02) were the three favourite subjects. 55.84 % of students considered that it would a better approach if Infectious Disease were taught as an interdisciplinary discipline.

305  Challenges of using studentsí views on lecturersí teaching quality in faculties of Tabriz University of Medical Sciences and Health Services, Iran
Aboughasem Amini, Abdolreza Shagbaghi*, Hasan Salami and Farhad Hatami
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Assessment of teaching quality as an essential aspect of academic evaluation needs to canvass as wide a spectrum of student opinion as possible. Student feedback questionnaires are a useful tool for teaching and learning process monitoring. A questionnaire with 25 closed questions in 4 domains of teaching style, scientific competencies, discipline and pattern of behaviour with students was designed. Students were free in completing and sending back the questionnaire. EPI-INFO 2000 software used for analysis. Using the Likert scale a score of 1-4 was used for each question. Total mean score was 76.65, med 79.16, mode 100, and standard deviation was 18.2 in 7972 questionnaires. The highest total mean score was in the domain of discipline (83.95) and the lowest was in teaching style (71.38). Considering total mean score, the faculty of paramedical sciences achieved the first place and faculty of medicine the last place. Although using this method is motivating gatekeepers towards more attention to teaching quality, factors can be biased. The findings should be considered and future studies should be directed towards detecting and analysing them.

306  Studentsí reflection about the new learning and teaching method in medicine
Diana Afonso, Filipa Amorim, Ana Filipa Azevedo, Silvestre Cruz, Caratina Ferreira, João Marinho, Sónia Menezes, Luis Monteiro, Ana Rita Rodrigues and Cecília Vilaça*
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In order to analyse the implementation of the new learning and teaching method in the Faculdade de Ciências da Saúde da Universidade da Beira Interior (UBI), as well as the personal motives that led the students to choose this course, a group of students of that medical school reflected about a few questions. This is the summary of their answers: (1) strengths: close relationship between students and teachers; the students have the opportunity to learn both clinical and ethical subjects about medicine in an integrative way; the evaluation is continuous (each two weeks) and fair; the teamwork promotes a good relationship between the students. (2) weakness: the two-week unit organisation creates a daily stressful environment, that makes it very difficult to deal with any non-professional activity outside the Faculty of Medicine.

307  The evaluation of the studentsí assessment questionnaire of medical education
Nilüfer Kosku* and Guldal Yzyurak
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The aim of this study was to improve the Student’s Assessment Questionnaire of medical education using a methodological study. As the Department of Medical Education, we modified a student and a teacher feedback questionnaire, which were formed and used in a state university. These questionnaires were applied to Phase III students of the Yeditepe University School of Medicine at the end of the academic year: 2000-2001. Twenty-four students (88.9% of total) answered the questionnaires.

Friday 30 August
The students evaluated the items of both questionnaires on a Likert scale as: 2 (yes), 1 (partly), 0 (no idea) and -2 (no). Cronbach’s alpha coefficient was found for the teacher feedback questionnaire to be 0.7596, for the student feedback questionnaire 0.6890. Both questionnaires were evaluated as reliable and additive scales. As a result, we can say that these questionnaires should be applied for each subject committee of the curriculum.

308 **Web-based evaluation instrument developed for Faculty of Medicine, University of Helsinki**

Frank Sjöblom, Niina Paganus, Juha Nieminen, Kaarlo Simojoki and Kirsti Lonka*

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Since 1994, the Faculty has systematically collected student feedback, especially since a hybrid-PBL curriculum was introduced in 1998. Feedback has been a powerful tool in developing the curriculum. It was important to develop questions to fit the problem-based curriculum. The evaluation instrument will be important in developing the core curriculum in the future. In February 2002, a web-based evaluation system was finally implemented. This instrument will give teachers specific and timely feedback of their courses. Students are able to see their feedback on each course and have the possibility to compare their feedback to ratings given by the other students. Students are asked to evaluate how well they have reached the learning goals set for each course. Students are also asked to evaluate the quality of instructional procedures, the workload of the course, and the practical arrangements of each course. There are both open-ended questions and items rated on a fixed scale.

309 **Internet-based evaluation by students of their internships**

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Since 1999, students evaluated their internships by filling in a formulary, with multiple choice and open questions regarding preparation for the internship, educational activities, opportunities to exercise clinical skills, feed-back, learning atmosphere and an overall rating of the internship. Student participation was less than 50%, open questions remained frequently unanswered and bringing in the results in a database was time-consuming, preventing this paper-based system to be an effective instrument for quality improvement. Since 2001, a web-based password protected system has been developed. Answers and comments are directly stored in a database. Administrators can obtain a summary of the results for each internship at any moment. Participation rate raised to 87% and students used the opportunity to give comments more often, improving the reliability of the results. Organisation, content and results of the first year use of this web-based system will be presented.

3010 **How does the hub work? An evaluation of a process of continuous improvement**

Suzanne Johansson* and Nicolas Karlsson

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On the initiative of the student body, the faculty of medicine at the University of Gothenburg implemented “the course committee” during the year 2000. The course committee is the hub of the course evaluation process and consists of student and teacher representatives. We presented our concept of course committee in Berlin 2001, and now we present our primary evaluation. We have focused our evaluation on questions such as: What has been discussed? With what frequency have meetings been held? What kind of decisions have been made? Which suggestions were not approved of? Were there any differences in how the course committee function in different parts of medical education? Have the course committees evolved since their introduction? If they have, in what way? We present the answers to these questions, and discuss the implication this evaluation has on the course committee concept.

3011 **The courses of medicine in the context of the Brasilian National System of Evaluates**

Vilma Lúcia Fonseca Mendes* and Homero Gustavo Correa Rodrigues

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The authors present the National System of Evaluate of Upper Education instigated by the Ministry of Education of Brazil since 1995, detailing instruments and methodology used to evaluate the courses of graduates in medicine. The system uses two procedures: (a) verification “in loco” of the way the courses function; (b) annual application of the National Examination. All the existing courses of medicine in Brazil are visited periodically by Commissions of specialists who verify them, using a tool that was constructed from criteria previously established. Added to this procedure is the annual application of a National Examination to all the students who are in the last year of the course. Since its implementation the evaluation has involved 24,500 students of medicine and 79 courses. The main points of the evaluation will be presented.

3012 **Achievement of educational objectives in different curricular structures - Faculty of Medicine of Ribeirao Preto - University of Sao Paulo (FMRP-USP), Brazil**

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With the implementation of a new curricular structure at FMRP-USP in 1993, a process of evaluation of skills and competence of graduating students was started, related to the educational objectives of the institution. The objective was to assess the impact of the curricular change on the achievement of the educational objectives of the institution. Techniques of recognised validity and reliability (MCQ, OSC, PMP) were used for the evaluation of skills and competence in the cognitive, psychomotor and affective domains. The performance of graduating students in these different tests permitted us to estimate the extent of achievement of 17 of the 36 intermediate educational objectives of the institution in the two curricular structures. There were no significant differences in the extent of achievement of ten objectives. For six of the seven remaining objectives an increase (p<0.05) in the extent of achievement was observed with the new curricular structure.

**3013** Reforms of undergraduate medical training in Ukraine: a national evaluation

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During the past 8 years wholesale reform of undergraduate medical training in Ukraine has occurred with changes in training structure, processes, assessment, records, curricula, standard setting and monitoring. The Health Care Ministry commissioned a national evaluation, conducted over five years. The evaluation was designed and conducted as policy research, involving 21 experts in undergraduate medical education, quantitative and qualitative research methods, included management, public sector economics, assessment and pedagogy. Data collection methods included surveys, consultative groups, site visits, case studies and documentary analysis. The evaluation covered costs, organisation, management, assessment, educational processes and outcomes, new roles and possibilities.

**3014** Medical students’ achievement in Microanatomy: the impact of quality assurance

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Our study assessed the impact of implementing quality assurance (QA) on teaching medical students microanatomy. The QA program at our institution began in 2000. Student achievement data were collected for academic years 1999 through 2001 and evaluated for:

1. student satisfaction with lectures and laboratory
2. whether or not their grades reflected any impact of QA.

After QA was implemented, the mean satisfaction with instructional activities was 4.09 in 2000 and 4.14 in 2001 (scale 1-5). The students’ average scores increased from 72.7% in 1999 to 74.3% in 2000 to 77.04% in 2001. The percentage of students who received a “B” or higher increased from 53 to 56 to 65, respectively. The percentage of students who passed the minimal grade requirement rose from 96.3 to 99.4 to 99.4, respectively. Our study showed that QA did improve students’ achievement in microanatomy.

**3015** The effect of educational media on a course programme evaluation

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In a general way the improvement of quality in education depends on its evaluation. The aim of this work was to compare the results of the course programme evaluation performed in the Post Graduate Course of Sports Medicine in two consecutive years. The students in 1999 (n=29) and in 2002 (n=25) of the Portuguese Society of Sports Medicine of Lisbon were required to answer a questionnaire anonymously with 11 closed questions assembled in 2 topics: the teaching and learning process and students’ self-evaluation applying a Likert scale. Phi and Cramer’s V statistical analysis were used. The improvement of educational media introduced in the second year was detected by higher values in students’ answers. Apart from the course contents preparation, the students in both courses were motivated and committed. The change introduced in educational media in accordance with previous course evaluation satisfied students’ needs.
Session 4  Workshops and Thematic Sessions 1

4.1  Improving your effectiveness as a teacher

Professor Herman van Rossum, Free University of Amsterdam, Dr Janke Cohen-Schatanus, University of Groningen, and Professor Joke Deneke, Belgium; Free University of Amsterdam, Institute for Medical Education, VU Medical Centre, Van der Boechorststraat 7, 1081 BT Amsterdam, Netherlands

4.2  Clinical operative test ñ a test of practical skills

Dr Sarah Rennie and Joy Crosby, University of Dundee, Dundee; Curriculum Office, Ninewells Hospital and Medical School, Level 7, Dundee DD1 9SY, UK

Background:
A recent study in the UK has found that 50% of junior doctors reported that they had no experience or teaching in intravenous cannulation and suturing. It may be supposed that the old adage of ‘see one, do one and teach one’ still exists for some practical procedures. This is perhaps more apparent in those invasive procedures that can not be readily assessed in a formal controlled examination, for example using an objective, structured clinical examination (OSCE). Better methods of teaching and assessing invasive practical procedure have to be applied to training in order to ensure that all junior doctors are competent in procedures they may be required to regularly perform.

Aims:
The aims of this workshop are: (1) To raise the awareness of the importance of teaching and assessing clinical operative practical tests; (2) To describe a method for facilitating the learning and assessment of invasive practical procedures.

Who should attend?
Any individual who has a responsibility for ensuring the competence of undergraduate and junior doctors in invasive practical procedures may find this workshop of benefit. Also medical students and junior doctors who have an interest in the formal or informal teaching of invasive practical procedures.

Content and structure:
Plenary to set the scene (20 minutes)
Formulating a checklist: achieving a consensus (validity). A practical exercise where a consensus checklist will be generated using a variety of different methods (40 minutes)
Plenary: ways of using the checklist (10 minutes)
Using the checklist for clinical operative test. A practical exercise where the reliability of the checklist will be considered (40 minutes)
Summary (10 minutes)


4.3  Developing professional attitudes in training – putting it into practice

Professor Amanda Howe Professor of Primary Care, School of Medicine, Health Policy and Practice, University of East Anglia, Norwich, UK

Background:
This workshop is the second in a series, the first of which was held in Berlin and has been reported in Medical Teacher. Professional development is essential to the formation of practitioners, but since it addresses attitudes rather than knowledge or skills it is deemed harder to do well. Many clinical educators have grappled with this, and are developing innovations in curricula and assessment. We invite those interested to attend this workshop, where we shall share our current work in this area.

Aims:
• To share participants experience by bringing worked examples
• To identify key values, difficulties, and things that are helpful to success
• To encourage and support each other in this challenging area

Content and structure:
• A very brief recap from last year, followed by work in small groups
• Each participant will be asked to contribute one example from their own setting of how they (with colleagues, not necessarily just your own work!) attempt to facilitate professional development.
• The participant presentations should be no more than one overhead, and should summarise: (1) who are the learners; (2) who are the staff; (3) what are the learning methods; (4) what are the objectives or learning outcomes; (5) how are they assessed; (6) what have you found difficult; (7) what has helped this to go forward.

The rest of the time will be spent discussing the issues that arise from the presentations.

Who should attend?
Anyone who has relevant experience (can be as a learner or staff?). The workshop will have a maximum of 25, and will prioritise those who wish to reattend from last year (please indicate this when you apply, and try to do this early). If places remain, these will be available for signing up in Lisbon.

4.4  The best of the Ottawa Conference 2002

Professor Ian Hart, Professor Emeritus, University of Ottawa, with contributions from Ottawa Conference participants
4.5 Educational Governance: an Essential Component of Clinical Governance?

Dr Alistair Thomson, on behalf of Directors of Postgraduate Medical Education Group; South Cheshire Postgraduate Medical Centre, Leighton Hospital, Middlewich Road, Crewe, Cheshire CW1 4QJ, UK

Background:
The concept of Clinical Governance has been widely introduced across the National Health Service to assure the highest standards of clinical care for patients. Postgraduate Medical Education (PGME) must prepare doctors to work within the framework of Clinical Governance. To ensure that it is fit for this purpose PGME needs a parallel system of Educational Governance.

Aims:
This workshop aims to identify the issues and develop a model for good practice to assist Directors of PGME (DPGME).

Content:
Participants will explore the concept of Educational Governance in PGME by discussing the following subjects through plenary and small group work, under the guidance of experienced facilitators:
1. Current processes of quality control;
2. Control of posts designated for PGME (Competent authorities; Inspection of posts; Relevance of career grade posts and CPD);
3. Local assurance of educational effectiveness (Core teaching and syllabi; Attendance at teaching; Educational evaluation tools; Educational supervision; Appraisal and assessment; Deanery Reviews of Training (ROT) template; RTA process)
4. Validation of mechanisms
5. Role of Director of Medical Education

The outcome of this workshop will be an outline of a comprehensive system for Educational Governance. This will help medical educators fulfil their responsibilities in this area.

4.6 Students' research experiences as a learning strategy

Sandra García, Tiago Santos, António Francisco, Bruno Pigaara, João Martins e Silva, Carlota Saldana
Students of the Faculty of Medicine University of Lisbon, Institute of Biochemistry of Faculty of Medicine of University of Lisbon, Portugal

Background:
The Faculty of Medicine of Lisbon (FML) has promoted undergraduate research namely by enlargement of the number of optional disciplines concerning scientific research based learning. In this package of disciplines there are experimental courses, training investigation both in basic and clinical domains. The core discipline of Introduction to Medicine comprises among others the initiation to scientific investigation also as a scientific research based learning. The FML department GAPIC promotes a system of grants to support undergraduate research.

Aim:
The aim of the workshop is to create a space where the students present their own experience of those opportunities listed above.

Content:
Programme description associated to each research modality, as well as the faculty environment of its development, will be described by the students. The workshop provides an opportunity to hear about (i) the learning advantages and benefits achieved by students and (ii) the national and international scientific opportunities to share knowledge either by oral or poster communication.

4.7 Ensuring that the competent are really competent: Setting defensible performance standards on OSCEs and Standardized Patient Examinations

Dr André F De Champlain, National Board of Medical Examiners, 3750 Market Street, 19104, Philadelphia, USA, and Dr John Boulet, Educational Commission for Foreign Medical Graduates, Philadelphia, USA

Background:
The need for authentic measures of physicians’ clinical skills has been emphasized repeatedly in the medical education literature over the past few decades, as evidenced by the extensive literature devoted to the use of OSCEs and Standardized Patient examinations. From an assessment perspective, one central concern that needs to be addressed when scores are used for decision making purposes is how to best set a performance standard. That is, how can the practitioner implement a fair and defensible and credible standard for their OSCE?

Content:
This workshop will look in more detail at the issues relating to standard setting raised in the OSCE pre-conference workshop, although attendance at the pre-conference workshop is not a prerequisite of attending this one. Participants will take part in an actual standard setting exercise in which they will be asked to set a pass/fail mark for a SP examination. Participants will also be exposed to all the phases of a typical standard setting exercise, including orientation, panel discussions and assignment of judgments. Following this workshop, practitioners will be familiarized with the important issues that need to be considered when undertaking a standard setting exercise and will possess the tools that will allow them to set a defensible pass/fail mark for their local OSCEs and SP examinations.
4.8 Examining the instructional designer - subject matter expert relationship in the design and development of e-learning projects in Medical Education

Peter Cantillon and Ben Kanagaratnam
Clinical Science Institute, Department of Informatics and Medical Education, National University of Ireland, Galway, Ireland

Background:
There has been very little research examining the interaction between Subject Matter Experts (SMEs) and Instructional Designers in the creation of distance learning educational materials. The relationship is frequently managed at arms length with the SME taking responsibility for content and learning outcomes while the Instructional Designer works on making the content accessible and presentable. The responsibility for creating an effective learning environment can often fall between the two roles with a consequent inattention to the pedagogic effects of design, layout and pace of delivery. The proposed workshop will use the results of a research project at NUI Galway examining the SME-Instructional Designer relationship to explore various models of SME-ID interaction.

Aim:
The workshop aims to generate guidelines for the planning and management of eLearning projects.

Content:
The workshop will cover such important issues as 1) the overall management of eLearning projects; 2) the tensions that arise between the imperatives of content delivery versus the demands of creating an excellent learning environment; and 3) the steps to take in converting a conventional course into an electronic learning medium.

4.9 eLab coat pocket knowledge Personal Digital Assistant (PDA) as an aid to medical and teaching decision making

Professor Antonio Vaz Carneiro
University of Lisbon School of Medicine, Rua Sousa Lopes, 1600-207 Lisbon, Portugal

Background:
The amount of information a doctor must have for patient care, as well as for teaching purposes, is of significant dimension. Doctors have little time to read everything they need to solve all the problems they face when seeing patients. What is needed is a system of knowledge that can be assessed on a real-time basis, is scientifically sound, and easy to use. Handheld computers - Personal Digital Assistants (PDA) - can serve as an excellent tool to support medical decision making in this setting, since they are easily portable, can fit in a lab pocket, can be used in every setting of care (outpatient clinic, hospital wards, intensive care units, emergency rooms) and have enough memory to be able to carry significant amounts of medical information under different formats. PDAs have the potential to improve quality of medical care, diminish errors and organise medical practice. For example, one can have several types of software in a PDA that are of potential use for doctors in several areas: medications (indications, dose, administration, etc.), drug-interactions, differential diagnosis, formulas and calculations, medical bibliography, textbook type of information. They present some problems, however: lack of readability of the small screens, difficult use and technical limitations.

Aims:
The workshop offers participants the opportunity: (1) to find out some facts about the 2 major existing platforms for PDAs - Palm and Windows CE in terms of advantages and problems for medical practice; (2) to identify major areas where PDAs can be used to improve care and teaching; (3) to select the sources in the Internet where specific software can be downloaded (free or not) for the Windows CE.

Who should attend?
Doctors and educators who are interested in IT in medicine, specifically using PDAs.

Content and structure:
15.45-16.00 h Welcome and needs assessment
16.00-16.45 h Presentation of PDA platforms: Palm and Windows CE
16.45-17.15 h Types of software, sources, downloading techniques
17.15-17.45 h Practical demonstration with an Compaq iPAQ Pocket PC

4.10 Emotional Intelligence: how relevant is it for health leadership today?

Chris Skinner
Edith Cowan University, Joondalup WA 6027, Australia

Background:
Increasing empirical and descriptive evidence has begun to stress the importance of emotional intelligence and competence in leadership. Original work by Salovey and Mayer (1990) and more recent popularised work by Goleman (1995,1997) has led to a vast array of definitions, measurement concerns, and practical implications being investigated.

Aims:
This workshop aims to explore the key issues and dilemmas in emotional intelligence through lecture, self questionnaire and discussion. Once an appreciation of emotional intelligence has been gained, a brief overview of two main current leadership approaches will be outlined, followed by group discussion and focussing on the development of the linkage between emotional intelligence and health leadership. Specific aims are:

1) To develop an understanding and appreciation of the main issues in emotional intelligence (history, definition, measures and application);
2) To provide an opportunity for limited self reflection on participants own emotional intelligence (questionnaire, discussion);
3) To provide an understanding of two main leadership models;
4) To develop a greater understanding of the importance and application of emotional intelligence to health leadership.

Content and Structure:
1) Introduction/Overview
2) Current awareness of EI and application
3) Review: history, definition, issues, measures, and application
4) Reflection and questionnaire
5) Relevance and application to leadership: models and explanation
6) Group discussion of EI and leadership: application and implication
7) Review

4.11 Exploring the role, contribution and preparation of doctors involved in health management

Robert Palmer, PMDE, Birmingham; John Clark, Health Services Management Centre, University of Birmingham; Steven Field, West Midlands Postgraduate GP Unit; and Peter Spurgeon, Health Services Management Centre, University of Birmingham.

PDME, PO Box 9771, Birmingham Research Park, 97 Vincent Drive, Birmingham B15 2XE, UK

Background:
Recently many health systems have sought to involve clinicians more directly in the management of health systems. This is recognition of the vital role played by doctors in particular as an influence upon resource relocation and also as an approach to managing other clinical colleagues. The pattern of involvement in different systems has taken a variety of forms as has the nature of prior training and development in management.

Aims:
The workshop will initially attempt to clarify and document current patterns of involvement of doctors in health systems management. It will then explore what type of training and preparation is currently provided for these roles in different systems and then move on towards identifying an ideal type provision, including curriculum content and timing within the whole medical training process.

Who should attend:
Clinicians, managers and educators with an interest in the wider role of clinicians in health service management.

Content and structure:
The workshop will include an introduction and account of current structures for involvement of clinicians in health management in the UK and the framework of preparation for these roles. The remainder of the workshop is intended to be participatory with a plenary session to identify existing patterns of involvement in other countries, and finally group work to explore the basis of preparation, currently and in the future.

4.12 AMEE Central and European Task Force (CEE): Where to?

Professor Ioan Bocsan, Iuliu Hatieganu University of Medicine and Pharmacy, 13 Emil Iac Sf, RO-3400 Cluj-Napoca, Romania; and Professor Stewart Mennin, University of New Mexico, Albuquerque, New Mexico, USA

Background:
The expansion of AMEE during the last decade is so evident. A special branch of AMEE - the CEE Task Force - was created in 1999 in Linköping, to meet the demand of more specific assistance from Central and East European countries faced with the imperative necessity of updating their medical higher education system and methods. Since then, CEE Task Force members/representatives have met each year, the debates being focused on specific demands of each country. A positive outcome of the CEE Task Force was the technical assistance provided in 2001 to Tbilisi State Medical University (Georgia) on its special request in order to start and accomplish a radical curricular reform, shifting from former Soviet Union model to the European model of medical undergraduate curriculum. Tbilisi State Medical moved towards the new curriculum on 1st October 2001, and their endeavour had a strong impact on neighbouring countries’ state medical schools, also interested in this topic. A regional conference will be organised on October 25–26 in Tbilisi, Georgia, again assisted by AMEE CEE Task Force.

Who should attend:
All involved with and interested in the development of medical and healthcare professions education, principally but not exclusively in Central and East European countries, are welcome to take part in this forum. It would be an excellent opportunity to meet each other before the Tbilisi Conference, looking for new demands/needs from CEE Task Force members where AMEE could play a role in assisting in the higher education reform national projects. Hopefully this would be a way of creating feasible/realistic standards for medical higher education reform in countries crossing the so-called ‘transition era’.

4.13 From Clinical Skills Centre to Day Surgery Unit - implications of developing an integrated programme in ambulatory care

John A. Dent, University Department of Orthopaedic and Trauma Surgery, Ninewells Hospital and Medical School, Dundee, DD1 9SY, UK
Background:
In a new initiative in ambulatory care, a teaching programme involving the Day Surgery Unit (DSU) has been developed in Dundee to provide opportunities for students to practise a range of clinical and practical skills appropriate to the 12 clinical outcomes expected of the curriculum. Students meet selected, new patients with minor operative conditions in a teaching clinic. They practice communication and physical examination skills under supervision. Issues related to general health, informed consent and social circumstances are discussed. Opportunities are available for clinical judgement and decision-making as diagnoses are reached and patients selected for DSU. Students subsequently practise practical procedures in the clinical skills centre (CSC) including basic theatre skills, scrubbing, gowning and simple wound suturing. In the afternoon they are allocated patients attending DSU with similar conditions. They utilise their practical skills by assisting at surgery and participating with other healthcare staff in peri-operative and post-operative care. In the final stage of the ambulatory programme the next day they adopt the role of a general practitioner phoning the patient’s home to enquire about their post-operative condition, dressings, analgesics and review arrangements. By developing an under-utilised clinical resource an integrated, supervised learning programme has been devised which provides further opportunities for students to bridge the gap between skills training in the CSC and clinical practice.

Content:
This workshop will explore the resource implications of developing such a programme and the curriculum outcomes that can be addressed. Approaches to implementing a structured programme in this setting will be discussed.

Who should attend:
Staff involved with clinical teaching, students and those responsible for resource allocation.


4.14 Developing Mentoring Skills for GPs
Dr Sandra Sedgwick and Dr Peter Harbrow, The Kent Sussex & Surrey Deanery, 20 Shelley Road, Bognor Regis PO21 2SN, UK

Background:
Mentoring can facilitate professionals in identifying professional and personal concerns and ascertaining learning needs. A mentor can recognise learning blocks and hindrances to professional well being, assisting in career development. Mentoring is a culture where peers confidentially enable personal and professional development in protected time. Mentoring can help time impoverished GPs, because it creates protected time for reflection. We have a vision that we will develop a team of 200 GP mentors to nurture the two thousand GPs in KSS Deanery. A survey was carried out to establish views of doctors in the area. A mentor training scheme and support network was created to enable action learning of mentoring skills. The mentees will benefit from assistance from an expert colleague. Participating mentors will gain in their personal development by involvement in the mentoring initiative.

Aims:
The skills of mentoring will be outlined and placed in the context of supportive personal and professional development. Our workshop will give participants the opportunity to test and develop their own skills in this important area of medical education.

Who should attend:
Doctors and other professionals with an interest in the use of one to one interpersonal relationships, which assist others in their professional and personal development.

Content and structure:
· An introduction to the context and principles of mentoring
· An overview of the models of mentoring
· An outline of the skills of mentoring
· An opportunity to practice or observe these skills in action
· Making plans for the future

The workshop will include a PowerPoint presentation, an interactive programme responsive to group intervention, trio work, plenary discussion and evaluation.
Who should attend:
Participants involved in program development, program evaluation, or standard setting in postgraduate education would be interested in attending this 1.5 hr workshop.

Mini Thematic Sessions

4.16/1  The Global Classroom: Multimedia Digital Libraries as a New Learning Environment
Dr Richard I Levin, Dr Sharon K Krackow, Dr Martin S Nachbar, Dr Mary Ann Hopkins, Jonathon H. Weiner, Dr Juliane M. Chase, Dr Melvin Rosenfield, Dr Mike Uretsky, Dr Thomas S. Riles, and Dr Matthew J. Weiner
Contact: Dr Sharon K Krackow, New York University School of Medicine, 550 First Ave, New York, NY 10016, USA

Background:
Major systemic problems are having a damaging impact on undergraduate medical education. We are witnessing a transformation of traditional basic science subjects into their molecular biologic renditions and a corresponding dearth of experts to teach these traditional fields. Shortened lengths of stay and acuity of illness make it nearly impossible for clinical students to view the natural history and understand the social context of a patient’s illness in the hospital setting. The costs to deliver high quality medical education are enormous, but the resources to support this effort are declining. Furthermore, conflicting, and growing demands of research and clinical care impede faculty members’ ability and opportunity to teach. At NYU School of Medicine, we are developing a new life-long, technology-based educational environment that addresses many of these problems and transforms the educational experience for all participants. This model captures the students’ thought process and allows the faculty to tailor didactic sessions to the students’ specific needs.

Content:
In this presentation, we will describe and demonstrate NYU’s Surgery Interactive Multimedia Module (SIMM), a clinical case study using advanced multimedia techniques. This tool comprises a new organic platform for the organisation of knowledge, a faculty-authoring device, a student tracking facility, a living notebook for each student, and a collaborative tool set that provides capabilities for synchronous and asynchronous collaboration and integration of software with a broad base of hardware environments. The student’s experience is enhanced by having instant access to: faculty expertise, laboratory and imaging results and clinical diagnosis. This novel educational space is composed of multimedia digital learning environments (MDLEs). A clinical case study serves as the portal of entry for students into a new educational environment that combines basic science and clinical concepts. Using advanced media techniques, it weaves on-line a story of a patient with an illness, incorporates the richness of an actual clinical encounter between patient and physician and allows the student to follow multiple lines of inquiry through robust internal and hyperlinked sources. The MDLE is both integrative and expansive: it brings to the student the clinical and basic science faculty necessary to teach each topic; all of the laboratory data, diagnostic and therapeutic techniques and their flow; and the unique and idiosyncratic reactions of the patient and the family. At the same time, it allows the student to wander through a vast digital library pertinent to the illness in its biomedical and social context.

4.16/2  Community Coalition Building: A Challenge for Medical Schools
B Salafsky, University of Illinois College of Medicine at Rockford, 1601 Parkview Avenue, Rockford, Illinois 61107, USA

Although a number of medical schools have been community ‘players’, sending students into the community for clinical experiences, requiring COPC-type projects, and from time to time, aligning with other community entities, few medical schools have perceived roles beyond these. This workshop is dedicated to the concept that community health is a collective responsibility, and medical schools now need to provide leadership towards the development of community coalitions. These coalitions need to bring together multiple stakeholders; policy makers, professional societies, health professionals, government, industry, and community organisations, to define critical health-related issues facing the community, distil these into specific areas of concern, set up an organisational matrix with lines of communication, and undertake problem-solving. Through community ‘buy-in’, the formation of multiple targeted task forces, and defined areas of responsibility coalitions need to monitor progress and assess outcomes.

4.17/1  Fostering Professionalism and Humanism in Medical Education
Dr Sharon Krackow, University of New York School of Medicine, Dean’s Office, 550 First Ave, New York, NY 10016, USA

Background:
Professionalism is an evolving concept that necessitates placing the interests of patients above those of the physician, setting and maintaining standards of competence and integrity and providing expert advice to society on matters of health. These values of professionalism are being threatened by transformations in health care in most industrialised countries over recent years—tremendous growth in technology, inequities in health care delivery systems, and competing pressures on physicians and medical school faculty.

In this rapidly changing world, medical educators believe it is even more important for humanism and professionalism to remain primary in the education of future physicians. Over the course of their education, medical students must develop a deep understanding of professional principles and the skills to apply these ideals. There is general agreement that medical schools should reaffirm their commitment to professionalism
and that it should be part of every medical student’s experience. Many medical schools have added relevant content on medical ethics, communication skills and evidence-based medicine, reflecting a desire on the part of patients, physicians and educators for enrichment in these areas. Nonetheless, accomplishing lasting and meaningful curriculum reform is challenging. The teaching of “traditional” content still occupies most of the students’ time and attention, and changing curriculum and attitudes entails changing the culture. However, research and experience demonstrate that significant changes can and have taken place to ensure that core values of professionalism and humanism are part of the core medical school experience.

Content:
During this session, we will discuss ways in which medical educators can reinforce the values of professionalism and humanism in the education of future physicians. We will use a case study to illustrate issues, stimulate group discussion and inspire ideas.


4.17/2 ABIM Foundation’s Project Professionalism
Dr Harry Kimball, Linda Blank and Dr Daniel Sereni, ABIM Foundation, American Board of Internal Medicine, 510 Walnut Street, 17th Floor, Philadelphia, USA
Session 5A  Large Group Sessions

5.1 Best Evidence Medical Education: approaches to better teaching
BEME Collaboration, Tay Park House, 484 Perth Road, Dundee DD2 1LR, UK
The BEME Collaboration, set up in 1999, is a group of individuals and institutions committed to creating a culture of Best Evidence Medical Education through the production and dissemination of information which allows medical teachers, institutions and others concerned with medical education to make decisions on the basis of the best evidence available. Nine international groups are now working on systematic reviews of the evidence on a range of important topics in medical and healthcare professions education, and are at different stages in the review process. Representatives from four groups engaged on the following topics will report on progress to date during this session:

1 What are the features of high-fidelity simulation that lead to most effective learning?
   Lead Centre: University of Miami, USA

2 Staff development
   Lead Centre: McGill University, Canada

3 Predictive values of assessment measurements obtained in medical schools and future performance in medical practice
   Lead Centre: Arabian Gulf University, Bahrain

4 What are the aspects of feedback that make it valuable in assessment?
   Lead Centre: Institute of Health Sciences, Barcelona, Spain

Participants will be invited to comment on the work to date, in terms of the preliminary results of the systematic reviews, and the methodological approach taken by the groups. The BEME Collaboration welcomes approaches from individuals or groups who are interested in discussing possible future review topics (p.m.lilley@dundee.ac.uk)

5.2 Epidemiology of Physician Learning (EPL)
Dr Henry Slootnick, Office of Continuing Medical Education, University of Wisconsin, 2715 Marshall Court, Madison WI 53705, USA
EPL is defined as the study of the distribution of learning among physicians and the factors that influence it. It arises from the use of epidemiologic theory and method in medicine. This session will review the literature on physician learning and two empirical studies from an EPL perspective showing how EPL can be used (1) to study the ‘etiology’ of physician learning; (2) to test etiologic hypotheses about physician learning; and (3) use results of (1) and (2) to recommend ways to facilitate physician learning. This session will employ EPL methodology (1) in identifying the learning needs of those attending the session; and (2) in documenting pre- post-instruction changes among those in attendance.

5.3 Standard Setting
Robert Galbraith, National Board of Medical Examiners; Ronald Berk, Johns Hopkins University; Miriam Friedman Ben-David, Tel Aviv; John Norcini, Educational Commission for Foreign Medical Graduates; Professor Cees van der Vleuten, University of Maastricht
National Board of Medical Examiners, 3750 Market Street, Philadelphia PA 19104, USA
An international group of panellists, all with expertise and publications in the field, will present their views and deal with participants’ questions on a range of issues relating to standard setting. Approaches to standard setting for testing purposes in education in general and in medical education in particular will be reviewed, and the recent, most promising developments in the field will be discussed.

5.4 Does PBL Work? Evidence of strengths and weaknesses
Geoff Norman, McMaster University Medical School, Dept of Clinical Epidemiology, 1200 Main Street West, Hamilton, ON L8N 3Z5, Canada
This session will review the accumulation of evidence about the effectiveness of Problem Based Learning. Three domains will be examined:

- Cognitive outcomes: performance on written and clinical examinations, where the evidence suggests that differences are small and do not necessarily favour PBL;
- Non-cognitive domains: attitudes, interpersonal skills and affective outcomes, where the evidence suggests fairly substantial advantages for PBL;
- Self-directed learning, keeping up, and long term outcomes: where there is some weak evidence in favour of PBL.

Finally, there will be discussion on why PBL has not delivered on some promises and how the PBL curriculum might be modified to improve education.

5.5 Continuing Medical Education

5.5.1 Can Medical Schools be more involved in CME/CPD?
Dennis Wenz, American Medical Association, 515 North State Street, Chicago, IL 60610, USA and Lewis A Miller, Global Alliance for Medical Education/Intermedica Inc, 90 Goodwives River Road, Darien, CT 06820-5921, USA

Participants in this session will discuss whether medical schools should or can play a role in the lifelong quest of practising physicians for continued professional development, competence, and enhanced professional performance. Medical schools would benefit from a greater presence in continuing medical education/continuing professional development (CME/CPD).
They can also prepare students with skills for lifelong learning, and foster scholarly research in the field. This session will highlight several innovative approaches by medical schools to CME/CPD. Among them are medical school development of problem-based Internet-learning for education at point of need, of “remedial” medical education for enhanced clinical competence, and in improving the delivery of effective learning tools and education to practising physicians.

5.5.2 CME by fax: a low-cost way to reach more physicians

Linda Casebeer, University of Alabama School of Medicine
and Lewis A Miller, Global Alliance for Medical Education/Intermedica Inc.
University of Alabama School of Medicine, Division of CME, 1521 11th Avenue S, Birmingham, AL 35294-4551, USA

The University of Alabama Division of Continuing Medical Education analysed the outcomes of CME programs on menopause management. A new CME series was developed to address issues physicians still voiced regarding the use of estrogens in postmenopausal women. The course was presented to 153 physicians in dinner meetings and to 1148 physicians by fax newsletter. Outcomes were measured by pre and post-testing. The fax course did as well, at much lower cost and with a wider reach.

5.5.3 A collaborative CME relationship between academia and industry

Kathleen Hundley, Duke University School of Medicine, and Lewis A Miller, Intermedica Inc.
Duke University School of Medicine, Duke Office of CME, Box 3108, Durham, NC 27710, USA

The Duke University Office of Continuing Medical Education recognised that the pharmaceutical industry has more to offer than grant money to CME programming. Therefore, a Duke Industry Advisory Panel was created to foster working relationships between academics and industry representatives, and to provide a forum for discussing innovative ideas regarding CME. This has also been an opportunity to educate industry about the values and ethics of CME.

5.5.4 Who should provide CME: medical schools, specialty societies, national health authorities?

Lewis A Miller, Global Alliance for Medical Education/Intermedica Inc,
900 Goodwives River Road, Darien CT 06820, USA

The importance of formalised continuing medical education (CME) as a means of certifying physician competence is increasing. More specialty societies are now requiring CME as part of the process of recertification. Specialty societies provide CME at their annual congresses and regional meeting, and through their journals. Medical schools in many countries are recognising that the responsibility for medical education extends beyond undergraduate and postgraduate levels to lifelong learning. Medical schools are exploring distance learning, which is ideal for CME. Governments at a national and state level are now mandating CME as requirement for maintaining one’s license to practise medicine. Some national health authorities have begun to organise CME efforts of their own, for example, in prescribing habits. Who should have the responsibility — or how should it be shared?

5.5.5 Impact of PAFAMS CME on Latin American doctors

Pablo Pulido
Pan American Federation of Associations of Medical Schools, FEPAFEM/PAFAMS, Apartado Postal 60411, Caracas 1060-A, Venezuela

The mission of the Pan American Federation of Associations of Medical Schools (PAFAMS) is to promote development of medical education with its affiliates through innovations aimed at optimising healthcare delivery to the populations we serve. A program of relevant evidence-based continuing medical education (CME) is being developed to update professionals within our constituency, i.e., 12 national associations binding 279 medical schools and 9 independent institutions, of which 246 are in Latin America and the Caribbean. Pilot projects are in place in Mexico, Colombia and Venezuela. These employ advanced Networking Information Technology and are consistent with the development of accreditation programs. The product desired is a qualified professional able to meet national and international standards. CME is a major ingredient to reinforce training, education, attitudes and policies with strong cost-benefit advantages, more so in view of the dramatic socioeconomic and political pressures that impact the region.

5.5.6 Stanford SKOLAR MD: a model for in-context Continuing Medical Education

Howard Strasberg
Skolar Inc, 3155 Porter Drive, Palo Alto, CA 94304, USA

Continuing medical education (CME) occurs in the context of patient care. SKOLAR, an academic search engine, enables physicians to earn AMA Category 1 credit for in-context learning. Physicians identify an information need, research the topic, and submit a CME request, documenting their application of the search results. Auditors review requests for evidence of learning. From October 2000 to February 2002, SKOLAR received 1039 CME requests. The average credit requested was 37 minutes. Physicians answered their clinical question in 94% of CME applications and applied learning to clinical decisions in 93%. 97% of applications were approved for credit. Meaningful learning occurs in the context of patient care. Using SKOLAR, physicians can document learning, its clinical application, and therefore, receive CME credit. Auditing supports the validity of this method for professional learning. We believe that this CME model can facilitate physician learning and enhance the quality of patient care.
5.5.7 How medical schools can help physicians move from CME to CPD

Dennis K. Wentz and Barbara S. Schneidman
American Medical Association, 515 North State Street, Chicago IL 60610, USA

CME credit remains a useful device for documenting learning by physicians, and also provides documentation for licensing/authority bodies. In the US, CME credit must be documented annually for re-licensure in thirty-nine states. The AMA has changed the standards for the awarding of CME credit, by moving CME in the direction of learning in the context of continuing professional development. Medical schools can play a significant role in assisting physicians prepare for these changes. AMA credit is now available to individual physicians for scholarly work as evidenced by publication or presentation, for teaching in CME activities directed to peers, for using the Internet to solve medical problems, for achieving an advanced academic degree, for specialty board re-certification, and for participation in outcomes assessment or performance improvement. Specific examples will be given about how medical schools can assist doctors in continuing their professional development by acquiring skills in these important learning modes.
Session 6A  Communication Skills Assessment

6A1  Dilemmas in assessing communication skills in the Plab OSCE
L Southgate*, P McCrorie, A Cushing, P Tombrelon and A Hall
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Adequate communication skills are a core requirement for passing the Plab OSCE. The examination is for international graduates wishing to begin training in the UK at the Senior House Officer level. At present these skills are tested within designated stations each scored by a medical assessor. Pilot work is now underway to evaluate assessments by the simulated patient and to develop different rating scales. This paper will report the preliminary findings from data from one diet of the Plab test and from a training workshop for plab examiners. We will discuss the problem of divorcing content from communication in consultations about hormone replacement therapy and epilepsy.

6A2  Assessment of communications skills at four stages in an undergraduate curriculum: a developmental system
Tom Stewart, Paul Flood*, Campbell Miller and Earl Dunn
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This project describes the communications skills learning and assessment of students in a six year curriculum delivered in an Arabic society but with English as the language of instruction. The project analyses both structural features of assessment and performance patterns of individual students. Students receive training and have assessment in communication skill OSCEs at four points in their undergraduate career: at year 2 and year 4 (preclinical); year 6 (clinical); and, a final integrated exam before graduation. This allows for a developmental framework with staged objectives. Data for the performance of four cohorts are analysed and discussed in terms of patterns demonstrated by students; ie, student characteristics (age and gender); the relationship(s) of communication skills with other achievement indicators (both knowledge and clinical skills); relationship with measured English language ability; and student performance over time. Additionally, the effects of assessment system characteristics (rating methods, curriculum level) are considered. Student performance over time is viewed and interpreted in a manner which accounts for both student factors and curriculum and staff expectations.

6A3  A reliable assessment of physicians’ competence to break bad news to patients
Gilad E Amiel*, Lea Unger, Mordechai Alperin, Zvi Baharir, Robert Cohen and Shmuel Reis

The Technion Institute of Technology, Department of Urology, Braverman Medical Center, 47 Golomb Street, Haifa 31048, Israel

Current assessment modalities assessing physicians’ ability to break bad news lack reliability and validity. The physician’s competence before and after a breaking bad news course was assessed by means of an OSCE. Eight 15-minute standardized patient (SPs) stations were used to evaluate 34 GP’s, 17 of whom were the study group and 17 a control group. SPs completed 10-to-11 global ratings at the completion of each interaction. The performance of the GP study group improved significantly after the intervention. Mean grade on the post-test as compared to the pretest was (58.5; s.d. 12.7 vs. 68.4; s.d. 9.2) effect size 0.94. Performance of the control group showed little if any improvement (pretest 57, s.d. 10.4 vs 58.1, s.d 9.5 for the post-test), effect size 0.23. Reliability of the OSCE was â=.81. The OSCE proved to be a reliable and valid tool for assessing physicians’ competence in breaking bad news.

6A4  Qualitative analyses of OSCE station in Oncology: breaking the bad news
L Niemi-Murola, P Heasman, N Paganus, N Pitkälä and K Lonka*
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There are different approaches and strategies in breaking bad news for patients. In the present study 100 medical students at the University of Helsinki took part in full OSCE exam. Close examination was made of the aspects of communication that were especially difficult for the students. It was found that most students were empathetic and gave space to patients’ emotional reactions and suggested sick leave, medication or discussions. However, the most typical strategy in breaking bad news was to give the information without any warning, and then use the rest of the time trying to calm the patient down. The information was given from the doctors’ point of view, without finding out how the patients understood the nature of the disease. Very few students prepared the patients for bad news. The results are analysed in terms of forming future educational goals for the course “How to break bad news”.

6A5  Feasibility and reliability of computer-assisted assessment of communication skills for preclinical medical students
R L Hulsman*, E D Mollema, A M Hoos, J C J M De Haes and J D Donnison-Speijer
Academic Medical Centre, Department of Medical Psychology, J4, PO Box 22660, 1100 DD Amsterdam, Netherlands

Computer-assisted assessment (CAA) of communication skills is innovative and has several advantages: a broad range of communication problems in one assessment; highly standardised; large group
assessments without a complex organisation. In our study, the feasibility and reliability of ACT (AMC Communication Skills Test) were investigated. ACT presents three short movies on history taking, breaking bad news and shared decision making, each covered by 10 to 15 essay questions. Participants were 209 medical students. Due to various reasons 116 students (56%) completed the test; 113 (53%) answered the evaluation questions. ACT was well received among the students. A large majority (68%) rated the method useful for communication skills and the movies as being realistic (75-80%) and well-related to the curriculum (89-94%). The students were scored independently by two raters. The inter-rater reliability was high. Intraclass correlations (ICC) of the test scores are around .98 (p<.001), ranging from .88 to .99 (p<.001) per movie.

**6A6** Do patients and expert doctors agree on the assessment of consultation skills?

B McKinstry, J Walker, D Blaney*, D Heaney and D Begg
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The aim of the study was to determine whether patient ratings of GP registrar consulting skills are associated with ‘expert’ scoring using the MRCGP video assessment protocol. A cross sectional observational study of GP registrar’s consulting skills was carried out in 26 GP training practices in South East Scotland using two types of patient assessment compared with expert assessment of their video. The outcome was the rank correlation of registrars overall video assessment (MRCGP) with their mean score on the Patient Enablement (PEI) and Consultation Satisfaction Questionnaire (CSQ). The rank correlation of registrars PEI scores with video marks was 0.01 (p=0.97 n=19) and mean CSQ 0.05 (p=0.83 n=19). No association was identified between registrars’ video mark and PEI or CSQ score. This calls into question the validity of both assessment methodologies. Further research to elucidate the reasons for the lack of correlation is required.

**6A7** Video teaching package for third year medical students history taking exam

Kelly Smith*, Celia Popovic and Fidelma Dunne
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A recent increase in undergraduate student numbers at the University of Birmingham has led to an increase in clinical teaching sites and a large number of novice examiners. In one assessment, students will be examined on the same day at 8 different sites each with 12 to 20 examiners. We developed a multimedia package to a) ensure consistency in exam marking across examiners and sites, and b) to prepare students for the exam, both in terms of how the examination will be organised, and the level of performance expected from them. Role players acted the parts of patient, student, and examiner in scenarios of A to E grade performance. Examiners then watched the video, graded the student and compared this with the ‘official’ grade. Supporting text material explains the rationale for the grade. The resource was evaluated by both students and examiners; the findings will be presented here.

**Session 6B** Assessment of Practical Procedures/OSCE

**6B1** Show us how - the use of the Objective Structured Clinical Examination (OSCE) as a performance exam for evaluation and assessment of sub-speciality Fellows in Neonatal/Perinatal Medicine

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Neonatal training is usually evaluated by oral examination rather than OSCE. We report a pilot OSCE incorporating the CanMED roles. Four simulated parents (SP), two non-SPs and one PEP stations were developed incorporating CanMED roles (medical expert, collaborator, communicator, professional, scholar, manager and health advocate). Examiners and SPs rated the interview process (Global scale ratings - GSR), Candidates scored 51 -72% (mean 60.2%). The highest scoring candidate ranked first on three stations and above average on the remainder. One candidate scored the highest in three stations, but lowest in three.

**6B2** Seeking authentic assessment for clinical practice - the case for the OSCE in nurse education

Marian Traynor
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The problems surrounding the issue of assessing student nurses in clinical practice are well documented particularly from the clinical link lecturer and the student nurse perspective. This paper examines the perceptions of a sample of 800 nurse mentors in relation to their role. The assessment instrument used for clinical competence is described and it is evaluated from the mentor’s perspective. The evaluation of the instrument demonstrated that clinical mentors did not view the assessment tool as being effective in identifying poor
performance in practice, expressing concern that the tool did not provide for the possibility of a student failing. The paper concludes by discussing the merits in adopting a standards-based approach (the OSCE) to the assessment of clinical practice.

**6B3** OSCE pilot in Psychiatry

Sultan Qaboos University, Department of Behavioural Medicine, PO Box 35, PC 123, Sultanate of Oman

There has been a worldwide shift from assessing the knowledge of medical students to assessing their performance as evidenced by the increasing use of the Objective Structured Clinical Examination (OSCE). Our department is no exception to this change. In May 2001 the Department of Behavioural Medicine, Sultan Qaboos University, ran a pilot OSCE to assess the clinical competence of students in obtaining a proper patient history, conducting physical and mental state examinations and in adopting a systematic approach to the diagnosis of psychiatric disorders. At the end of their rotation, 16 students (10 females and 6 males) participated in a ten-station OSCE evaluated by psychiatrist-examiners using binary checklists and global ratings. The OSCE was run twice in one day. At the end of the exam, feedback questionnaires were distributed to the candidates and to the staff involved in the examination. The pilot OSCE was a positive exercise, as judged by the results of the examination and the feedback from students and staff. Furthermore, it served to highlight areas that required further emphasis during clinical rotations such as child psychiatry and liaison between psychiatry and other disciplines. The main outcome of this OSCE pilot study was the Department’s decision to introduce the OSCE as a valid assessment tool from the following academic year.

**6B4** OSCE experience in Postgraduate Education

Teresa Miranda Méndez*, Miguel Gasco Franci, Ilse López Bravo and Enrique Mandiola Cerda
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Several universities in the world have satisfactorily applied the OSCE model in the last few decades, however in Chile it has been applied only in the last five years, especially in the undergraduate curriculum. The goal of this study is to present for the first time the use of this evaluation system in the postgraduate programme in Orthopedic and Traumatology, Medicine School of the University of Chile. We compared the OSCE results with the traditional assessment system and received the opinion of the students and teachers. The most important competencies for the specialty were evaluated using the OSCE model with 21 stations.

Students’ performance in the OSCE was satisfactory, and the discrimination between them is better than the one provided by the traditional assessment system. Students and teachers had a good opinion about the experience. The OSCE allows standardisation of the competencies required and encourages team work. Therefore we recommend expansion of the OSCE model to other postgraduate speciality programmes.

**6B5** Visuospatial ability correlates with efficiency of hand motion and successful performance on a Reconstructive Surgery procedure

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We examined the relation between visual-spatial ability and surgical performance on a spatially-complex procedure (rigid fixation of an anterior mandibular fracture) for students (n=27), residents (n=12) and staff surgeons (n=8). Subjects completed several tests of visual-spatial ability and were assessed objectively while performing the procedure. Outcome variables included: checklist score, experts’ global rating, quality of final product, and hand motion (recorded using electromagnetic sensors). We found significant correlations between visual-spatial scores and surgical performance for the students (r=0.41 to 0.78). For residents and staff surgeons, small sample size precluded the analysis of within-group correlations, so we assessed whether visual-spatial ability was related to expertise by comparing scores between groups. We found highly-significant differences in global ratings and hand motion (p<0.001), but no significant differences in visual-spatial ability. We conclude that visual-spatial ability is associated with skilled performance on a spatially-complex procedure in novices, but this influence lessens with increasing experience.

**6B6** Assessment of procedural skills in medical students

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At Imperial College, an innovative approach to teaching and learning about procedural skills (eg, wound suturing, urinary catheterisation) has been developed. Medical students learn about technical and communication skills separately and then have an opportunity to integrate these skills in a scenario-based approach that uses inanimate models and simulated patients in a quasi-clinical setting. Qualitative analysis of the feasibility of this approach has been described1. This paper describes the quantitative data from the formative assessments. Forty-five medical students have participated in the study (on-going). Each student completes two procedures in a session and receives feedback on their technical and communication skills in various formats including a rating scale with checklist...
and global scores. The quantitative data based on the rating forms will be described highlighting changes in skills between procedures and, for some students who have had an opportunity to repeat the session, comparing scores between sessions.


An evaluation of a method of operative competence assessment for surgical trainees

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The operative skills of British surgical trainees are currently under-assessed by a form that contains a single norm-referenced item referring to this attribute. The aim was to evaluate the feasibility and acceptability of a new assessment method. The new Operative Competence system requires surgical trainers to grade their trainees’ performance as: A = competent to do and teach; B = competent to perform unsupervised; C = competent to perform with supervision; D = unable to perform. Trainees’ and trainers’ opinions on its value were surveyed on 3 occasions. The results are given below:

<table>
<thead>
<tr>
<th></th>
<th>Number</th>
<th>A-D scores adequate</th>
<th>Process of completing chart helpful</th>
<th>Improvement in training resulting from assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trainees</td>
<td>25</td>
<td>95%</td>
<td>71%</td>
<td>48%</td>
</tr>
<tr>
<td>Trainers</td>
<td>14</td>
<td>90%</td>
<td>81%</td>
<td>58%</td>
</tr>
</tbody>
</table>

The benefits reported were increased feedback, highlighting gaps in experience, mapping trainees’ progress and information about the quality of each post. This evaluation shows that it is feasible and acceptable to incorporate Operative Competence assessments into British surgical training.

Session 6C  International Medical Education – Assessment

Accreditation standards for MD programmes in the Americas

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During the last 10 years, countries in the Americas have been developing standards for programs that educate medical students to become physicians. Mexico, Chile, Colombia and Argentina have all developed projects for accreditation standards. These projects appear to have varying degrees of commonality with the standards for programs in Canada and United States, that have been available for more than 60 years (Liaison Committee on Medical Education, or LCME). This paper examines the similarities and differences between the LCME standards document and those of other countries. Additionally, a comparison among countries as to their similarities and differences is presented. Since non-LCME documents are available in Spanish, these were translated into English before proceeding with the analysis. It is hoped that lessons learned from this study may facilitate the development of standards in the remaining countries of the Americas.

Assessment of physician competence in France and Canada

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This presentation compares the assessment of physician competence in France and Canada. In France medical education is controlled by a complex university system directed and supported by the state. Oversight of educational programs and thus for ensuring physician competence is rooted in a tradition of a public, centrally controlled, university system. All degrees are of relatively equal value and the assessment procedures are largely the domain of medical schools. In Canada, the 10 provincial governments control socialized medical care and education.

Assessment of competence is less the responsibility of medical schools than of powerful external credentialing bodies at both the medical student and specialty level. While certification exams are largely written knowledge tests in France, in Canada, national performance-based assessments include OSCEs. Through the study and comparison of two countries, a great deal can be learned about how cultural, economic and social factors shape medical education. It can also build the foundations for collaboration and sharing of expertise.

Clinical instruction and assessment in international medical schools

Danette W McKinley*, John R Boulet, Gerald P Whelan, William P Burdick and Marta van Zanten
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There are a wide variety of methods used to teach and
assess clinical skills in medical schools. Recently, the
Educational Commission for Foreign Medical
Graduates surveyed over 1400 medical schools to
gather information regarding the techniques used to
teach and assess the clinical skills of medical students.
Questions included the regularity of the use of various
teaching methodologies (specific pre-clinical courses, introduction to clinical medicine courses, clinical
rotations, tutorials, bedside teaching, standardized
patients (SP), whether SPs or objective structured
clinical examinations (OSCEs) are used, how students’
performance is evaluated, the location of students’
practical, clinical work, and the number of hours per
week patients are seen during each year of medical
school. The purpose of this paper is to describe the
results of the survey, specifically focusing on clinical
skills training and evaluation and how this varies
internationally.

**6C4**

**English proficiency and academic achievement by international students in a Master of Public Health course**

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Many global universities are incorporating predictive
validity studies into student selection processes. In
Australia, international students are usually required to
have an International English Testing System (IELTS)
score of at least 6.5 for undergraduate and 7.0 for
postgraduate courses or a Test of English as Foreign
Language (TOEFL) equivalent. Research is needed to
more precisely determine the relationship between
language proficiency and academic achievement in the
context of studies within particular faculties such as
Medicine. This study investigates the predictive validity
of IELTS and the minimum English Language Proficiency (ELP) international students require to
achieve academic success in a Master of Public Health
course at an Australian university. Another factor
included in the study is the level of English support
provided for and utilised by students. Other factors said
to influence academic success include: age, level of
motivation and commitment, and the educational and
cultural background of the students.

**6C5**

**Communication skills of foreign doctors (non EC) in the Netherlands**

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Doctors who qualified in a country outside the European
Community (EC) are allowed to practise within the EC
after the local government has validated their licence.
Some of them have to do their medical exam again at a
medical school. At the VU Medical Centre doctors do
theoretical exams for the main medical disciplines and
practise language and history taking skills, followed
by the clerkships. Every year approximately 12 medical
doctors enter the VU Medical Centre. Experience in
the last years showed that this programme has not been
sufficient. Many foreign doctors still have poor
communication skills and attitude to patients and health
care workers. Knowledge of the public health and
ethical subjects in the Netherlands is low. A new
programme has been developed. The first results are
positive, but other adaptation programmes to health care
are needed. The new programme and some alternatives
are presented.

**6C6**

**Comprehensive assessment of medical student skills in France: an overview of the performance of a sample of medical students on a pilot examination developed by the National Board of Medical Examiners and a Consortium of French Medical Schools**

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Subhiyah, Daniel Benchimol, Donald Melnick and Patrick
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The French medical curriculum is currently undergoing
sweeping changes as a result of recommendations put
forth by a legislative commission mandated to complete
this task. In addition to these curricular reforms, the
commission has affirmed that a national residency
selection examination program be implemented by
2004. A consortium of four French medical schools, in
collaboration with the National Board of Medical
Examiners (NBME), developed a 200-item French
MCQ examination, using the NBME’s expertise and
test materials. The examination was administered in
January, 2002, to approximately 300 medical students
at four test sites in France. The purpose of this
presentation will be to provide a summary of the
performance of French medical students on this
examination in addition to comparing their performance
to that of a group of US medical students. Finally, a
summary of the psychometric properties of the French
examination will also be presented.

**6C7**

**Comprehensive assessment of medical student skills in France: a collaboration between the National Board of Medical Examiners and a consortium of French medical schools**

Daniel Benchimol*, Patrick Rampal, Donald Melnick,
André De Champlain, Jean-Paul Fournier and Peter Scales
National Board of Medical Examiners, 3750 Market Street,
19104 Philadelphia, Pennsylvania, USA

In 2000, a series of sweeping reforms were instituted
to the French medical curriculum by the Commission
Pédagogique Nationale des Études Médicales
(CPNE), the legislative commission mandated to
complete this task. The thrust of the recent reforms
entails transitioning from a discipline-based
pedagogical approach to an integrative model that
favours cross-disciplinary learning. The ramifications of implementing this revised curriculum are far reaching and not only impact pedagogical activities but also evaluation and assessment practices. The CPNEM has affirmed that a national residency selection examination program, targeted to these curricular reforms, be implemented by 2004. Since the summer of 2001, the National Board of Medical Examiners (NBME) and a consortium of French medical schools have been collaborating in the development of a pilot examination using the NBME’s expertise and test materials. A summary of this first joint initiative will be outlined in this presentation, focusing more particularly on the test development and developmental activities that have taken place over the past year between both groups.

Session 6D  Clinical Skills

6D1  The acceptability, credibility and perceived level of challenge of role-play communication skills teaching for undergraduate dental students at Birmingham Dental School

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Communication skills teaching using role-play has been an integral part of the Behavioural Sciences and Disability modules across undergraduate years 1, 2 and 3 for 8 years. The role-play materials used were recently reviewed and a pilot evaluation of the acceptability and credibility of the teaching method and materials was undertaken. A written questionnaire was developed to determine the students’ attitudes towards the role-players and materials used. All students attending communication skills sessions during the academic year 2002 anonymously completed the questionnaire. Initial results suggest students find the role-players and role-play materials highly credible and that the teaching methodology is exciting, acceptable and offers increased levels of challenge as they progress through their course of study. Following careful analysis of the data this paper will discuss some of the reasons why this methodology is perceived to be so effective and will look at future possibilities for improvement.

6D2  The clinical learning environment - as perceived by medical students

Ova Emilia* and Arie Rotem
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To facilitate student learning in clinical settings, high quality clinical education experiences should be provided. Learning environment concept has been well accepted in the educational literature. Understanding the conducive clinical learning environment for medical education is deemed essential to increase the quality of clinical teaching. The aim of this study is to explore the perception of clinical learning environment among medical students. A questionnaire that is modified from clinical learning environment setting is used to collect the data. All clerkship students who voluntarily agree to participate in this survey are included (209 students). There are seven areas identified. These are autonomy for learning, supervision, social support, workload, role clarity, variety of cases and department emphasis on learning and teaching. The perception of learning environment varies between departments. Students perceive better learning environment in departments that provide longer rotation, more structured teaching activities and involve more psychomotor skills.

6D3  Physiotherapy studentsí perceptions of an innovative approach to clinical practice orientation

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The transition from classroom to clinical is stressful for many students. With the current shortages of clinicians’ posts in South Africa, the transition is made even more difficult due to the reduced time that clinicians have for supervising undergraduate students. This situation led to the Physiotherapy Department initiating a structured peer-led introduction to clinical education (SPLICE), during which senior Physiotherapy students orientated the 2nd years to clinical practice. This study investigated, via questionnaires, perceptions of students who took part in these sessions. All student cohorts experienced increased motivation and increased confidence. Closely linked were a sense of increased preparedness for clinical practice and a positive learning environment. A positive change in attitude towards clinical practice was also noted in many 2nd year students. Further research is needed into the effect that SPLICE might have on the junior students when they enter clinical practice in 3rd year - as does the role and opinions of the patient during the sessions.

6D4  Developing teaching opportunities in Ambulatory Care

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This pilot study asked fourth year medical students to what extent the 12 learning outcomes of the Dundee curriculum' could be experienced by theatre visits and what were the benefits perceived from a new programme focused in the day surgery unit (DSU). Twenty-five students carried out pre-operative
assessment of selected patients with minor orthopaedic conditions. They practised relevant skills before assisting at surgery. In the post-operative period they participated with other health-care staff in recovery and discharge procedures. Next day they phoned the patient asking about their post-operative condition, social support and follow-up arrangements. A further 16 students attended routine orthopaedic theatre sessions.

Students’ perceptions were requested by an end of week questionnaire. The DSU provided ample, under-utilised learning opportunities. All learning outcomes could be experienced in each venue. Students indicated that they gained more confidence in surgical skills in the DSU and more understanding of patient-care.


**6D5** Structured encounter forms add value to outpatient teaching

Leslie Borsett-Kanter*, Sara Hamel, Dianna Plouffe and Steven Kanter
University of Pittsburgh, School of Medicine, 11 Commons Drive, Bradfordwoods, PA 15015, USA

Age-specific structured encounter forms (AS-SEF) have been shown by prior studies to improve pediatric provider performance and documentation. Precepting medical students and residents, using AS-SEF, over two years led to the observations that these forms provide an important mechanism to facilitate outpatient teaching in a pediatric ambulatory environment by 1) providing a framework for learning to obtain a pediatric history, 2) triggering teachable moments by identifying gaps in learner knowledge and skill, 3) demonstrating continuity of care by synthesising analogous datasets, 4) helping

the learner understand the importance of tailoring the history to a specific stage of development, and 5) enabling the learner to spend more time interacting with the patient and less time documenting the encounter. Results of an assessment of preceptor and learner perceptions will be discussed. The value of AS-SEF for teaching medical students and residents merits further study.

**6D6** Learning from Simulated iPatient Satisfaction

Claire I L Stewart*, Paul E Preece and Jean S Ker
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Patient satisfaction is linked to increased compliance with treatment in health care practice. We have applied the same principle to explore simulated patient satisfaction in relation to the delivery of the undergraduate medical practice of medicine programme. The simulated patients (SPs) participate in student learning of clinical and communication skills in General Practice (GP) and in the Clinical Skills Centre (CSC). Evaluation of the programme by the SPs was determined using both rating scales and free text responses. This was collected over two academic sessions. In 1998/99, the SPs’ global rating for their satisfaction with their experience in GP was significantly less than CSC. Further analysis of GP sessions demonstrated that the “breaking bad news” sessions were most satisfying and the “simulated surgery” least satisfying. Reasons for low satisfaction ratings are discussed. In line with classical reflective cycles’ SPs’ suggestions to enhance patient satisfaction are being used to develop the training programme.


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**Session 6E** Multiprofessional Education

**6E1** Evaluation of multiprofessional education and crossvalidation of the Readiness of Inter-Professional Learning Scale (RIPLS, Parsell and Bligh, 1998)

Chris Auby* and Jo Goedhuys  
Skills Lab, Faculty of Medicine, Katholieke Universiteit Leuven, Kapucijnenvoer 33, B-3000 Leuven, Belgium

International experience and literature indicate that undergraduate multiprofessional education (MPE) can be a good preparation for future teamwork. With this research we wanted to crossvalidate the RIPLS for a Flemish population and use it to evaluate a multiprofessional workshop. An MPE workshop was organised with students of five different healthcare professions: doctors, nurses, social workers, physiotherapists and ergotherapists. About 300 students, in small groups, prepared a common management plan for an older patient. We measured the readiness of the students towards MPE using a translation of the RIPLS. The RIPLS was filled out two weeks before and immediately after the workshop. A factor analysis was performed to identify the underlying dimensions. From these, two scales were constructed with alphas of .80 and .70. Further analysis of the data showed meaningful differences between groups of students. The presentation will focus on these data and compare them with those of Parsell and Bligh.

**6E2** Readiness for interprofessional learning

J Agsteribbe* and J Cohen-Schotanus  
Institute for Medical Education, Faculty of Medical Sciences, University of Groningen, A. Deusinglaan 1, 9713 AV Groningen, Netherlands
At the University of Groningen the dental and dental hygienist students follow partially an interprofessional educational programme. Former evaluation showed mixed feelings from students for this way of learning together. They expressed a positive attitude toward the concept of interprofessional education, but they vented many prejudices against each other. We therefore wanted to examine the readiness of the students for learning in this interprofessional programme. Parsell & Bligh described (Medical Education 1999) the development of a questionnaire for measuring the readiness for interprofessional learning among health care students. In our study we used a translated version in Dutch and adapted it to the specific situation in Groningen. The statements in our questionnaire are pointed toward the collaboration between the dentists and the dental hygienists. The questionnaire was sent to all the dental (year 1-5) and dental hygiene (year 1-3) students. The results will be presented.

6E3 Multiprofessional education - the advantages and challenges of studying together on a CPD programme

David Brigiden* and Andrew Sackville
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This session reports on the first two presentations of a multiprofessional CPD programme which focuses on the teaching and learning facilitation aspects of a health professional’s role. The programme attracted doctors, dentists, nurses and professions allied to medicine. The evaluation of the programme revealed clear advantages to a multiprofessional approach, and identified teaching and programme design features which promoted multiprofessional learning. These included creating a climate of trust, recognising common challenges in professional education, using participants’ own experience, and using sources from all professional health training. The introduction of mentors from different professions in the third year of the programme will be examined, and feedback from participants will be presented.

6E4 One year on: the effect of a pre-qualification interprofessional education programme on medical and nursing students

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There continues to be debate about the benefits of pre-qualification interprofessional education for healthcare students. Little evidence exists about the impact such education has on future practice and patient care. A study is currently being undertaken to investigate the long-term effects on medical and nursing students of a pre-qualification IPE programme undertaken in Paediatrics and Children’s nursing. During 2000/1, 130 fourth year medical and third year nursing students participated in this IPE programme. Seventy-seven students did not take part in the programme. Of the 130 who were involved in the pilot, 78 students received classroom-based IPE only and 52 students received classroom and placement IPE. During 2002, qualitative and quantitative methods have been used to investigate whether there are any differences in the interprofessional knowledge, skills and attitudes of these three different groups. Students’ perceptions of the value of IPE to interprofessional collaboration observed during training have also been obtained.

6E5 Residential multiprofessional exposure

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B P Koirala Institute of Health Sciences has medical, dental and nursing undergraduates. A total of 105 undergraduates were exposed to a community residential exercise in the fundamentals of community diagnosis. The students had to live together in a rural environment for 10 days for social mapping, family study and finally conducted a health camp. This paper gives their experiences and their ??????

6E6 Interprofessional education in Medical Ethics

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At Hannover Medical School we have been performing interprofessional seminars of medical ethics for two semesters. The seminar format and first experiences will be presented. Small group seminars of 10 medical and 10 nursing students take place for 8 hours each. As an optional module the seminars are part of the curriculum. The seminar is based on a real case. The students are asked to solve several ethically problematic situations of the case in role-plays or small-group discussions. Moral challenges, such as truth-telling, informed consent, or withdrawal of therapy, are discussed and the professional opinions are exchanged. We intend to foster medical and nursing students to sharpen their perception of their own moral, professional skills and duties, and of those of the other professions on the ward. Preliminary data of the seminar-evaluation will be given and the opportunities and disadvantages of the teaching concept will be discussed.

6E7 Grooving the night away - a web based IPE project on-line tutoring; the trials and tribulations

Janet MacDonald
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Logistically, developing and implementing Interprofessional Education for health care professionals has been problematic. A potential solution to timetabling difficulties is to utilise communications and information technology. This paper discusses some of the findings from a web based IPE project which sought to provide an opportunity for students from different disciplines to learn together in a team. The project involved eleven students from Medicine, Dentistry, Occupational Therapy, Physiotherapy, Radiography and Nursing. The project also involved tutors who observed and responded on line to student contributions and interactions. The tutors utilised a rota system but responded as one, with all responses being developed and agreed by all tutors. On line tutoring with an interprofessional group of students raises many issues which are very different from facilitating a uni-
professional face-to-face group. The asynchronous nature of much of the discussion has proved to be a particular challenge for both tutors and students.

Session 6F  Curriculum Evaluation

6F1  A model to evaluate a curriculum

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Quality always contains an aspect of appreciation and measurement, and based on qualitative and quantitative data one can tell whether the educational process complies with certain standards. As a medical undergraduate curriculum is complex in structure, it is advisable to divide the system into small, orderly components. Partly based on existing models, we developed a model to evaluate basic skills training at undergraduate level, and tested the model using various methods. The model consists of three dimensions: the intended curriculum, the curriculum in action and the learned curriculum. During the presentation we will use already published data to show that with the model, evaluation instruments can be conveniently grouped; evaluation studies can be framed and results can be meaningfully interpreted. We argue that the model can be used in the course of curriculum evaluation.

6F2  Ongoing evaluation of the medical student curriculum: ten years’ experience with an innovative model

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Evaluation of the medical student curriculum should be an integral part of the educational program and should include assessment of students, faculty, courses and clerkships (including objectives, methods, content and testing), and the learning environment. An innovative model to achieve these goals was implemented in 1992 at the University of Pittsburgh School of Medicine. This model centres around an annual retreat at which faculty, students, Curriculum Committee members, key school leaders, and other stakeholders examine the prior year’s accomplishments, focus goals and set an agenda for the coming year. The model is based on these principles: 1) assess educational, structural, and organisational issues; 2) cultivate input from all stakeholders; 3) employ quantitative and qualitative methods to collect data; and 4) explore intended and unintended outcomes. Ten years’ experience with this model will be presented, emphasising the impact of the annual retreat on decision-making and on curricular innovation and change.

6F3  Direct effects of the first accreditation tour in Polish Medical Faculties

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The Polish Commission for Accreditation of Medical Universities (CAMU) is completing now the first tour of site visits and accreditation of the medical faculties. All of the medical schools existing in Poland volunteered to take part in the process. Besides preparing the self-evaluation questionnaire most of the schools had undertaken other steps aimed at improvement of their educational images: (1) Preparation of the detailed inventory listing the staff, lecture halls, laboratories, computers and other learning facilities; (2) Elaboration of the comprehensive description of all courses in curriculum and its public dissemination; (3) Nomination of the Program Committee; (4) Implementation of the European Credit Transfer System (ECTS) into medical curricula; (5) Introduction or further development of elective courses; (6) Organisation of the departments for medical education in 2 medical schools, and raising the need for such departments in the remaining universities; (7) Starting the discussion on school mission; (8) Stimulation of self-reflection on teaching and learning processes.

6F4  Accreditation in Chile: an instrument for quality improvement in health care learning

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Accreditation is essential to sustain quality learning in medical schools. In the face of an overwhelming proliferation of new schools in Chile, with no formal control on teaching excellence, such a process, endorsed by the traditional schools, is expected to become a model for the emerging institutions. The medical schools pertaining to the Chilean Association of Medical Faculties have completed a convened accreditation. It has clearly shown which are the most critical areas to be improved to satisfy educational requirements established as criteria for programme and institutional evaluation. Looking mainly at quality enhancement, it may turn out to be a valuable diagnostic tool to detect weaknesses, to define priorities and policies and to guide proper destination of academic and financial resources to a comprehensive and qualified higher education system.

6F5 Accreditation process and curriculum change in Argentinian medical educational programmes

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The Superior Education Law led to the creation of the CONEAU - National Commission for University Evaluation and Accreditation - and the obligatory and periodic evaluation of programmes that emit “titles corresponding to state regulated professions, which exercise might compromise the public interest putting into question in a direct way the health, security, rights, property or residents training...” The medical programmes evaluation was organised between 1999 and 2000 by the CONEAU, starting with accreditation standards. This evaluation was made by peer committees and includes 28 programmes. Following international trends, recommendations and standards in the health care area, programmes have been modified in recent years. This work helps advance curriculum change and the acceptance of accreditation standards in curriculum design, assisting in one of the central objectives in evaluation which is the improvement of university education.

6F6 Evaluation strategy in the Medical Faculty Freiburg, Germany

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Quality management aims at improving the mediation of knowledge, skills and attitudes in medical education regarding cost effectiveness as well as content quality. The Medical Faculty in Freiburg over the last two years has developed an exhaustive evaluation system to use the results as a basis of careful innovation individually adapted to the needs of the Faculty. The results are published and discussed with the faculty members. At Level 1 Evaluation the core curriculum is assessed whereas the Level 2 Evaluation rates single projects. Additionally the standardised curriculum for final year students is evaluated. The questionnaires are provided with bar codes which enables us to adjust the computerised evaluation reasonably and currently. The individually modified questionnaires are validated by an external expert. The computerised evaluation system is suitable for dissemination to other European Medical Faculties to offer a reasonable and current tool to maintain the innovation process in medical education.

Session 6G Computer-based Simulation

6G1 Comparing Virtual Internet Patient Simulation (VIPs) and simulated-patient OSCE stations in CME sessions

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Computer technologies offer many possibilities for the development of patient simulation to be used as educational or evaluational tools. We have developed a computer software built with clinical vignettes simulating real encounters with patients. A comparative study was designed to assess the validity of VIPs in comparison with actors playing the role of patients. A group of 20 physicians were exposed to three VIPs (asthma, arthritis, hypertension) and were also exposed to the same cases in simulated-patient OSCE CME stations. Global performance was similar for each case, but low correlations were observed between the two formats. Questions asked by physicians are different in both formats. The behaviour of physicians varies with the mode of presentation of their patients. It is not possible to predict behaviour in one situation from what is observed in the other situation.

6G2 Basic surgical skills in primary care - evaluating an interactive, computer-based learning program

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Minor surgery is an important component of UK primary care but training opportunities vary widely. General Practitioners (GPs) often have little opportunity for regular practice, so skills are easily lost. This study evaluates an innovative learning approach which combines a multimedia computer program, practice using simulated tissue models and expert feedback. Within individual teaching sessions, a surgeon used the program to teach a GP to excise a lesion and close the resulting wound. All sessions were videotaped, all participants interviewed individually, and transcripts analysed using standard qualitative techniques. Teaching sessions (n=10) and interviews (n=20) yielded a highly positive overall response. The program functioned well alongside a range of teaching/learning styles, and the participants’ perceived value of the experience was high. Structured training using a computer-based program and simulated tissue models can meet the perceived needs of GPs for continuing and ‘refresher’ training in minor surgery skills.
6G3  E-teaching of psychomotor skills in an undergraduate medical curriculum

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A shortage of staff, large numbers of multicultural students, the need for small group teaching as well as the call for a shift in the teaching-learning paradigm necessitated innovative methods for skills teaching in the undergraduate medical curriculum. The educational strategy adopted was the delivery of information on and demonstrations of psychomotor skills by means of interactive multimedia on CD-ROMs, followed by supervised practical sessions directly afterwards. Research on students’ perspectives during training in basic emergency care showed that the majority of students were in favour of the use of electronic media as reflected in the positive responses regarding the user friendliness and content of the multimedia programs; the acceptability of the media when compared to live demonstrations; and the availability of the media with set standards when preparing for practical assessments.

6G4  Improving the educational effectiveness of a programme

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We have previously described a time-dependent patient management problem in the area of palliative care in which the user was given the opportunity to question and examine a patient, then make appropriate treatment decisions based on their findings. By advancing the clock, the user could see how the patient was reacting, and modify the treatment if necessary. Based on the experience gained, a revised program has been produced which includes the following changes:

- A user-friendly graphical interface
- Video responses from the patient
- Integrated context-sensitive expert help
- Feedback at the end, and comments by the patient and his wife on the management they have received
- A summary of the key learning points with reference back to earlier sequences in the management story itself.

The program runs from a CD, using a reusable patient simulation engine to ease the creation of additional cases.

6G5  Development of a computer-based interactive programme for teaching and learning manifestations of infectious diseases

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Several thousand colour slides featuring various infectious diseases had accumulated at Karolinska Institutet’s two infectious disease units. For preservation the images were digitised. To make the content accessible a searchable database was developed and a demo version was made including a few diagnoses. For each chosen diagnosis a number of images are available and presented as thumbnails. For each image a short description of the infection and a typical case history is presented. To facilitate access to the image database a web-based design was used. The user can connect to it using a normal web browser. Valuable archive material can be preserved and made useful for teaching and learning purposes using modern IT. Using this concept, decentralised learning and teaching is made easier as the material is available from a server. It is rather time-consuming and costly but may in the long run prove highly time- and cost-effective.

6G6  Protocol analysis for a computer-aided program in the training of Ecmo/HFOV High Frequency Oscillatory Ventilation

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ViewEcmo is a windows based simulator for training in the use of Ecmo with HFOV devised by Don McCurin. This pilot study evaluated its effectiveness using protocol analysis. Three expert and 3 novice subjects were examined using ViewEcmo. They were asked to perform a structured task. Actions were recorded on video whilst subjects explained their actions. Experts completed the task in a mean of 18.32 minutes compared with a mean of 31.32 for novices. Strengths of the program were seen as a good teaching tool. Output results and functions were realistic. Weaknesses were seen, as it does not reflect the real life situation. Protocol analysis using concept maps can be a valuable tool to evaluate user exploration of computer-based simulators.

6G7  Use of a DVD reference library in a health professions programme

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A curriculum that is dynamic and clinically relevant is needed to effectively educate health profession students. The New Jersey Dental School (NJDS) has implemented a software application that permits the user to access and study digitised information that resides on a DVD, anytime, anywhere. This technology allows faculty-generated content to be fully integrated with and work as peer to materials from traditional publishers. NJDS, along with four other dental schools, are the first post-secondary educational institutions in the USA applying this technology. We will provide an overview of our “E-Curriculum” as well as a brief demonstration of the DVD reference library, and how this library provides the resources for our faculty and students to manage a complex health professions curriculum. This “E-Curriculum” is the focal point for improvements in the learning process of our students, and can readily be applied to other health professions education programs.
Session 6H  Postgraduate Education

6H1  The use of storytelling in postgraduate education

A M Carson
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This short communication will describe and explore the use of storytelling in postgraduate medical education, particularly in the area of medical ethics. The communication will outline a teaching method that I have developed in working with postgraduate students. The method works by getting students to share stories about their professional practices. Comparisons between this method and other teaching methodologies such as case studies, critical incident techniques and problem-based learning will be made. The aim is to show that stories can help in professional development.

6H2  Researching with focus groups - tool or trade off?

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The use of focus groups as a qualitative tool in educational and health research has grown in popularity over the past few decades. The method allows for a very flexible approach to be developed towards data collection and these data can have a very high face validity. The data generated can highlight sub-cultural values and group norms. However as with any research method, the use of Focus Groups in research into Medical Education is not unproblematic. The method relies on the group dynamic to inform the research; however the antithesis may occur and group norms may serve to silence individual opinions. This paper considers the use of Focus Groups as a method in identifying SHOs learning needs and considers the impact of their use within the organisational setting of the health care professions. It highlights the impact of power differentials on the research process and the implications in terms of the representativeness of the data generated.

6H3  Non-clinical competences that might be expected of Specialist Registrars

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At present there is no curriculum or structure for non-clinical training of SpRs. Chairs of Training Committees were sent a list of 12 competences and asked to state the importance of these training areas for their own SpRs on a Likert scale and indicate if training was available. The competences ranged from communication skills, clinical effectiveness and IT skills, through to performance management, business management and structure of the NHS. All competences were deemed to be important for SpRs and some such as clinical effectiveness were well-established but others such as performance management were poorly delivered. Medical specialties had significantly more training in place than surgical specialties (p < 0.03). There was a close correlation between the present delivery of training and the perceived degree of importance that was attached to that training (p = <0.05). These findings are already helping to develop training programmes for the future.

6H4  More than a wish list: supporting the development of personal qualities through teaching in clinical contexts

Kath Green
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When groups of hospital consultants were asked to identify qualities they value in their postgraduate doctors they commonly identified the following: honesty, open-mindedness, empathy, integrity, excellent communicator, sensitivity towards others, patient-centred, flexibility, responsibility, team player, inquiry-mindedness. In my work as an Education Adviser, I have encouraged consultants to look for opportunities to support the development of these key qualities as part of their everyday teaching in clinical contexts. I would argue that, if we want these qualities to be nurtured and enhanced, then there are serious implications for the styles of teaching we use and the kind of learning environment we create - whether on the ward, in clinic or in theatre. In this short presentation I will outline some of these ‘implications for practice’.

6H5  Using SHOIs verbalisation of competencies and learning needs

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The aim of this study was to identify competencies and learning needs of SHOs in internal medicine in order to plan a structured curriculum. Seven SHOs were observed and interviewed during one full day at work. Focus in the interview was on the SHO’s verbalised perceptions of what characterises SHOs’ tasks and competencies as distinct from PRHOs and what kind of instruction or teaching they needed. The SHOs described that the tasks to which they were assigned were not very different from the PRHOs’. The difference was a matter of greater responsibility and a deeper as well as broader approach to the tasks. They expressed a need for learning how to make a structured approach to their practice such as managing unclear
cases and ward rounds. Further they asked for instruction in breaking bad news, collaboration skills and for coping with ethical dilemmas.

6H6 Learning competence in everyday clinical situations

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Findings suggest that younger Danish doctors have a significant potential for improving their learning competences. With a one-day project at Grenaa Central Hospital in Denmark we have trained the learning competences of younger doctors – that is their ability to create, use and profit from learning situations in their daily work. The effects were measured through questionnaires answered by the doctors at the end of the training day and one month later. The average participant reported a significant improvement in his learning competences and also reported good results utilising his new skills. The project indicates a significant potential for younger Danish doctors to become better learners and thereby more skilled doctors.

Session 6I  Problem-based Learning

6I1 The importance of exemplarity in PBL problems

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Based on my research (Silén, 2001) concerning self-directed learning (SDL) within PBL I claim that more attention should be paid to the design of and content in “problems” used in tutorial sessions. The importance of reality-based problems has always, very rightly, been highlighted in relation to PBL. But there are more dimensions to consider. Problems should be “exemplary”, a challenge, stimulate motivation and facilitate application, appraisal and inquiry of knowledge. In this presentation I will focus on the relation between SDL and the importance of problems being exemplary. Exemplarity stimulates studies of subjects connected to, but also beyond, the presented situation and consideration of the character of different subjects and disciplines. This calls for examples that actualise fundamental concepts, essential issues, different perspectives and/or contrast typical situations with rare ones. Exemplarity also includes that problems should imply the need of different approaches to understand, explain, handle and perhaps solve problems.

6I2 Introduction of iFurikaeri Sheet to promote PBL at Kurume University

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We have introduced a “Furikaeri sheet” to determine how medical students accepted PBL as a tool for self-learning. In the Furikaeri sheet, students were asked to complete eight sentences. Through this, students can express their emotional states, motivation, expectations of PBL and self-evaluation. Furikaeri sheets were given to 3rd year medical students (N=102) after each problem case. They were accepted by 95% of 3rd year medical students. In conclusion, the Furikaeri sheet was found to be very useful in fulfilling the aim.

6I3 Students’ profile and their perception of PBL: a Malaysian view

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The International Medical University, (IMU), Malaysia has used PBL since founding the Medical Faculty in 1992. Having obtained their Advanced Diploma in Medical Sciences, IMU students can opt for transfer to 21 international partner medical schools to complete their clinical training. IMU’s challenge is to produce students who can adapt to the diverse requirements of these partner medical schools, hence the emphasis on problem solving and self-motivated learning is paramount. The primary and secondary schooling experience of the majority of IMU students is based on didactic teaching and rote learning. For students to benefit most from PBL they need to believe in the PBL concept. Hence a comprehensive monitoring programme was initiated in IMU to obtain from students
their perception of PBL. Our analysis has shown that students find the PBL sessions useful (65%) irrespective of their personal background (gender, language spoken amongst peers/at home, type of pre-university course, biology qualifications or preferred study method). However, active student participation in PBL is hindered by factors like ‘students being quiet by nature’, language, domination by other students and lack of preparation. The concern of students that PBL did not improve their performance in examinations (38%) is reflected in their choice of learning resources and preparation time for PBL. It may also be indicative of the assessment method used, with emphasis on the content of PBL, but not the dynamics of PBL.

**614** A drift from iMixed Economy of educational strategies to a iHybrid PBL Curricula in the Faculty of Medicine and Health Sciences (FMHS), Universiti Malaysia Sarawak

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FMHS, UNIMAS, chose to adopt a PBL curriculum since its inception in 1993 but retained a small proportion of formal lectures in Phase I of its teaching programme. The strategies adopted for implementation of this curriculum included: staff development and students’ orientation; dedicated PBL rooms; access to computer, Internet and published teaching/learning materials; careful preparation of triggers and guide books; provision of museums and clinical skill laboratory, etc. The assessment tools were devised to concord with the teaching methods. On assessment after 5 years, it appeared that the teaching programme has drifted from the original PBL curriculum to a “hybrid” curriculum. The possible reasons include inadequate training of teaching staff and insufficient facilities for increasing numbers of students. These problems are likely to be resolved as further efforts are being made to train the teaching staff. Faculty’s new premises would help to overcome the problems of space and facilities.

**615** Does PBL work? Does music?!

Brian Bailey
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The use of metaphors to provide new insights has a long and provocative history in science. The author will apply a musical metaphor to discuss the moribund state of the art of problem-based learning theory and research. A satisfactory educational experience, similar in many ways to a musical one, moves participants. The condition PBL is in, it will be argued, is one of emotional neglect. The musical perspective will be used to: 1) expose tacit assumptions in acadece surrounding the dominance of cognitive perspectives and the apparent rejection of established emotional theories for understanding and progress; 2) drawing on popular musicology, offer suggestions for scenario design (the ‘music’ at the heart of the curriculum); 3) provide perspectives for understanding why, despite the lack of hard evidence of its superiority, the PBL story continues to unfold - “even if we’re just dancing in the dark”.

**616** The 2001 iPathomechanisms course - the second run of the 9-week integrative and problem-based learning oriented course within the 3rd year of the curriculum at the Dresden Medical Faculty

O Tiebel*, I Nitsche, G Baretton and A Deussen on behalf of the Core Planning Group
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In order to prepare physicians for the demands of future developments, the Dresden Medical Faculty is restructuring its curriculum. The primary goal of the PBL-course “Pathomechanisms” was the restructuring of the first 9-week-period within the 3rd year of the curriculum. Secondly, this process was used to apply problem-oriented learning approaches. The course integrates Pathology, Clinical Pathology, Pathophysiology and Pathobiochemistry and is structured as a hybrid curriculum with lectures, practical classes, tutorials and seminar-like elements. During the second run of the course in 2001 the complete group of 3rd-year-students of the dental school was included. The course was externally evaluated like the first course. This presentation will focus on adjustments applied to the course arising from the results of the independent external evaluation of the first run. Furthermore pros and cons of merging PBL-experienced and -non-experienced groups of students will be discussed.

**617** Peer assessments of students attitudes in social learning situations

Are Holen
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A major part of learning processes in PBL curricula depends on the social interactions between students, eg, in PBL groups, during rotations, in seminars and courses etc. By using a research approach that combined qualitative and quantitative designs, we were able to extract three student attitudes towards social learning situations: Disengaged attitude, Probing attitude, and Personal engagement. Each students’ scores on the three attitudes were used in group feedback sessions. In the presentation, the three attitudes will be explained further and discussed. Also, some attention will be given to the implications of the findings with regard to curriculum planning.
Session 6J  E-learning: Virtual Learning Environment

6J1 Using a VLE to support a CPD programme in teaching and learning in Clinical Practice
Andrew Sackville* and David Bridgen
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This session will outline the successful adoption of a VLE (WebCT) to support the delivery of a postgraduate certificate in teaching and learning in clinical practice, which has been accredited by the Institute for Learning and Teaching (UK). The main focus will be on the pedagogic design of the supported online learning environment. It will include a discussion of the reasons for adopting a VLE and the use made of the VLE. It will be argued that the use of a VLE needs to be deliberately “designed-in” to the planning and development of a programme, and it needs to be linked in with the pedagogic approach of the programme team - in this case a constructivist model of learning, emphasising learning from experience, and reflective learning. The lessons learned from the first two years of the programme will be shared with participants.

6J2 Why VMLE? An educationally focussed case study of Virtual Managed Learning Environment implementation in medical education
Stephen Greenwood*, Julian Cook and Ros O’Leary
TLHP Office, Centre for Medical Education, University of Bristol, 39/41 St Michael’s Hill, Bristol BS2 8DZ, UK

Medical schools and institutions are investigating and implementing Web-based Virtual Managed Learning Environments (VMLE) via the Web to support teaching. Whilst many comparisons of software used to create VMLEs exist, and some analytical frameworks have been developed, few studies have analysed the pedagogical requirements and implications for VMLEs in medical education. The University of Bristol has implemented the Blackboard system (www.blackboard.com) and several homegrown VMLEs. Results of a University funded study (http://www.medici.bris.ac.uk/tlhp/VIOLET/) investigating this implementation are reported. The paper focuses on the results relating to the experience of staff in the Medical Faculty creating online resources using Blackboard and other tools, user statistics and the student experience of what is provided. Teaching and learning issues raised by creating VMLEs in medicine and the challenges facing educators using this technology will be discussed.

6J4 Online education in healthcare informatics
Paul J Wharling*, Andrew N Lamb, A Breton and Iain McA Ledingham
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We have delivered an online postgraduate diploma course in medical and healthcare informatics to 230 students in 27 countries worldwide for the past two years. The course is delivered from our dedicated Internet servers using a learning management system developed in-house. This system offers a very advanced administrative control system for our courses and the full range of web-based delivery options for content. The system has now been extended to use learning objects and from October 2002 we will be offering regionally tailored CPD modules in informatics to a worldwide audience. We will present our experiences in developing this system, and delivering postgraduate medical education over the Internet and we will examine some of the issues around the use and development of a learning object model.

6J5 Integration of interactive case-based training into e-learning environments
R Singer*, J Heid, J Riedel, C R Blesius, R Passenheim, F J Leven
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In case-based training programs communication can be augmented using CSCW tools (Computer Supported Cooperative Work) like email and forums or chat and...
whiteboard. Such tools are essential in time- and location-independent collaborative e-learning environments and are already included in most commercial e-learning platforms. Therefore it seems economic to use these features in case-based training systems instead of reimplementing them. We have integrated the case-based training system CAMPUS (www.medcase.de), which is used in the medical curriculum HEICUMED at Heidelberg University, with a local installation of the e-learning platform WebCT so that both mutually benefit. CAMPUS benefits from user management, course management and CSCW tools offered by WebCT and the platform benefits from an enrichment of its online content. Both systems are tightly coupled by a self-made generic application program interface. Compatibility with e-learning standards like AICC and SCORM was a key aspect during development, to insure increased portability between different e-learning platforms.

**ALDEBARAN - the network for digital resources and active learning in healthcare**

G Petersson*, L Aabakken, M Barón-Maldonado, C Doyle, J Dorup, M Fischer, R Jordan and O Winding
Council for Renewal of Higher Education, Swedish Netuniversity Agency, PO Box 194, SE-871 24 Hammarland, Sweden

The basis for the ALDEBARAN-project will be to establish common guidelines for reuse of digital resources. The project is learner centered in the respect that it will articulate how technology will support learning in a context setting, i.e., accessing high quality resources, and increase usability within the health field. The project will demonstrate differences in countries and how to execute best practice. The guidelines will be disseminated widely and new members that will adhere to the quality criteria will be invited to the network. The project intends to create a new network of the networks, a network aimed at improving the quality and availability of high quality technology supported learning material for students as well as practitioners in the healthcare field; something that hopefully will make more educators in the field turn to ODL (open and distant learning) and other forms of modern learning.

**Docs ´n Drugs is a web-based and case-based learning system for medical students.** Its business is to integrate multimedia in medical education. Since 2000, we have been implementing e-learning environments in classrooms and for self-studies in order to extend and modify the medical curriculum. According to the approach of problem-based learning, students examine and treat virtual patients to practise case-based reasoning in medicine. Four main instructional settings have been designed. First, the students are in a classroom guided by a teacher, who takes the role of a tutor, moderating and assisting the students’ individual learning process. Second, in the form of blended learning, the students receive an introduction to a case in the classroom, then use the system “off location” for self-study and finally, another classroom session concludes the case. Third, the students work out cases by themselves (peer-groups) with asynchronous e-tutoring support. Fourth, an e-tutor guides all students synchronously during an online course.

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**Session 6K Community-based Education**

**Managing eLearning from Lives**

Liz Anderson* and Stewart Petersen
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In addition to the usual attachments in General Practice, all Leicester Warwick medical students are attached for four weeks to community based services. They learn about service provision in the community by a series of patient studies involving a wide range of health and social care professionals and voluntary organisations. This process is managed over more than 20 sites. At each site local front-line staff coordinate the education. We describe the liaison and management structures that empower local front line staff to educate students whilst maintaining a broad consistency of experience across the whole cohort. A community coordinator organises a series of meetings and workshops. Each site develops a local programme matched to local opportunities and expertise, which is then mapped to an overall template. Student assessment is local, moderated centrally.

**The development of online tutorial support and distance learning resources for medical students outback**

Jean Wood
University of Melbourne, PO Box 175, Churchill, Victoria 3842, Australia

At the University of Melbourne, a six-week community-based rural health program for all undergraduate medical students is being integrated into a new, problem-based learning curriculum. Over 240 students will participate in the program each year, either in the last semester of their 5th year, or the first semester of their 6th year. Because of the patchy availability of rural health teaching and learning resources in remote locations, we are turning to the theoretical frameworks and production methods of both traditional distance education and online education in order to provide students with packs of distance learning resources and online tutorial support. My presentation will review the theoretical frameworks and methods we are using, illustrated with examples from our
recent experience of placing 135 students in 25 rural locations across Victoria for a one-week pilot program.

6K3 Curriculum ownership in a distributed medical school: different pathways, common outcomes

David Prideaux
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There is increasing interest internationally in moving medical education out of large teaching hospitals into extended rural and community placements. This raises the issue of ownership and control of the curriculum. It is important to foster ownership and commitment by local staff and communities but this may result in different groups of students following different pathways with divergent curriculum outcomes. This paper examines the experience of Flinders University Adelaide Australia in establishing a distributed program where students undertake extended placements of up to one year in rural and remote settings in South Australia and the Northern Territory. Different pathways are undertaken in general practices, community hospitals and in larger urban hospitals but within the context of a curriculum which is inclusive of experiences in all the sites and is assessed through a blueprint based on a common set outcomes.

6K4 Do learning experiences in rural health centres affect management of Pediatric patients by medical interns?

Behzad Shams
Educational Development Center, Isfahan University of Medical Sciences and Health Services, Hazar Jamb St, Isfahan, Iran

Recent changes in health dimensions and holistic views on health issues necessitate changes in medical education especially undergraduate programs. Many global actions have been taken for close cooperation between medical schools and health services. In Iran, establishment of the Ministry of Health and Medical Education (1987) was considered as an opportunity for students’ learning as well as community health promotion. Thereafter, two-month courses in rural health centres (in medical clerkship and internship period by community medicine department) were run. The present study is an outcome evaluation of these courses. In a double-blinded setting, 300 interns of two consecutive admission years were selected, 100 as case (who attended the courses) and 200 as control (who did not). Their health management abilities such as thinking of risk factors in community, preventive aspect of disease, utilising health system facilities, were rated by an experienced observer (using a checklist). Interns with learning experiences in a community setting paid more attention to health promotion issues during patient management. In conclusion, PHC rotation improved interns’ health management skills. This substantiates the recommendations of international medical education networks and WFME. It could be recommended to strengthen these experiences in other departments.

6K5 Competence and learning site: hospital and/or community-clinics learned competencies

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Although ‘competency-based medical curricula’ has become a fairly common expression in medical education, there is still disagreement on its specific definitions and in the role and relevance of the different learning places in the construction of these competencies. This subject has been considerably argued in recent meetings of the Mexican Association of Medical Schools. It was thought that a study that attempted to define some of the most relevant competencies and determine the role of the training site in this could help to focus the discussion on what the evidence has to offer us in this respect. A transversal, comparative and exploratory study of medical students in the last year of studies was carried out. A random sample of 30 students was interviewed in depth. We measured the level of performance of 22 professional activities considered important by a group of expert on the subject. The relative role of hospital based learning and community clinic in constructing these competencies was also assessed. Most of the competencies with low achievement levels had to be obtained in health-clinics or community settings. In this study we realised that the perceptions of the students as to where a given competency is best learned differed from the authors’ expectations. In the instruction of an integral General Practitioner some basic competencies must be reinforced. Since some of these are better (and sometimes only) learned in health clinics or community settings medical schools should look for ways to reinforce the academic standing of these.

6K6 Rural Community Internship for medical students: a significant learning experience

Departamento de Pediatría y Cirugía Infanti, Facultad de Medicina, Campus Occidente, Universidad de Chile, Independencia 1027, Santiago, Chile

The internship is the final stage for the medical student. The aim is to provide a field experience to carry into practice acquired knowledge, attitudes and skills to improve them in real settings. The Rural Community Internship stresses the importance of primary care and health promotion in a rural community. It is a supervised teaching and learning experience with two groups of interns each month in the rural medical facilities of Melipilla County Corporation. Students are free to design, put into practice and evaluate health promotion and primary care activities. Twelve integrated, intersectorial programs have been produced. They include network integration involving local healthcare teams, organized community health and education promotion for particular groups of people and primary care and home activities to detect and manage specific health problems. The internship allows the student to put into practice all he/she has learnt in the academic environment, thus promoting the development of unexplored creativity in more rigid teaching programs.
Session 6L  
Outcome-based Education

6L1  
Implementing outcome-based education

Joy Crosby  
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In recent years there has been a movement in medical education to the use of outcomes at undergraduate and postgraduate levels. Outcome-based education takes the expected exit learning outcomes of a graduate as the starting point for curriculum development. This presentation describes the impact that moving to an outcome-based course may have on an undergraduate curriculum, from the selection of students to those who graduate. Moving from a traditional content driven curriculum to an outcome-based course is not an easy task. A model is proposed looking at the impact of outcome-based education on the curriculum and how implementation may be facilitated. For some areas of impact a series of tasks are proposed in order to enhance successful implementation. Strategies are suggested with regard to how these tasks may be achieved.

6L2  
Transition from final year medical student to Pre-Registration House Officers (PRHOs)

Heidi Lempp*, Mac Cochrane, Mary Seabrook and John Rees  
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A qualitative evaluation with 16 PRHOs who qualified in 2001 from the GKT School of Medicine in London was conducted, following the introduction of a new final year. The study comprised 1:1 interviews in three hospital trusts within the first two to four months of their new posts. The main findings were that the final year prepared the PRHOs very well for their posts, particularly clinical skills, history taking and examination. The first weeks were stressful. However, with close support and supervision PRHOs could carry out their duties. They adopted coping strategies to take control of the continuous demands of the post. Working in a hospital trust where they were attached during the last year was an advantage. Their relationship with patients changed through having a definite professional role. A number of conflicts were identified which will be presented.

6L3  
Do we have a common agenda? Differences between learning objectives, teachers’ intentions and students’ perceptions

Caroline Wachtler* and Margareta Troein  
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In the context of a recent study of a cultural competency curriculum in the medical school at Lund University we investigated learning objectives, teachers’ intentions and students’ perceptions in order to give a three-dimensional picture of a curriculum. This methodology illuminated differences between these interpretations of the medical school curriculum. These differences raised the following questions that we will discuss from a students’ perspective in our presentation: Are learning objectives meaningful or just “politically correct”? Do learning objectives drive curriculum building or does the curriculum dictate the learning objectives? Is it important that the medical school’s intentions and its students’ experience are in agreement? What does it mean if students, teachers and learning objectives have different ideas about the curriculum?

6L4  
Are Residents being taught the Royal College of Physicians and Surgeons of Canada CANMeds 2000 roles?

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At the end of each rotation, residents doing rotations in Internal Medicine are requested to complete a rotation evaluation form that asks them to indicate the extent to which they have encountered educational experiences that address the CANMeds 2000 roles and competencies. In responding, residents identify their respective training years, their programs and the sites and services being evaluated. In the 2000-2001 residency year 680 forms were returned. Scores for each role were calculated and the internal consistencies of the groups of items contributing to each role score estimated. Comparisons between role scores, and between services for each role, were carried out. The role scores were also analysed by training year, by duration of rotation, by program (Medicine and others), and where possible by training site. The results are generally positive, but with differences between roles, and with some unevenness across services.

6L5  
The formation of the Central Asian Council of Rectors

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In the post-Soviet world, attempts are being made to link on-going reforms of the health care delivery system to reforms in medical education. In the Central Asian Republics, a regional council of rectors from medical academies and post-graduate institutes was founded in 2001 to: define common regional goals and problems in health professions education; provide a venue to discuss country strategies; and facilitate regional discussion among educators and policy makers. The work of the Council is designed to improve the system and outcomes of medical education on the undergraduate and post-graduate levels and to ensure patient well-being through the education of highly
qualified physicians and through the professional development of faculty and administrators. Work is underway to define the desired qualifications of medical school graduates. These qualifications will be used to lay the groundwork for curriculum reform, admissions standards, institutional accreditation standards, faculty development programs, standardized testing and, eventually, licensure.

Improving the transition from medical school to medical specialist training: an interview study

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The aim of this study is to explore means to improve the way the medical curriculum prepares students to start specialist training. Twenty-two heads of clinical departments of 10 different medical specialties from University Hospitals and General Hospitals in two regions (Amsterdam and Utrecht) in the Netherlands were interviewed in a structured format. Preliminary results reveal that medical knowledge appears to be sufficient as are information retrieval skills. There is too much emphasis on diagnostic skills at the expense of therapeutic skills. Improvement is suggested in the following areas: (1) Structure in dealing with medical problems: differentiation between main and subsidiary points, defining the essentials, acute versus non-acute, problem solving. Also structure in communication with and about patients. (2) Transition to autonomy with inherent responsibility. (3) Professional behaviour: one’s role as a doctor, knowing and dealing with personal strengths and weaknesses.
Session 7  Workshops and Thematic Meetings 2

7.1 The Fit: Standardized Patient Program, Budget, Educational Objectives: a workshop for medical educators, researchers and administrators

Graceanne Adamo
National Capital Area Medical Simulation Center, Uniformed Services University of the Health Sciences, 4301 Jones Bridge Road, Bethesda, MD 20814 USA

Background:
Standardized and/or simulated patient (SP) programs function departmentally, institutionally or across an entire health education, care and delivery system. Educational simulation facilities may be ad hoc, borrowed, shared or for dedicated use. The “fit” of your SP program to your educational/curricular needs for teaching and assessment and to your budget can determine whether the application of this effective educational modality is successful.

Content:
Workshop participants will address personal goals that they develop for
operationalizing and/or maximizing potential in their setting. Materials for continued project development will be provided. Successful models will be described and the workshop will facilitate the development of cost effective educational interventions utilizing SPs by participants.

Who should attend?
Attendees may include anyone interested in enhancing/establishing an SP program including medical educators, educational researchers and administrators.

7.2 Faculty rewards and incentives in medical education: developing consensus on standards for assessing scholarship

Dr Sharon K Krakow, New York University School of Medicine, 550 First Ave, New York, NY 10016 USA; and Dr Mona Eriksson, Lund University Faculty of Medicine Lund, Sweden

Background
Most would agree that teaching and education are central missions of a university. In recent years, however, the nature of these activities has changed. Recent approaches to curriculum design advocate an increase in the amount of teaching that occurs in small group or 1:1 settings. It is increasingly necessary to recruit an interdisciplinary faculty to teach in individual basic science courses. This trend requires faculty to be held accountable not only to their department chairs, but also to the institution, in fulfilling teaching obligations. In addition, many faculty have become involved in curriculum change, course administration and development of course materials (for example, syllabi, web materials). These changes in educational development and administration entail a considerable amount of time. Pressures on faculty to increase their “productivity” in science or clinical care compound the problem. In addition, the commitment to teaching and education has the potential to compromise a faculty member’s ability to succeed in a traditional tenure track career.

The conflict between the changing nature of education and the necessity for adequate recognition and reward calls for a different approach to the problems: There is growing consensus that faculty members’ educational role should be considered as scholarship. A first step to achieving this consensus is development of agreed-upon standards to determine evidence of scholarship. Next, in order for faculty’s teaching and educational contributions to “count” there must be data on which to base decisions. Then, systems and structures should be developed that provide recognition and reward for educational contributions, for example, promotion and tenure policies that value teaching.

Workshop goal:
At the end of this workshop, participants will be able to: describe the issues involved in recognition and reward of faculty’s teaching; and identify standards that assess the evidence of achievement, proficiency, and impact of faculty member’s educational activities.

Who should attend?
Members of medical school faculty and administration who are concerned with the need for recognition and reward for teaching contributions will find this workshop useful.

Content and structure: Introduction: (10 minutes, SKK)
Part 1: Revisiting the 2001 workshop in Berlin, “Faculty Rewards and Incentives in Medical Education: The Challenge and the Promise”. A Case-Based Approach (50 minutes, SKK)

Components of Berlin workshop
• Recognizing education as scholarship
• Developing consensus on standards
• Collection and use of data to support decisions
• Creating systems for recognition and reward (especially promotion)

Questions/discussion:
• What are some barriers to recognition of the place of education in the university?
• What are some solutions?

Part 2: How can we develop standards to determine what constitutes educational scholarship?

Examples and discussion (30 minutes, SKK and ME):
• Examples: The entire group will review examples of educational portfolios
Discussion: Next we will discuss whether these portfolios would provide a promotions committee with evidence of scholarship and consider reasons for our decisions.

Small group exercise (30 minutes): In small groups, participants will:

- Define standards of evidence for achievement, proficiency, and impact
- Develop examples of evidence that could provide a basis for judgment of scholarship

Report back (20 minutes): The workshop participants will reconvene to share the ideas derived from their work in the small group exercise.

Part 3: Wrap up and Conclusions (10 minutes)

7.3 How to build better Multiple Choice Questions

Dr Pedro Herskovic, University of Chile, Faculty of Medicine, Department of Pediatrics, Campus Oriente, Santiago, Chile

Background:
Multiple Choice Questions (MCQs) are widely used for assessment. It is our experience that when the time comes for exams, a significant proportion of MCQs that faculty members write have major flaws that render them useless. A few years ago we decided to face the problem and developed this workshop to improve MCQ writing skills.

Aims:
- To review basic elements of assessment.
- To explore the strengths and weaknesses of MCQs as assessment tools.
- To provide a systematic review of the components of MCQs.
- To stress the points that should be taken care of when writing well constructed MCQs.
- To discuss common mistakes in the construction of MCQs.
- To review basic elements on the assembly of tests and analysis of effectiveness of MCQs.
- To give practical advice on item writing from the perspective of the more experienced user, for those who are newer to this field.

Who should attend:
All those who are required to write MCQ items for tests, and who have not had the opportunity to review systematically the dos and don’ts of item writing.

Content and structure: First part (45 minutes):
- Welcome and introduction.
- Why and what should be assessed, areas where MCQs can be used for assessment.
- “Anatomy” of MCQs.
- Properties of a well written stem, and common mistakes. Examples.

Break (10 minutes).

Second part (35 minutes):
- Properties of well written options, and common mistakes. Examples.
- Assembly of tests and effectiveness analysis of items.

Break, and time to write one mcq per participant (20 minutes).

Third part (40 minutes):
- Analysis and discussion of MCQs written by participants.
- Final comments.

7.4 Training and assessment of intimate/pelvic examination technique

Dr Michael Marsh, GKT Medical School, Academic Dept of Obstetrics & Gynaecology, London, UK; and Dr Carla Pugh, Stanford University School of Medicine, Stanford, CA, USA

Background:
Training undergraduate students in vaginal examination technique using real patients has become increasingly difficult because of changes in patient expectation of medical care and ethical and consent issues. This has led to increasing use of pelvic mannequins to improve technical skill, and the use of “paid patients” for the teaching of examination and communication skills. The standard pelvic mannequin does not allow detailed scrutiny of what is happening internally during pelvic examination. The use of paid patients brings different difficulties.

Aim:
The aim of the workshop is to explain the principals and practicalities of different methods of teaching and assessment of pelvic examination using a combination of discussion groups centered around new research findings, audiovisual presentation and practical “hands on” demonstration.

Content:

a) Consent and the ethical/medico-legal aspects of intimate/pelvic examination - national and international differences.

b) Technical and “tips” sessions on the use of pelvic dummies and pressure transducer-loaded dummies - the epelvis

c) The use of professional patients for training and assessment
d) The assessment of pelvic examination in exams/OSCEs

e) Ultra new methods of training (simulated patients with the epelvis and the “virtual chaperone”) and their application in undergraduate and postgraduate training.
f) Communicating with patients before, during and after procedures

Who should attend?
The session will be appropriate for all those involved in the teaching and assessment of clinical skills.
What is the key role of a physician in society?
Professor Jamsheer Talati, The Aga Khan University, P O Box 3500, Stadium Road, Karachi, Pakistan

Case-based learning environments: how to use them, how to make them used
Dr Raphael Bonvin, Faculté de medicine, Lausanne, Switzerland, and Dr Martin Fischer, Klinikum der Universität München, Munich, Germany

Background:
Many case-based learning environments are available for medical education. What are the criteria for selecting the right one and make it being used?

Aims:
• Discover one of the proposed case-based learning environment by using it; • Reflect the problems and strategies needed to integrate such a tool into your curriculum

Who should attend?
Clinical teachers, educationalists involved in WBT-deployment, curriculum and course designers

Content and structure:
Demonstration and hands-on experience (if technically possible) with various case-based learning environments:
• Discover some of the available learning environments • Uses of authoring part
• Explore the end-user perspective by using prepared cases (Hands-on If technically possible)

How to plan the curricular integration of a case-based learning environment (small group discussions)
• Needed resources
• Specific strategies
• Caveats of implementation

General discussion, Q&A

Portfolio assessment

Dr Margery Davis
Centre for Medical Education, University of Dundee, Tay Park House, 484 Perth Road, Dundee DD2 1LR, UK

Background:
Portfolio assessment represents the most important development in assessment since the OSCE was introduced in the 1970s. It provides the opportunity for the assessment of learning outcomes not readily addressed by other assessment tools, and a holistic view of the student’s fitness to practise.

Aims:
The workshop will provide an opportunity for participants to explore the concept of portfolio assessment; to look at how it can be implemented in practice; and to review the applications and potential difficulties that may arise in their own situation.

Structure:
A presentation of the portfolio assessment process, its advantages and potential drawbacks will be followed by the opportunity to work in groups to identify the contents of portfolios for use in your own situation.

Learning outcomes:
At the end of this workshop, participants will have learned: • The steps in the portfolio assessment process
• How to identify contents of portfolios for use in their own situation
• The roles of the student and the examiners in the portfolio assessment process.

Who should attend:
The workshop is relevant to all concerned with assessment of student performance. For those not familiar with the technique it will provide an introduction. For those with more experience, it will allow them to share their experience with others.

Peer education: International Federation of Medical Students’ Associations
Nikola Borojvic, IFMSA and Dr Peter McCrorie, St George’s University Medical School, London, UK

This topic has been selected by the students as being of particular interest to them. They plan contributions from students in different countries, and also from teachers. They invite anyone involved with medical student education to come along and play an active part in the discussions. Anyone who wishes to make a presentation or contribute in any way is asked to contact the AMEE Office.

FLEX Care: Healthcare communication using personality type
Judy Allen, MA, RGN
The Macklin, Mansel Lacy, Herefordshire HR4 7HQ, UK

Background:
Whilst literature on communication in healthcare abounds, there is little focus on how personality differences can affect it or recognition that what works for one patient may not work for all. Judy Allen, whose background is in healthcare, research and education, has researched and co-authored a book entitled Health Care Communication Using Personality Type - Patients are Different! (Allen J & Brock SA, Routledge, 2000) The book is based upon the Myers Briggs Type Indicatoro, a readily understandable, well-validated and widely used framework of personality preferences. It reports research on breaking bad news in a health care setting that found individuals’ responses formed a clear and reliable pattern. Following publication of this research, training materials (FLEX Care”) have now
been developed to help practitioners take these differences into account.

**Aims:**
Participants will:
- Be introduced to the theoretical basis for FLEX Care'
- Receive and discuss the research findings
- Take part in FLEX Care’ exercises

**Who should attend:**
Those with an interest in a new, practical approach to communication in health care settings.

**Content and structure:**
The workshop will be almost entirely practical, with relevant information being given to provide an understanding of the theoretical framework.

*Myers Briggs Type Indicator* is a registered trademark of Consulting Psychologists Press, Inc. Palo Alto, CA: USA

*FLEX Care’ is a registered trademark of Brock Associates, Minneapolis, MN, USA*

### 7.10 Ibero-American Group Workshop

led by Professor Margarita Baron-Maldonado, Association for Medical Education in Europe

A forum for participants from Latin America, and others interested in medical education in the region, to discuss relevant issues. Comments and suggestions for discussion are welcomed in advance of the workshop. Please contact the AMEE Office.

### 7.11 Usability in Computer-assisted learning programmes

Dr Brigitte Grether, Dean’s Office, Faculty of Veterinary Medicine, University of Zurich, Switzerland

**Background:**
Usability, defined as “The effectiveness, efficiency, and satisfaction with which specified users achieve specified goals in particular environments” is an important factor that determines learning outcomes in computer-assisted education (CAE). Caring for usability from the beginning of CAE development and following simple rules will save time and money and avoid frustration.

**Aims of the workshop:**
Participants will learn:
- what Usability is
- how Usability influences learning outcomes in CAE (Computer-assisted education)
- to apply the most important rules/to avoid the most common errors of Usability
- how to assess Usability
- where to get further information about Usability

**Who should attend:**
- Educators who are producing or planning to produce CAE-programmes
- Educators who are responsible for purchasing CAE-programmes and integrating them into curricula

**Content and structure:**
Part 1: Definition and Importance of Usability in CAE-programmes (25 min): Introduction; Definition of Usability; Demonstration of a system theoretical model

Part 2: The Do-Don’t Approach (25 min) Small group work; Synthesis in plenary

Break (15 min)

Part 3: The most important topic: Navigation (25 min) Short lecture; Discussion

Part 4: Assessing Usability (25 min) Plenary discussion; Short lecture

Part 5: Conclusion (5 min)

Further reading:


### 7.12 The bachelor-master structure and medical education in Europe

Professor Olle ten Cate, University Medical Centre Utrecht, Netherlands; and Professor Herman van Rossum, Free University of Amsterdam, Netherlands

In 1999 European Ministers of Education agreed upon the Bologna Declaration on harmonising higher education. One element concerns restructuring education into two cycles: a bachelor (undergraduate) phase of three years and a master (graduate) phase of one or two years. Major reasons to harmonise include international comparability and enhancing exchange possibilities. In the Netherlands universities and vocational schools will implement the new structure from 2003 on. Medical schools have been hesitant to adapt their curricula. A national project on The Continuum of Medical Training has been asked to first investigate the possibilities and desirability of this new structure. It may be contrary to current medical curriculum developments, as in innovative schools clinical education is gradually moving to early years of education and being integrated with basic sciences. The BaMa-structure may throw medical education back to a separation of basic and clinical sciences. However, medical education could become too isolated within the universities and too little harmonised internationally, if it is does not implement the structure.

**Who should attend:**
This workshop was held at the AMEE conference in 2001 is repeated on request. Last year’s participants are invited to join again, as well as new participants from different countries.
Content:
Participants will be invited to (a) briefly discuss the current structure of medical training in their country in a structured format and (b) think of ways to implement the two cycle structure or argue why not to. Dutch considerations will be presented.

7.13 Admission to medical education: new students - new criteria. A Swedish outlook with international implications
Dr. Torger Hallberg, Lund University, and Dr. Per Hultman, Faculty of Health Sciences, University of Linköping, Sweden (on behalf of the Swedish Association for Medical Education)
Moderator: Stefan Lindgren, Lund
Panel participants: Representatives of medical schools and the National Agency for Higher Education, Sweden.

Background:
In Sweden, for many years, admission to medical education has been centralised to a Government agency with some scope for special local admission procedures. New regulations are being prepared, which would widen the existing set of criteria for admission to higher education, including medical education.

Aims:
To summarise experiences from the present admission system, including local admission procedures, and clarify how new regulations may influence admission procedures and teaching.

Who should attend?
Anyone interested in questions concerning admission and how admission influences the design of an educational programme. The session is open to non-Swedish as well as Swedish participants.

Content and structure:
Comprehensive discussion of present procedures and different models world-wide for admission to medical education.

7.14 A workshop on uncertainty and decision-making
Dr. Howard Tandeter, Ben Gurion University of the Negev, Beer Sheva, Israel; and Dr. Jose Ramon Loayssa, Servicio Navarro de Salud, Pamplona, Spain

Background:
Uncertainty in diagnosis and management are common issues in primary care practice. However, minimal attention has been given to this area in textbooks and training. This workshop was designed to discuss and disseminate the idea of uncertainty in medical practice.

Content:
Participants are expected to:
• Recognise and accept the existence of uncertainty in primary care’s clinical practice;
• Discuss decision-making strategies to deal with the uncertainty; and
• Discuss ways to teach about uncertainty during residency programs.

The workshop is built in stages
1. Delineating objectives
2. Moderators’ examples
3. Participants’ examples
4. Classification (Small group discussion)
5. Theory on types of uncertainty and decision making strategies
6. Teaching about uncertainty (Small group discussion)
7. Conclusions and recommendations.
After “ventilating” their own uncertainty, participants will find that these are shared by others (not a personal issue), and then develop a way to teach about uncertainty during Residency Programs.

7.15 Young Educators’ Group
led by Professor Miriam Friedman Ben-David, Tel Aviv, Israel

Background:
Recently we have witnessed a high number of young clinicians who choose to commit a significant amount of their time to work in medical education and who seek to expand their formal training in medical education-related fields. This group of Young Educators may benefit from a special international interest group with which they may share their concerns, challenges in the field and future career plans. The idea is to create a Forum of Young Educators within AMEE - and the workshop will be the initial planning for such a Forum.

Content:
Workshop participants will discuss and suggest membership criteria for joining the Forum, will develop topics for the Forum’s agenda and will define the need for training programs in the areas of mentoring and leadership, tailored specifically for young medical educators. The implications of networking, and research activities for career advancements, will be discussed in an international context. A panel of expert leaders in the field will be invited to react to the young educators’ agenda.

7.16 Personal Learning Plans
Organiser: Jonna Thomsen, CME Facilitator, Northern Jutland, Denmark

The workshop will build on the short communication presentation 8E5 (see Section 4 Abstracts Session 8). It provides the opportunity to work in pairs to develop a Personal Learning Plan.
7.17 Mini Thematic Sessions

7.17/1 IVIMEDS

Professor Ronald Hardin, IVIMEDS, Centre for Medical Education, Tayside Park House, 484 Perth Road, Dundee DD2 1LE, UK

**Background:**

IVIMEDS is an unique collaboration between medical schools and institutions in Australasia, Europe, North America, South America, the Middle East and the Far East. The collaborative structure makes possible developments in medical education well beyond the capabilities and scope of any one school, no matter how rich in resources and funding it may be. The collaborating schools and institutions will explore:

- the application to medical education of innovative thinking and approaches to the new learning technologies including quality assured e-learning and virtual reality;
- the development and implementation of new approaches to curriculum planning;
- an unique international perspective on medical education which takes into account the trend to globalisation.

The following elements will contribute to the IVIMEDS programme and will allow students and schools to individualise education programmes to meet their own needs:

- A curriculum map – a visual representation of the content areas and curriculum learning outcomes;
- A range of face-to-face learning opportunities;
- A bank or repository of e-learning resources – ‘reusable learning objects’, contributed by collaborating schools and covering the areas addressed in the curriculum map.

**Who should attend?**

The session will be relevant to anyone with an interest in medical education – teachers, administrators and students – and provides an opportunity for a discussion on this innovative approach to the challenges for medical education in the 21st Century.

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7.17/2 The use of IDEAL (International Database for Enhancement Assessments and Learning) as an aid for assessing medical students

Dr John Nicholls, University of Hong Kong, and Professor Clark Hazlett, The Chinese University of Hong Kong

**Background:**

There are three fundamental components in an examination package-the learning object, the meta-data and the learning content management system (LCMS). These three components are inter-dependent-the learning object (LO) is the material, the meta-data (MD) or metatagging provides a standard way of cataloging the object (usually in code) and the LCMS is the vehicle that stores, delivers and manages content. IDEAL is a software-based system developed with the aid of a teaching development grant to the University of Hong Kong and the Chinese University of Hong Kong. Over 7,770 questions in a wide variety of formats (true-false, best of 5, Extended Matching, Key Features, OSCA, Modified Essay, Short Answer) have been compiled by 8 founding members of an International Consortium. These questions provide the backbone of the LO as they are individual “nuggets” that can stand alone and be used across institutions. Using a simple yet robust system of metatagging by system, discipline, taxonomy, psychometric properties, and other relevant classification criteria, users can select questions from the bank for individual or faculty-based examinations. Finally, this particular LCMS is a multi-system platform that allows the teacher or examiner to create new question papers, administer assessments via two formats - hardcopy or internet - and conduct item analyses of the student responses.

**Content:**

In this mini-thematic session participants will be introduced to the principles behind the development of the ACCESS system. The metatagging system will be discussed, and then demonstration of the system by members of the consortium will be provided with opportunity for participants to use the software on a mini bank of items.

**Who should attend?**

The session is open to educators who are interested in developing or working with other medical schools in multi-institutional assessment banks for medical students.
Session 8A  Computer-based Assessment

8A1  Moving from a paper and pencil examination to a computer-based examination: lessons learned

David E Blackmore*, David R Miller, Andreé-Phillippe Boulais and W Dale Dauphinee
The Medical Council of Canada, 2283 St. Laurent Blvd, CP/PO Box 8234, Ottawa, Ontario K1G 5A2, Canada

The Medical Council of Canada (MCC) awards a qualification known as the Licentiate of the Medical Council of Canada (LMCC) to examination candidates who successfully pass the MCC’s Qualifying Examination. This Examination is divided into two parts. The Part I (MCCQE Part I) is a one-day computer-based examination and the Part II is a one-day 14 station Objective Structured Clinical Examination (OSCE). Starting in November 2000, the MCCQE Part I changed format from a two-day paper and pencil format to a one-day computer-based format that is administered over an Internet virtual private network (VPN) to 16 test centers across Canada. Examination windows occur twice a year (May and November). This paper reviews the look and feel of the MCC computer examination and touches on some of the different lessons learned in moving a national high-stake licensing examination from a paper and pencil examination to an examination that is administered via a computer over the Internet.

8A2  The challenges of creating a computer program designed to administer a high-stake licensing examination

David R Miller*, David E Blackmore, Andreé-Phillippe Boulais and W Dale Dauphinee
Medical Council of Canada, 2283 Saint Laurent Blvd, Box 8234, Ottawa, Ontario K1G 5A2, Canada

The Medical Council of Canada (MCC) switched from a two-day paper and pencil examination for the Part I of the MCC Qualifying Examination (MCCQE Part I) to a one-day computer-administered examination in November of 2000. This changeover came about after extensive forethought and planning and was not without its programming challenges. The computer program that manages the administration of the MCCQE Part I addresses many issues ranging from security to disaster recovery. In addition, this examination is administered in both French and English. The fact that the examination candidate has the ability to switch languages at any time also adds a unique dimension to the program complexity. This paper outlines the methodology that is used and the processes underlying the delivery of a high-stake licensing examination via the Internet to 16 centers across Canada during two examination windows a year: one in May and one in November.

8A3  Comparative study of a postgraduate exam using computerised and printed test

Marina Eugenia Ponce de Leon*, Armando Ortiz and Maria Del Carmen Ruiz
Universidad Nacional Autonoma de Mexico, Camino Sta. Teresa 277 casa 15, Colonia Parques del Pedregal, C. P 14010, Delegacion Tlalpan, Mexico, D. F

A diagnostic test was applied in the National Autonomous University of Mexico School of Medicine using a two part format with 42 clinical cases and 210 multiple choice items. Residents were randomised into two groups: group A (printed test) and group B (computerised test). Academic performance was measured through the determination of media, standard deviation, right-answer score; the exam was measured through the reliability, difficulty index, discrimination index, and question/animal assessment were calculated for item analysis. The residents answered a survey questionnaire and the time taken to answer was controlled. Results showed that the printed test had higher achievement: there was better reliability for the computerised format; residents’ opinion was more favourable towards computer use. The two parts of the test were analysed, the results were produced for the first part of the test; in part two, results were very similar. We conclude that lack of experience in computer use could be a determining factor in our results.

8A4  Evaluation of high stakes patient management through performance-based clustering using artificial neural networks

Adrian M Casillas
UCLA, School of Medicine, 52-175 CHS, Los Angeles, CA 90095-1680, USA

The National Board of Medical Examiners (NBME) has developed the Computer-based Clinical Scenarios (CCS) as a high-stakes assessment of realistic clinical cases for the purpose of establishing physician licensure. The simulations depict the real nature of patient case management by incorporating time, risk and quality of benefits. In order to capture the rich nature of large, complex data sets, a compression technique that was capable of preserving the sequence and type of test selected by examinees was created as part of a preprocessing program. The data were analysed using supervised artificial neural networks based on the NBME rating criteria for two cases of varying complexity. Distinct approaches to building a model of the performance data were carried out to derive comprehensive and predictive models of performance from the CCS data. More than one model of performance behaviour could be explained with different representations of the data.

8A5  A computerised adaptive test as an element of the final assessment of General Practitioners in Flanders: a standard setting procedure

A Roex* and J Degryse
The many advantages of the Computerised Adaptive Test (CAT) make it very attractive for use in the (final) assessment procedure of General Practitioners in Flanders. A first pilot study was successfully organised in June 2001. The results of this experiment have been reported earlier (Roex A & Degryse J 2001). A normative standard setting procedure was used: the cut off score was defined as two standard deviations from the median theta level. This was an arbitrary choice, and was based on an elementary equaling procedure using the results of the written MCQ test. The item bank for the CAT was constructed with the multiple choice questions used in the written test. Further research is necessary to refine the standard setting procedure for the CAT. The research question posed was: Is the equating technique that has been used to define the pass-fail standard in the CAT valid and defensible? The written test is presented to the 7th and 8th year students of General Practice (n=380). Given the written test’s very high reliability and validity, it will be used as a “golden standard”. In the written test a criterion referenced approach is used to define the pass-fail standard. All of the students who fail this test will be asked to take the computerised adaptive test on the day following the written test. A corresponding number of students who passed the written test will be invited to act as a control group. Pass fail decisions on both tests will be compared according to different methods. The hypothesis is that the CAT has a high specificity but a low sensitivity for identifying students “at risk” for failure in the written test. Results and conclusions of this experiment will be discussed during the short communication.

Session 8B    The Curriculum

8B1 Linking faculty development to the preventive health of vulnerable children
Linda Z Nieman* and Kathleen Becan-McBride
University of Texas Houston Health Science Center, Family Practice and Community Medicine, 6431 Fannin St, Suite JFL324, Houston, TX 77030, USA

This paper describes a faculty development approach to better community-based teaching of children who have major health risks for diseases such as Type 2 diabetes. The approach focuses upon the experiential learning of physicians who prepare and practise distance learning techniques in sessions that link them directly to elementary and middle schools in low-income areas. The educational sessions are an essential, grant-funded part of the faculty development of community-minded academic primary care physicians at The University of Texas-Houston Medical School. Program leaders, who review videotapes of the sessions, provide feedback to the fellows. In addition, administrators, teachers, and students at the elementary school offer formal and informal written evaluations. To date, evaluations demonstrate a high level of satisfaction with the program.

8B2 Enhancing the health of medical students
Craig Hassoed
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Research tends to confirm that medical students experience considerable stress during their medical education and in their later careers as doctors. Evidence also suggests that many doctors feel under-prepared with regard to practical skills in assisting patients with managing stress and lifestyle modification. Monash University for many years has run undergraduate teaching on these themes in both core and elective programs. Under the auspices of the Personal and Professional Development theme of the new curriculum, students are given a six-week Health Enhancement Program focusing on the above issues. It is aimed at benefiting students personally by teaching professional skills in an experiential rather than theoretical format. It also aims to help integrate behavioural and biomedical sciences in a more holistic way. This paper will present the aims, structure and delivery of this innovative program and highlight the results, pitfalls and lessons learned from its first year of implementation.

8B3 What about videotaped communication with simulated patients?
S Krautzberger*, D Wortmann*, H Ortwein, P Terzioglu and C Kiessling
Reformed Medical Curriculum, Faculty of Medicine, Humboldt University of Berlin, Reformstudiengang Medizin, Schumannstr 20/21, 10117 Berlin, Germany

The Reformed Medical Curriculum at the Faculty of Medicine, Humboldt University of Berlin, includes the subject “Interaction” which focuses on the improvement of communication and interaction skills. In the 4th semester, “Interaction” contains a one day-workshop where students analyse their own videotaped anamnestic interviews in small groups of seven students with one professional tutor each. Short lectures on relevant communication issues support their analyses. Starting from the workshop’s format and contents, we will illustrate its aims and organisational requirements. We will briefly answer the following questions: How is it linked within the framework of “Interaction” throughout the semesters? What have been the results including the evaluation? One of this compulsory workshop’s aims is to stimulate the students’ own initiative regarding future self-organised “video-groups”: students who practise medical interviewing with simulated (and real?) patients while being videotaped, and analyse their videos afterwards. We want to discuss this goal.
Evidence-based curriculum changes: when their impact may not be enough

C B Hazlett*, J C Y Cheng, D Chung, R Kay, P Lai, J J Y Sung and C A van Hasselt
Chinese University of Hong Kong, Office of Educational Services, Faculty of Medicine, Prince of Wales Hospital, Shatin, New Territories, Hong Kong

In an effort to enhance professionalisation, communication and basic clinical skills, an Asian medical school introduced a pre-internship module into its curriculum. To accommodate the new module, each clinical rotation in medical and surgical subspecialties was reduced from 4 to 3 weeks. The respective clinical teachers expressed concern that their reduced student contact time adversely affected students’ clinical competencies. In particular, extra time devoted to professional enhancement was viewed as questionable. Upon completion of pre-internship, students entered their internship year. Their performances were compared with interns in previous years without a pre-internship. On eleven validated performance criteria, preceptors consistently rated the pre-internship group significantly better. Notwithstanding this evidence of positive gain, the Faculty decided to revise and reduce the pre-internship module. This presentation will discuss administrative, professional and practical issues that a Faculty must address if curriculum revisions involve reduced student contact times that are not widely supported by clinical teachers.

Fragmentation or integration of knowledge? A paradigm shift for teachers and leaders in medical education

Regina Pontes and Stewart Mennin
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What is the role of the university in improving the health of the public and preparing future physicians for a less predictable and more fragmented world? In spite of our best intentions, knowledge and pedagogical approaches are increasingly fragmented as information and technology dominate curricula in which teaching by telling leads to memorisation of isolated facts and community experiences are transitory and marginal. Teachers who respect and love their discipline but have incomplete understandings of how people learn pursue inefficient pedagogical strategies segmented by departments and other artificial boundaries that stifle learners’ inherent curiosity and exploration. A culture valuing faculty development that applies sound educational principles and practices is needed if teachers are to become more reflective and aware of learning. Teachers need advanced skills in networking and communication to model collaborative learning as they engage complex social issues. An inclusive definition of scholarship that encourages and embraces education will strengthen the values and mission of the university.

Session 8C International Medical Education

International cooperation as a strategy to improve medical education

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In a context of a globalised world and faster communication tools, international cooperation has become an important issue in medical education. One important aspect is the possibility of partnership between medical schools in the northern and the southern hemispheres. In the framework of the UNIBRAL exchange program between the Federal University of Roraima, Brazil (UFRR) and the Ludwig-Maximilians-University, Munich, Germany (LMU), computer-based multimedia cases have been created, using the CASUS authoring software, developed at LMU.

Using its natural vocation as a tropical region institution, cases in tropical medicine have been developed at the UFRR, and at the LMU mainly cases in pediatrics and genetic diseases. We will report about the integration of the cases in the curriculum at both universities and demonstrate how the same cases may be used in the two settings, despite the local differences, in order to approximate the curricula at both universities.

Presentation of International Federation of Medical Students' Associations

Rita Tomas and Nikola Borovec
IFMSA, Predraga Henrica 10, HR-10000 Zagreb, Croatia

International Federation of Medical Students’ Associations was founded in 1951. Its mission statement is: “Our mission is to offer future physicians a comprehensive introduction to global health issues. Through our programming and opportunities, we develop culturally sensitive students of medicine, intent on influencing the transnational inequalities that shape the health of our planet.” Throughout 50 years of existence, IFMSA has become an international federation with broad representation and close relations with medical students’ associations all over the world. WHO, UNESCO, other UN agencies and several INGOs, such as the Global Health Forum, recognise it as an important non-governmental organization and Collins partner. Main activities are divided through six standing committees: SCOME, SCOPE, SCORA, SCORE, SCOPH and SCORP. The Standing Committee on Medical Education (SCOME) is a forum for active discussion for medical students interested in developing medical education with the goal of implementation of an optimal learning environment for all medical students around the world.
**8C3** Case-based comparison of health care delivery systems: from an international student exchange programme towards curricular integration

Martin R Fischer*, Stefan Lindgren*, Mona Eriksson, Ole Winding, Oliver Fein and Elisabeth Armstrong
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The experiences and results from international student exchange programs are rarely fed back to the related institutions and have little impact on course or curriculum design. During an ongoing exchange program between the US, Denmark, Sweden and Germany, 54 comparative case studies have been created by medical students and their respective clinical preceptors on major disease entities over the past four years (Med. Educ. 2001;35:695-701). We report on the format of the program, the results of a survey of student participants about the impact of the program on their learning experiences, and the editing process of the case studies by an international group of experts. Furthermore, the pilot use of the case studies as teaching materials in the context of different integration strategies in the participating medical schools including the case-method and open-distance learning technologies will be discussed.

**8C4** Development of an on-site/on-line program for international faculty development

W P Burdick*, P S Morahan, L M Johnson, G P Whelan and J A Hallock
ECFMG, 3624 Market Street, 3rd Floor, Philadelphia, Pennsylvania 19104-2685, USA

A yearlong fellowship program for international medical school faculty with potential to play a key role in improving medical education at their schools was developed by the Foundation for Advancement of International Medical Education and Research. The program is designed to teach education methods and leadership skills, and develop strong professional bonds with other international medical educators. The program consists of two residential sessions in the United States, the first lasting 18 days, and the second a year later, 10 days. A curriculum innovation project at the participant’s home institution, carried out during the intersession period, is required. During the intersession period, a series of on-line discussions are held, facilitated by faculty and then participants, with contributions from a variety of content experts. Discussion topics included Distance learning, Community-based research, and project feedback. Lessons learned in development of this on-site, on-line program will be discussed.

**8C5** Balancing education needs with service obligations: a French/US comparison

Judith Armbruster*, Christophe Segoun and Marie Jo Déal
ACGME, 515 N State, Suite 2000, Chicago IL 60610, USA

The residents in France recently went on strike to demand changes in on call schedule and reimbursement policies. In the United States, a Congressional bill that would limit resident work hours is under consideration. This session will identify some key questions that form the basis of the debate: How is the education/service balance understood in each of the countries? What role does tradition play? How do patient safety factors, the mission of the teaching hospital, funding of postgraduate medical education, and the obligations of the physician faculty enter into the issue? To illustrate and explore these points, a comparison of practices in the French and U.S. systems of resident education will be provided.

**Session 8D** Communication Skills

**8D1** The improvement of communication skills and how it can be measured

H Brandes*, M Helle, W Georg and H Ottein
Humboldt University (Charité) Berlin, Campus Mitte, Reformstudiengang Medizin TAEF, Schumannstr. 20/21, D 10117 Berlin, Germany

The reformed medical curriculum at the Charité, Faculty of Medicine, Humboldt University of Berlin, has developed a curriculum which not only applies new learning, teaching, and assessment techniques but also focuses strongly on education in clinical and social competence. A study has been conducted to confirm the hypotheses that students’ communication skills improve systematically along the curriculum. Students from the 1st, 3rd, and 5th semester attended an 8 minute history taking OSCE-station, where specially trained simulated patients were to be interviewed. The checklist consisted of 15 items covering social competence, nonverbal behaviour and performance at different stages of the interview (introduction, process and ending). Data of this study will be presented and discussed.

**8D2** Ensuring pre-clinical medical students have appropriate communication skills to progress to clinical training

Jon Dowell and John Dent*
University of Dundee, Department of Orthopaedic Surgery, TORT Centre, Ninewells Hospital and Medical School, Dundee DD1 9SY, UK

Occasionally students progress through medical training with alarmingly poor consulting skills. However, it is difficult to fail students for this alone as they approach graduation. We have introduced formal
assessment of consulting skills into pre-clinical OSCE assessments to detect students with major difficulties. Those identified are obliged to attend and pass a two-week special study module covering basic consultation skills. Faculty now consider any student failing this as ‘incomplete’, irrespective of other academic achievements, so students may be directed away from clinical medicine after third year. This raises three issues. Firstly, the ‘Outcomes Based’ model has provided a structure that helped justify testing particular competences. Secondly, we have developed a screening assessment process, based on the global ratings of borderline performance (Williams et al). Thirdly, it is necessary to provide remedial training and a robust assessment of skills. Progress during the first two years in each of these three areas will be reported.

**8D3 Fractal metaphors: Visual dialogues**

Phil Croft* and John Skelton
Department of Primary Care and General Practice, University of Birmingham, Primary Care Sciences and Learning Centre, Edgbaston, Birmingham B15 2TT, UK

Thirty transcribed GP consultations were randomly selected from a corpus held at Birmingham University, with the intention of developing an accurate visual representation of the spoken language of GP consultations; and determine from those representations whether spoken language can be described, metaphorically, as fractal (as coined by Mandelbrot in 1975) in nature. Consultations were coded with reference to, and building upon, the work pioneered by Swales in Genre Analysis and subsequently applied in written medical language by e.g. Skelton. The resulting visualisations were processed using Microsoft Excel. Preliminary results suggest that there is evidence of dialogue forming fractal patterns. This presentation aims to offer a starting point for further discussion and seeks to offer the possibility that there may be recognisable visual patterns to good and bad communication. It raises the possibility that a future model for teaching consultation skills may be considerably simpler than those currently taught.

**8D4 Inter-physician communication training with patient simulations: a pilot study**

S Eggermont*, P M Bloemendaal, P E Schenck, E Schoonderwaldt, S J Hogerzeil, R Sijstemsans and J D Donnison-Speyser

Leiden University Medical Center, Heeikunde Onderwijs K6-R, Postbus 9600, 2300 RC Leiden, Netherlands

Leiden University Medical Center and Amsterdam Medical Center have developed a training model for inter-physician communication, integrated in the Dynamic Patient Simulator® (DPS). DPS is an educational computer program designed for creating and playing patient simulations. In a pilot study a group of 22 students from both universities performed two DPS cases. The effect of this exercise on inter-physician communication skills was measured. Students filled out a questionnaire before and after performing these cases, self evaluating their skills in different aspects of the transfer of a patient record. Students demonstrated statistically significant progression (p < 0.05, Wilcoxon) in the perception of their skills in: (1) constructing a list of activating findings; (2) constructing a list of problems; (3) constructing a differential diagnosis; (4) constructing an action plan; and (5) communicating the action plan to a colleague. In our presentation we will discuss the methods and results of the survey in more detail.

**8D5 Personality differences between doctors and their patients may be a barrier to effective communication**

Gillian B Clack*, Derek Cooper and John O Head
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There is increasing emphasis on the importance of good communication skills teaching, but the extent to which personality differences between doctor and patient is included in these curricula is unknown. 313 medical graduates from King’s (68% response rate) completed the Myers-Briggs Type Indicator (MBTI) which measures normal personality differences. It covers individuals’ preferred focus of attention, how they like to take in information and learn about things, how they make decisions, and how they like to live their lives. These differences have implications for the doctor/patient consultation process. The doctors’ personality profiles differed significantly from the UK adult norms, i.e. their potential patients, suggesting a potential barrier to good communication. It will be recommended that the concept of ‘psychological type’ underlying the MBTI should be included in the curriculum so students can take account of potential differences between their own personalities and those of their patients in the consultation process.
Session 8E  The Student including Career Choice

8E1 Factors that inform the career choice of medical students: a longitudinal survey
S S M Hussain*, M Ranta and R Patel
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We carried out a longitudinal survey to determine which factors inform the career choice of medical students. Students at Dundee Medical School were asked to rank factors according to their importance in their career choice in their 3rd year and were followed-up again in their 5th year. For 3rd year medical students career progression was by far the most important factor in their career choice. As the students progressed to their 5th year other factors such as on-call commitment and the possibility to train part-time gained importance. However, career progression remained the single most important factor for their career choice. Specialties that can offer smooth career progression, allow part-time training and have a not too onerous on-call commitment will be popular career choices for today’s medical students.

8E2 Determinants of Dutch first year medical student’s career preferences
M B M Soehout*, Th J ten Cate, M G H Nieuwhof and G van der Wal
Vrije Universiteit Medical Centre, Department of Social Medicine, EMGO-Institute, Van der Boechorststraat 7, 1081 BT Amsterdam, Netherlands

As part of a semi-longitudinal study into the development of career preferences in medical students and their determinants, all 2001 first year students at VU Medical Center and Utrecht Medical Center were asked to complete a questionnaire. Questions were asked about attractiveness and knowledge of 38 medical disciplines, biographical information and characteristics of the profession. The most attractive discipline appeared to be Family Medicine followed by Pediatrics and Surgery.

Thirty percent of the respondents made their decision to become a doctor before the age of 12. Working experience in health care was related to knowledge about medical professions. Experience in a nursing home was related to preference for a nursing home physician career. Social skills, wide medical knowledge, visible results and cure patients appeared to be the most attractive aspects of the medical profession. The first two relate mainly to Family Medicine and the last two to Surgery.

8E3 Scientific output of medical students at the start of their professional career: a five year follow-up of participants of the Students Congress Groningen
Faculty of Medical Sciences, State University Groningen, Groningen, Netherlands

The lack of clinical investigators as compared to fundamental scientists has been a matter of longstanding concern in medical science. Since 1993 the Students Congress (SCG) is held annually at the University of Groningen and aims to stimulate research by medical students, by providing the opportunity for students to present their scientific work to their fellow-students. The purpose of our study is to investigate the scientific output of the students presenting at the 1997 Congress, with matched, non-presenting students from the same cohort as a control group. Scientific output was scored for 25 students who gave either an oral (n=10) or a poster (n=15) presentation at the 1997 Congress, by means of a PUBMED search. The control group (n=25) was constructed from a database of the medical faculty; SCG-presenters were matched to non-presenters by the year of turning in their graduation paper. Thus, both groups were matched for study program and duration of follow-up (i.e. opportunity to publish). The total output of the two groups was compared by Mann-Whitney test. Publications were found for 14/25 SCG-presenters and for 5/25 non-SCG presenters (p<0.05). The total number of publications by SCG presenters was 43 versus 13 in non-SCG presenters. Output per student 0 to 18 in the SCG presenters (median: 1, 95% CI 0.15-3.1) and from 0 to 4 in non-presenters (median 0.95%, CI 0.02-1.02). The difference between the groups was significant, p<0.037. Scientific output of students presenting at the SCG was significantly higher than in non-presenters. Whether presenting data at the SCG just identifies students with scientific potential, or whether the SCG indeed succeeds in stimulating students to choose for scientific work, cannot be deduced from these data, and will have to be explored in further studies.

8E4 Does choice of medical school influence student’s scores on national examinations?
Ara Tekian* and Laura Hruska
University of Illinois at Chicago, Department of Medical Education (m/c 591), 808 S. Wood St, CME 986, Chicago IL 60612, USA

This paper investigates the medical school’s impact on one measure of student performance, i.e., United States Medical Licensing Exam Step-1 (USMLE-1). Students’ entrance criteria (GPA, and MCAT scores), and USMLE-1 from seven United States medical schools (public and private), with minority students above 10% for the years 1993-1995 were collected. An analysis of co-variance (ANCOVA) was used to test for mean differences among GPAs, MCAT, and USMLE-1. The ANCOVA model accounted for 45.7% of the variance in USMLE-1 scores among students. Significant differences (p<0.01) existed among the seven schools regarding GPA, MCAT and USMLE-1; however, when the USMLE-1 scores were adjusted
taking into account U.S. entrance criteria, none of the seven medical schools were significantly different. Schools with higher percentages of minority students performed equally well. Thus, the status (e.g., prestige) of a medical school does not significantly influence students’ scores on examinations administered nationally.

8E5 Personal Learning Plans (PLP) in Denmark
Lisbeth Errebo-Knudsen and Jonna Thomsen*
Gl. Markedsvej 3, 9320 Hjallerup, Denmark
The aim of the presentation is to give an introduction to how PLPs are implemented and performed by general practitioners in Denmark. PLPs provide an awareness about how to assess learning needs in a self-directed and problem-based way. Learning needs are based on what is necessary and sufficient concerning knowledge, skills and attitudes (values) to improve and innovate daily work as a competent professional, working with peers and other professionals in teams. Oral presentations about PLPs in Denmark and questions raised by PLPs are covered, together with reflection and dialog based on brainstorming about the steps in PLPs: “where have you been”, “where are you now” and “where are you going” concerning learning. Finally there is discussion about opportunities and threats for PLPs in the future in participants’ countries.

Session 8F The Curriculum Integrating Basic Science and Clinical Medicine

8F1 Identifying skills to teach an integrated curriculum
Nehad El-Sawi* and Karen Marcadante
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Medical students are expected to master a constantly increasing amount of information in order to provide high quality care for their patients. Integrating basic and clinical sciences during educational efforts should allow for enhanced learning by providing context and clinical relevance for basic science concepts while assuring more than rote memorisation of clinical algorithms. The emphasis on integration is recognised, but many basic science and clinical faculty members find it difficult to create resources that allow faculty to easily integrate both basic science and clinical concepts throughout all 4 years of undergraduate medical education. This presentation will provide a brief review of the literature, and description of a method for case development that accomplishes the integration goal.

8F2 CASK: a clinically oriented multi-learning approach to anatomy
O Paul Gobée, Arnold C G Wenink*, Robert E Poelmann and Adriana C Gittenberger-de Groot
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CASK (Clinical Anatomical Skills) is a web based programme offering clinically oriented materials for different learning styles. The lessons take the student through several anatomical aspects of a chosen clinical problem. Various technologies create a great variation in interactivity. Animations, multiple choice questions, invitations to manipulate figures or to place labels are mixed. The student’s actions are always rewarded by feedback from the virtual teacher, leading to increasing understanding. To meet preferential learning styles, the student may switch from the interactive main body of the lesson to a non-interactive Reference Section, which may be consulted before trying the main body or at any other moment during the lesson. A dissected specimen is available for immediate study and enhances 3-D insight. Thus, a combination of computer assisted education and anatomical dissection is offered, because the two approaches are known to reinforce each other.

8F3 A new medical curriculum, U2000, at Umeå University, Sweden: activation, integration and life-long learning
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The aim of the curriculum change was to create larger, more integrated courses and to strengthen the scientific schooling, as well as to put more emphasis on professional development, and primary health care. The partly new and extended subject areas have been integrated as longitudinal themes throughout the 11 semester program. The pedagogic was changed, with emphasis on student activation, group processes, and problem solving. Several pedagogic models are used, allowing for the use of the most appropriate model in relation to subject area, resources, and preference of the teachers. We will present an overview of the curriculum and give examples of integrated courses in more detail. Furthermore, the content of the longitudinal themes will be presented.

8F4 Demonstrating the relevance of Basic Science using index cases
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The Cambridge Graduate Course has provided the opportunity for clinicians to introduce students to clinical problems in the context of basic science. “Index Cases” were written and given by the authors in small group settings, which aimed to help students appreciate
the relevance of basic medical science to clinical practice.

Learning objectives include being able to identify and define the principles of basic science which underpin the capacity to solve clinical problems. Other objectives include recognising the limitations of current knowledge: how not all clinical phenomena can be easily explained through science, and how the potential for the clinical application of science has not been fully realised. Students learn to distinguish between fact, opinion and inference within clinical scenarios. Other ways of knowing are also considered using literature, historical description and patient narrative. Evaluation of Index Case tutorials has been through student feedback, and has so far been positive.

**8F5** Differences in students' academic profile influence gains in experimental courses in Biochemistry

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**Session 8G** CME General

**8G1** Inducing change in clinical daily practice: impact of a CHE comprehensive programme aimed at optimal use of medication in patients with arthrosis

Martin Labelle*, Carl Fournier, Daniel Paquette, Robert L. Thivierge, Michele Beaulieu, Louis Bessetser and Denis Choquette

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With the intention of optimising the use of NSAIDs in the treatment of arthrosis, we have developed, in the last two years, a health management program, called CURATA, in the province of Québec (Canada). Partners in this program were an academic CME office, physicians, pharmacists, physiotherapists and ergotherapists societies, patients’ group, pharmaceutical industry, PE development and Government Health Ministry. The pedagogic committee of CURATA has developed an educative approach to fill the gap between current practice and optimal treatment: treatment algorithm for professionals, problem-based workshop for family physicians, inking pad for use in patient file, educative program for pharmacists and informative tools for patients. Impact measurement showed that this program has induced changes in prescription of NSAIDs by family physicians (9.3% improvement of optimal prescriptions of NSAIDs, p-value=0.003). Therefore, this type of educative approach has enhanced quality of healthcare to patients suffering from arthrosis.

**8G2** Consultants as educators - The Case Project

John Schostak* and Jill Schostak

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During one year 5 consultants (a general surgeon, two rheumatologists, a psychiatrist and a pain management consultant) participated in an in-depth study of their ‘ways of thinking’ compared with the thinking processes of their trainees as a basis for developing educational strategies. The research methods included repeated in-depth interviews, shadowing in a range of clinical contexts and recorded ‘expert team’ discussions. Several hundred hours of fieldwork data provides a fascinating insight into the ways consultants assess, judge and make decisions. The important implications for developing approaches to both continuing professional education for consultants and their trainees in a clinical context will be described in relation to the following broad themes: Uncertainty, risk and confidence; Changing cultures of practice; Styles of teaching and learning – perceptions of ‘effectiveness’; Time resources and the ‘failures’ of management; Professional identity and ‘professionalism’; Transforming the clinical environment into a learning environment.

**8G3** Career grade CPD - how does this fit with organisational learning needs?

Cindy Johnson

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This paper describes Phase 2 of a nationally funded research project which investigated the CPD experiences of career grade staff. The aim of the project is to develop an approach to meeting the CPD needs of both individuals and the organisations in which they work. Phase 1 explored perceptions of CPD amongst career grade staff through interview and survey. In the second phase, medical and non-medical managers, and career grade staff were invited to discuss approaches
to dealing with situations in which individual and organisational needs did not match exactly. Discussion triggered by the use of contextualised scenarios generated insights into understandings of CPD and how it is experienced in relation to: the mix of professional cultures operating and the complex nature of relationships between individual medical practitioners and the organisations within which they work. Contrasting approaches to meeting both individual and organisational learning needs were uncovered.

8G4 Higher professional education in General Practice - ascertaining learners' needs
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Vocational training works – up to a point. The pressures of preparing for summative assessment mean that British General Practitioners reach the endpoint of training with many skills still underdeveloped. Higher Professional Education (HPE) is a new government-funded system, to deliver the missing competencies that newly qualified general practitioners need to undertake the real job of NHS General Practice independently and with confidence. Determining the learning needs of the HPE doctors is vital to designing effective educational programmes. We sought perceptions on the gaps that are left after vocational training around one region. First we surveyed recently trained doctors, prompting them to look at their confidence in the broader managerial and clinical areas of practice. Then we sent a questionnaire to the doctors who had trained them, so as to get a dual perspective of residual needs. We report our findings and the implications for designing effective HPE programmes.

8G5 Using internet technology to produce a multidisciplinary electronic journal
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The West Suffolk Hospital Trust’s e-journal was launched last year. Hospital staff needed a vehicle to encourage them to write up research, case studies and personal experiences. Prior to the launch of the Cambridge Graduate Course in Medicine, a course in creative writing was run, one of the aims of which was to inspire people to write. The e-journal, available on the Web at http://www.eastern.nhs.uk/SuffolkTrusts/WestSuffolkHospital/Ejournal, aims to promote the sharing of good practice, continuing professional development and interdepartmental communication. Chief editor is Orthopaedic Consultant Mr Martin Wood. Recent articles have included ‘Benign breast disease for GPs’ by Surgeon Mr Ravisekar, ‘Discharge summaries: from pocket computer to GP’ by Nirmal Kakani and ‘PALS: definitely not Paediatric Advanced Life Support!’ by Jo Lucas. Each issue also includes an educational clinical quiz, judged by Radiologist, Ray Godwin with a prize for the winner.

Session 8H Postgraduate Education and GP/FM

8H1 Family Practice as a specialty - philosophy, requirements, accreditation
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In the United States, Family Practice is an approved primary care medical specialty that involves three years of accredited residency training, the same duration as is required for Pediatrics and Internal Medicine. Completion of the training makes one eligible to sit for the certification examination of the American Board of Family Practice. It is a specialty that was developed in the late 1960s on the basis of key philosophical beliefs regarding the provision of health care that were seen as a corrective to over-specialisation and compartmentalisation. Currently, there are almost 500 accredited FP residency programs, the largest number in any of the 26 core disciplines in which ACGME accredits programs. This presentation will include a review of the key components of the requirements for residency training, including the philosophical underpinnings, and of the accreditation process.

8H2 A step towards vertical integration in medical education: opportunities for Australian junior doctors through the Rural and Remote Area Placement Program
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The Rural and Remote Area Placement Program (RAPP) is designed to provide junior doctors with a thirteen-week term in a rural general practice. It is a joint initiative of the Australian Department of Health and Ageing and the Australian College of Rural and Remote Medicine. In Tasmania, it is sponsored by a consortium, which includes the University of Tasmania, Tasmanian Divisions of General Practice (Rural Workforce Support), Rural Doctors Association and the Postgraduate Medical Institute. It is recognised by the Tasmanian GP Education and Training Consortium as an important innovation to promote vertical integration in medical education. The RAPP provides an opportunity for junior doctors to make better-informed career decisions as well as experience a high quality learning experience – both clinical and social – in a setting other than a major teaching hospital or provincial
hospital. RRAPP experiences, positive and negative, will be critically assessed.

### 8H3 Benefits for residents of a postgraduate training period in a Primary Care teaching practice

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Traditionally, primary care physicians in Switzerland are trained almost exclusively in acute care hospitals. In a pilot project the Swiss College of Primary Care Physicians has evaluated the feasibility and effectiveness of a 3 to 6 month postgraduate training period in a primary care teaching practice. The objective was to demonstrate the effect of this training scheme on the core competencies of the trainees. Independent, standardised, prospective self-assessment by the trainees and assessment of the trainees by the trainers (184 criteria) were evaluated. Eighty-six pairs of trainee and trainees meeting defined criteria participated in the project, and 80 completed the evaluation. The trainees showed a significant benefit in the core competencies of primary care. The average pre- and postgraduate medical education time of the trainees totalled 11 years, almost exclusively in hospital rotations. The primary care teaching practice seems to be an important and indispensable learning place in the education of primary care doctors.

### 8H4 Joined up thinking in developing postgraduate education for General Practice in Wales

Simon Small and Malcolm Lewis  
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Over a period of 6 years, routine surveys of trainees in General Practice in Wales identified a range of deficits in current educational provision. These ranged from inadequate or irrelevant training within the hospital-based component of training, a lack of preparedness to undertake the full role of a GP principal upon completion of the training programme, and poor support for newly-qualified doctors entering practice. The results of these surveys were used to design a concerted range of new initiatives to answer all the identified deficits. This paper describes early experiences with four pilot programmes, each targeted at a particular deficit identified by the survey instrument. One programme offered enhanced learning of relevant skills in hospital placements, two programmes offered higher professional education to those who had just completed their vocational training programme, and another provided an on-going learning set for new GP principals.

### 8H5 An academic Masters programme to complement General Practice vocational training in the UK

Vincent Cooper and Christian Mallen  
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Modernisation of the UK health service, expansion of medical schools and primary care research all require General Practitioners skilled in critical appraisal, research, education and management. Having re-designed a vocational training curriculum, we report a new integrated academic programme. The programme provides certificate, diploma and masters qualifications. Modules include: Research Methods, Statistics, Epidemiology, Medical Education, Reflective Practice (portfolio-based) and Communication Skills. The “general practice year” of vocational training increases to two years of part-time practice and part-time work in a primary care sciences research department, completing a research project. Alternatively, registrars who have completed general practice training have a year’s research training. Publication is supported and the dissertation completes a Masters degree. The modular course is popular and will become the main platform of general practice training. Three participants are engaged in extended academic training, with two more to join in August 2002.

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### Session 8I Staff Development

#### 8I1 Improving the competence of Residents as teachers: an educative intervention

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Short teaching sessions, case-based, brief presentations of recent developments or updates of clinical topics, play an important role in postgraduate and continuing medical education. Residents are expected to learn to design, plan and conduct these sessions. The teaching sessions presented by residents in our program suffer from some deficiencies such as excessive content, inadequate sequence and insufficient participation of the audience. An educational intervention directed at improving the design and running of the sessions, that consists of a systematic oral and written feedback, a guide, a didactic session and a planning form, was carried out. The intervention was evaluated based on semi-structured observation of the sessions by two teachers and analysis of the documentation used in them. Some improvement was observed resulting from more questions and better selection of topics, although more effort is necessary since the usual teaching in Health Services in which they work is not an adequate model.
812 Teachers Trainingi - a new strategy for improving teaching quality

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The Medical School at the University of Goettingen established a “Teachers Training-Programme” for scientists. The aim is the imparting of teaching abilities and long-term improvement of teaching quality in medical studies. Eligible are scientists who are currently involved in medical teaching. It is a 1-year programme with 12 participants. The programme is based on the following components: (1) Five 2-day workshops: Imparting of didactic principles and teaching methods for student-orientated teaching. (2) Individual coaching: In learning groups (3 persons), every participant preparing and teaching three lessons. These are supervised by the other group members and an experienced teacher. All parts of the teaching process (preparation, teaching itself, feedback, conclusions) are documented in written form. (3) Final rehearsal for the teaching assessment for habilitation. The programme and the results of the evaluation of the last 2 years will be presented.

813 How to improve lecturing by using Communication and Internet Technology (C&IT)

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This session demonstrates how C&IT can be used in lecturing. We shall watch a video that is part of a staff development project at University of Glasgow, Scotland. It consists of 10 case studies, which can be used in staff development as a basis for discussion to enhance teaching. A case of an Anatomy lecture is shown with a C&IT application. The teacher’s comments as well as the response from students are included. A short, focused discussion about the use of C&IT in lecturing will follow, referring to the experiences of the participants. The video has been piloted in a number of staff development courses and has been well received as an excellent means to encourage and inspire discussion about the use of C&IT in teaching. More general educational issues are also raised, such as the use of lecturing, problems in large-class teaching, and instructional procedures that activate students.

814 Partnership with patients: teachers learn and model

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Until recently, medical students have learned two models of learning to talk with patients: ‘history taking’ and ‘patient centred interviewing’. Medical educators agree that a key to real improvement in doctors’ communication skills is involvement of clinicians as teachers and role models of good communication as a necessary part of good medicine, not an optional extra. At Leeds School of Medicine, we are evaluating the development of our teachers as facilitators of this integrated model. Hospital clinicians review their interviews with patients on video and practise with simulated patients during work-based sessions. Both they and experienced communication facilitators (community practitioners and educationalists) together with simulated patient teachers, run sessions for third years during ward placements. All these teachers meet for recorded reflective exercises, learning and modelling partnership. The first stages of our evaluation are of this work that mirrors the students’ learning task.

815 Tool to improve teaching skills

B Kanagaratnam*, P Cantillon and Gloria Avalos
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This paper describes how to create a MCQ module electronically to assist the lecturer to teach better, and the student to improve his/her knowledge in the chosen field of study. After each test the students are given the feedback of their performance as well as the overall performance. The response analysis of the electronic MCQ module will help the teachers to improve their teaching methods. Data entry module is designed in ACCESS relational database to store the MCQ answers. This file is exported into EXCEL application to analyse the results. Using FRONTPAGE application, a web page is designed to display the final result. In order to protect the student’s identity only the ID.No. of the student is used in the final output of the result.
Session 8J  Use of Simulators

**8J1 Enhancement of clinical skills in Anaesthesia using a full-scale patient simulator**

Carl-Johan Wallin* and Hans Hjelmqvist  
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Traditionally medical students have been introduced to anaesthesia during routine clinical work. We tried a new modality using a full-scale patient simulator in order to familiarize the students with the complex clinical domain in the OR. The goal was to enhance the students’ clinical skills before giving their first general anaesthesia to a real patient. In subgroups of three or four students, they were given a short lecture in the cognitive chain of information sampling, assessment, decision-making, action and re-evaluation. In the simulator scenario each student acted as anaesthetist, performing a highly realistic induction and reversal of anaesthesia. Each student experienced the scenario also in the roles as anaesthetist’s assistant, operating nurse and observer. The instructor gave the students close guidance resulting in error-free anaesthetic management. After four to five repetitive scenarios, cognitive functions, communication and leadership skills were discussed during a debriefing session.

**8J2 The introduction of full-scale simulation for first year trainees in Anaesthesiology**

Helle Thy Østergaard* and Doris Østergaard  
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In Denmark nine compulsory courses are a part of the first year training in anaesthesiology. In year 2000 the trainees were asked which educational methods they considered to be the best to improve clinical skills. The answer was full-scale simulation, computer based simulation and problem based learning. Subsequently the educational methods were changed. Some courses used lectures and problem based learning, others computer based learning and full-scale simulations. It was a prerequisite that the trainees acquired theoretical knowledge by self-study beforehand. New evaluations of the courses showed that the trainees considered both micro- and full-scale simulations supplemented with debriefing to be authentic and meaningful learning. Problem based learning provided the trainees with a link between their theoretical knowledge and the full-scale simulations. The trainees indicated that active learning was very important. The educational methods used will engage the trainee with active learning which is known to improve knowledge and recall.

**8J3 Neonatal resuscitation - a simulation based course**

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An audit of perinatal deaths in the Copenhagen County 1987-1998 has shown that insufficient ventilation and fluid resuscitation might be the cause of death in 13 of 552 perinatal deaths. A simulation based course was designed for paediatricians and anaesthesiologists, in order to certify them, before they started duty on the delivery ward. The programme consisted of: (1) Theoretical test; (2) Skills-training in artificial ventilation and endotracheal intubation, insertion of umbilical vein catheter and chest tube; (3) Two full-scale simulations of resuscitation scenarios followed by debriefing of resuscitation skills and teamwork; (4) Class-room discussions on ethical issues; (5) Theoretical test. Evaluation forms were distributed. The results have shown that participants improved their theoretical knowledge from 60% to 85% correct answers (median values). Skills training was rated as very good in 64% and good in 32%. All 70 participants were satisfied or very satisfied with the course. Formal certification has not yet been implemented.

**8J4 Teamwork training of Emergency Department staff using a high-fidelity simulator to enhance the efficacy of a newly developed clinical pathway for multiple trauma patients**

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Multiple trauma is not a single disease entity, but poses a complex clinical challenge. To enhance the efficacy of a newly developed clinical pathway for trauma patients, we designed a simulation-based educational course to improve the teamwork among our residents, attending physicians and nurses for the initial assessment and management of the multiple trauma patients. The training course involves the use of a high-fidelity simulator, as a means to improve the medical treatment efficiency, crisis management skills and communication skills. We used a scenario checklist to evaluate the total time taken and the performance score. All the course students showed an increase in their course scores and reduction in the total time consumed. In summary, our simulation-based training to enhance the efficacy of a newly developed clinical pathway for multiple trauma patients was effective, and we believe that it would contribute to patient safety.

**8J5 Integration of iHarvey the cardiology patient simulator in the undergraduate curriculum of a UK medical school**

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The problem of doctors having sub-optimal cardiovascular clinical skills has been attributed to deficiencies in training. Recent advances in simulation technology have enhanced the opportunity for clinical skills training. ‘Harvey’ the cardiology patient simulator has been integrated into all three phases of the Dundee curriculum, reinforcing the constructivist approach adopted in the spiral curriculum in cardiology. We now use ‘Harvey’ in whole class sessions, small group work and independent learning. The adoption of ‘Harvey’ as a tool in the curriculum has been facilitated by study guides and a staff development programme. To evaluate the ‘Harvey’ curriculum, second year medical students completed a questionnaire (107 replies) and undertook a formative OSCE (110 students). The majority of students found ‘Harvey’ sessions valuable (98%) and thought ‘Harvey’ helped them understand cardiac pathophysiology (84%) and develop cardiology clinical skills (79%), which may be applied to patients (75%). The majority of students trained on ‘Harvey’ recognized common cardiac auscultatory findings (e.g. 85% recognized normal heart sounds, 80% recognized a 4th heart sound, 87% recognized aortic stenosis murmur and 60% mitral stenosis murmur).

Session 8K  Teaching and Learning Styles

8K1  Barriers to self-directed learning in a highly structured core undergraduate module

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The aim was to study students’ capacity to identify and pursue their individual rheumatology learning needs in the context of a highly organised integrated course covering A&E, Trauma and Orthopaedics, with a logbook “loading” toward these components. End of course questionnaires were administered. Students recorded time spent in “unscheduled” rheumatology; number of patients seen outside of formal teaching; “ideal” number of patients; reasons for seeing < 3. They also identified factors determining their use of “unscheduled” time. N=13 of 14 in the study pilot reported “not enough” / “no” time in rheumatology. 2-3 patients were clerked versus an identified “ideal” of 5-7. The most common reason cited was pressure to complete logbook activities in other areas of the course, (n=8); reading/book work as a priority over clinical activities (n=4) and lack of motivation (n=6). The use of logbooks is a recommendation by the GMC (July 2001). We highlight a potential downside of this strategy - loss of student autonomy and failure to identify and address one’s own learning needs particularly if logbook requirements vary between course components. A follow up study is underway.

8K2  Multiple intelligences in clinical practice

Z Al-Rawahi
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Medical students’ intelligence varies significantly from one student to another as reported in a previous study. Furthermore, thoroughness in collecting clinical information has been indicated to be independent of individual experience and uncorrelated across problems (Van der Vleuten & Newble, 1995). It is worth investigating how the clinical practice of medical students varies according to the variation in their intelligence. Do medical students use same pattern of intelligence while they are diagnosing the patient as they do in their real life practice? This section compares students’ Multiple Intelligences Assessment Scale (MIDAS) profiles and students’ activities while solving computerised simulated clinical cases. The results revealed that the pattern of reasoning used by medical students in clinical practice is very similar to their practice in daily life. Furthermore, the students with a high intelligence profile seem to outperform the students’ with a low intelligence profile.

8K3  The development of study orientations and study success in Pharmacy - a longitudinal study

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In fields where the readiness to apply scientific knowledge is an essential part of professional work, students’ intellectual development is of central concern. Tertiary education should equip students for meaningful lifelong learning. The present study investigates the development of students’ study orientations in a traditional 3-year pharmacy program. The participants were students of pharmacy (N=66) who filled in a questionnaire of study orientations both at the beginning and at the end of studying. Students were classified as above average (AA) and below average (BA) on the basis of their course grades. The development of study orientations was different in the AA and BA groups, the former being more likely to study for meaning. The study indicates that the learning environment should especially support the BA students to develop their approaches to learning.

8K4  From behaviourist to constructivist learning theory: a personal reflection on learning in medicine

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Medical educators and physicians need to understand the nature of learning because doing so informs both teaching of others and their own learning. This paper reviews behavioural, cognitive, humanist, social learning, and constructivist perspectives on learning in search of the ‘best’ explanation for physicians’ learning.
To do this, we analysed one author’s (MBS’s) learning experiences as a medical student, a resident, a practising physician, a medical educator, and a graduate student in education in light of these perspectives. The paper will present examples of learning based on these experiences that illustrate the various learning theories and will show how one theory promises utility in guiding medical education activities. We will end with recommendations for application of this theory in planning, implementing, and evaluating medical instruction.

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Since 2000-2001 clinical education in the seventh year of the medical training at K.U. Leuven is revised in order to optimise students’ clinical reasoning. During 8 weeks each student follows a series of 70 seminars where one or more cases are discussed with an expert and fellow students. Before attending the seminar, students have to analyse and ‘solve’ the cases in groups of 5 students. After each series (two per year) students filled out an extended Likert type questionnaire. The answers on 193 questionnaires were analysed using factor analysis, Anovas, multiple regression and cluster analysis. Factor analysis revealed 9 reliable scales (alphas ranged from .60 to .90) regarding students’ perception of the ‘new’ clinical seminars. Results on those scales and differences between gender and series will be presented. Multiple regression analysis revealed that two scales predicted students’ overall satisfaction. Cluster analysis identified student groups with a different perception.

8K5 How do students perceive the new type of problem solving clinical seminars after 8 weeks of clinical training?

8L1 Use of an IT innovation to enhance learning in a postgraduate medical education setting

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The Cambridge Graduate Course in Medicine is an innovative partnership between West Suffolk Hospital and the University of Cambridge, UK. To aid their studies, each student is provided with a PDA (personal digital assistant). After each teaching session, students are asked to record one piece of clinical information they have learned which they consider to be of particular importance. A computer program has been devised to download these free-text ‘nuggets’ into a server and post them to a web site where students can discuss their validity/usefulness. In addition, each week’s ‘nuggets’ form the basis of reflective tutorials with college supervisors. This project adopts an action research methodology using interview, focus group, observational and text analysis approaches. It assesses how students and educators use ‘nuggets’ within the learning environment, the effect this activity has on the learning process and the extent to which it influences curriculum development.

8L2 Tracking skill acquisition

Michael Harrison
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In 2000 a system was developed that tracked the acquisition of skills by students, in particular tracheal intubation. The data from this exercise, and an improved recording aid in the form of a sequential analysis grid, were presented at AMEE 2001. This sequential grid was used during the 2001 academic year and at the time of AMEE 2001 there were some indications that this recording method was influencing the way in which students reported their successes and failures. After data collection was completed for the 2001 academic year it was apparent that the distribution of successes and failures was different and that a further investigation was required.

The presentation will detail these differences and present our attempt to discover whether the differences are significant or just annual variation.

8L3 OPhone - iStudents-On-Call intelligent database

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A often sworn deficiency of the traditional curriculum at German Medical Schools is a lack of practical experience. Although a sufficient time for internships is available in the lecture-free time, many students deplore the absence of practical references during the term. This project considers the interests of both the students and the institution and gives students the possibility for active participation in surgical clinical work. A web-based database was installed, where students can sign in with their individual availability, interest emphasis and accessibility. According to a point score the first placed available student can be called to selected operations. By the different adjustment possibilities the instrument is suitable not only around the inclinations of the students but also around scientific working in the field of specific operations. Since both the use and the administration takes place in a web-based online-procedure, data are always up to date, and are also available for statistical analysis.
Feedback for tutors may improve on how many objectives are met in a clinical rotation: third year of assessment

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We have registered contacts of fifth year medical students with pediatric outpatients the last three years. Mean exposure to pathologies included in the program was 59.0% ±9.82 in 1999 and 61.4% ±16.1 in 2000. A weekly feedback system was set up for 2001. One student per group sent the author via Email information about patients seen each week. Up to three diagnoses per patient were registered and compared with the 46 pathologies included in the rotation objectives. Information about how all seven groups of students were doing was forwarded weekly to their tutors. Our purpose was to check if such intervention would improve achievement of objectives. Mean exposure to programmed pathologies in 2001 was 71.9% ±12.5. This seems an improvement in respect to previous years. Feedback for tutors showing what all groups were doing seemed to stimulate achievement of educational objectives for this rotation.

Contribution of a Dean to Medical Education

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A Medical School Dean can facilitate developments in medical education by:

- Allocating financial resources through a budget model that recognises teaching contributions by individuals and departments;
- Generating additional funds to support teaching, creating physical resources for teaching purposes, eg clinical skills, computer suite, integrated learning area, simulated ward environment;
- Recognising the different roles of the teachers by Faculty staff, eg study guide preparation, computer resource development, assessment (see: Roles of the Teacher paper, Medical Teacher 2000, vol 22 no 4 pp 334-347);
- Creating an environment in which teaching is valued, eg through giving leadership by participating on committees, promoting educational matters in postgraduate lecture series, and with fellow deans;
- Supporting quality assurance initiatives and recognising their importance for the School; Ensuring communication channels are open between clinical staff, university staff, students and the broader community.
Session 9A  Written Assessment and Progress Test

9A1  A multilevel model for a progress test

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The Maastricht progress test is taken by all medical students four times a year. Each test consists of approximately 250 true/false items that may cover any subject that is pertinent for a medical doctor. The scores a student obtained in successive tests indicate the student’s growth in medical knowledge. However, the knowledge measurement is hampered by random and systematic errors. In the current study we seek improvement of the measurement by developing a multilevel linear model for the progress test data. The model assumes knowledge growth to be linear, and allows estimation of cohort and test effects. The model was evaluated using the data of three cohorts. Mean growth was 6.6 per year (%correct-incorrect), similar growth in the three cohorts, between-cohort level differences 0.8 (SD), test difficulty differences 2.5, and random measurement error 4.4. Multilevel modelling is appropriate to obtain relevant information from progress test data.

9A2  First application of Progress Test at University of Sao Paulois Faculty of Medicine

I M Benseñor, E R Tomic, R Chebabo, I F C Tibério*, P L Bellodi and M A Martins
Facility of Medicine, University of São Paulo Brazil, Rua Paris 381, Sao Paulo - SP CEP 01257 040, Brazil

The University of São Paulo’s Faculty of Medicine performed its first application of the Evolution Test in 2001, following the same principles as used by the University of Maastricht. In this first application, 130 questions on technical issues were included, divided into three groups: questions from the basic cycle (2 years), clinical cycle (2 years) and internship cycle (2 years). There were also 30 questions on ethical procedures. Forty per cent of the students took the test, with the majority of them in the internship cycle. Questions from the basic cycle were the most difficult to answer, but questions from the clinical and internship cycles were more discriminative, possibly because most of the students had completed the basic cycle but not yet the others. Regarding questions on ethics, similar scores were obtained by students in the three cycles, but a more detailed evaluation is necessary.

9A3  Comparison of quality and quantity in the knowledge acquisition of medical students studying in an integrated Problem-Based curriculum

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The Medical School of Tampere University implemented an integrated problem-based undergraduate curriculum in 1994. The faculty has established its own version of the Maastricht Progress Test. All students take part in the test, consisting of approximately 210 true/false items covering all fields of medicine, three times in a study year. To enable the follow-up of an individual student’s performance over time an Individual Student Score (ISS) was developed. I have studied the qualitative aspects of knowledge acquisition in the written test that the second year medical students take after an integrated block "Attack and defense". The written block test consists of 7 open-ended essays and 15 true/false items, where the students have to explain their reasoning. Two of the open-ended essays of this test were analysed using SOLO Taxonomy by Biggs, which enables classification of whether the students show a surface or deep approach to knowledge. The students’ performance in these qualitative essay tasks was compared to their performance in the whole written test and also to their Individual Student Score in the Progress test that measures knowledge quantitatively. The PBL learning method should promote a deep approach to learning. Whether this was the case in this study is discussed.

9A4  Part I: Why only one mark at Multiple Choice Questions?

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In the reformed medical curriculum of the Charité a progress multiple choice test is administered every semester to document the students’ knowledge acquisition. To avoid guessing students have the possibility to mark the option “don’t know”. A new test format was developed, allowing students to mark all those answers which could not be ruled out as definitely “wrong”. Thus one mark can be translated into “this answer might be correct”. An evaluation of this test format showed that it is highly preferred by the students. It causes more thinking through the alternative answers. In our opinion it resembles more the professional way of thinking of physicians - thus it is preferable to the traditional MC-test.

9A5  The webCIP (Comprehensive Integrative Puzzle) assessment method

Rosalie Ber
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The comprehensive integrative puzzle (CIP), first described at the AMEE 1995 Zaragoza meeting, attempts at assessing diagnostic-thinking and clinical-reasoning. The CIP format is an “extended matching” crossword puzzle, its answering sheet a grid of rows
and columns. Completed horizontal rows depict coherent medical cases, reflecting integrative ability, while vertical columns depict mastering various “disciplines” (e.g., pathology, clinical-biochemistry, pharmacology, radiology). The dual scoring system, described at the AMEE 1998 Prague meeting, ascribes a final grade to the average of the sum of the horizontal scores, providing that mastery (or passing grade) is achieved in pre-designated “criterion” vertical columns. The CIP dual scoring system stresses diagnostic-thinking and clinical-reasoning integrative elements, while preserving ability to discern proficiency in various disciplinary elements. Our students’ and teachers’ response to the CIP has been enthusiastic. We now present a newly developed web-based CIP, the webCIP, for formative assessment. This tool can also be used as a teaching tool.

9A6 Assessment of clinical reasoning competence in urology: results of the Script Concordance test across two sites from different countries

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The objectives were to explore (1) the stability of the construct validity of the Script Concordance (SC) test in urology across two different learning environments; and (2) the effect of the use of experts who belong to different environments. An 80 items SC test was administered to two groups of participants from a French and a Canadian university: 25 residents, 23 students. The scoring process was built from answers given by a panel of experts from the two faculties. Reliability was measured with Cronbach alpha. Scores were compared by analysis of variance. Reliability coefficient of the test was 0.794 for the French participants, 0.795 for the Canadian participants. Scores increased with clinical experience in urology in the two sites. Candidates obtained higher scores when correction was done using the answer key provided by the experts of the same country. These data support the stability of the construct validity of the tool across different learning environments.

9A7 An extended-matching multiple choice exam to assess clinical reasoning

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At the Faculty of Medicine of the K.U. Leuven a final exam has been developed, which consists of extended matching multiple choice questions. Extended-matching questions (EMQs) start from a case and have one correct answer within a list of alternatives. If EMQs measure clinical reasoning there has to be a difference between the way students and doctors solve the questions. Twenty final year students and 20 residents specialising in internal medicine solved a total of 10 EMQs concerning internal medicine and 10 questions from other disciplines. The residents answered significantly more questions correctly concerning internal medicine than the students. No difference was found for the other questions between residents and students. The experts in internal medicine reasoned significantly more forwards and less backwards in solving the internal EMQs. When comparing the better with the poorer half of the respondents, the better half used significantly more forward and less backward reasoning. Therefore, EMQs are useful to assess clinical reasoning.

Session 9B Assessment General

9B1 Curriculum planning and assessment of professional competence in the framework of State Standards for Higher Education

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Ukraine is in the process of development and introduction of State Standards of Higher Medical Education which consist of 3 components: description of professional, minimal requirements to curriculum and diagnostic tools. Diagnostic tools include standardised nation-wide testing with MCQ (Medical licensing examination) and practice-based assessment, the form of which varies across the country. Both are oriented towards assessment of professional competence. Description of professional is a complex of required skills (both psychomotor and cognitive) to be possessed by the medical graduate. Skills are characterized by object, subject, conditions, means and process. Minimal requirements to curriculum is a list of knowledge necessary to support the required skills. The medical licensing examination evolved in 1996 from the need to introduce in Ukraine objective school-independent assessment. However today it has become the key component of State standard; its content relies upon description of professional. All three components of State Standards are interconnected in the joint database.
**9B2 Assessing clinical competence in nursing**

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The UK government introduced a new programme of nurse education, Making a Difference, in 1999 in which clinical competence was given greater emphasis than in the previous, Project 2000, programme. A major difficulty with clinical competence is the definition of the term ‘competence’. Its relationship to other concepts such as capability and expertise is also unclear. There is no consensus on whether competence represents a greater degree of ability than capability or vice versa and performance and competence also have a confused relationship. A review using systematic methods was conducted of literature on the assessment of clinical competence in nursing. The conclusion of the review is that there is still considerable confusion about the definition of clinical competence in nursing and most of the methods in use to assess clinical competence have not been developed systematically and the issues of reliability and validity have barely been addressed.

**9B3 Evaluating medical students following a Pediatric clerkship: The psychometric properties of an oral examination**

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Following a six-week pediatric clerkship, students were evaluated by a reliable MCQ exam and a semi-structured oral exam that measured six dimensions (problem formulation, differential diagnoses, investigations, data interpretation, problem solving, communication). Each dimension was rated on a 4-point scale (maximum 24 points). The objective was to examine the reliability/validity of the Pediatric Clerkship Oral Exam (PCOE) scores. MCQ and POCOE performance of 211 students were utilised. Reliability of POCOE total scores was estimated using Cronbach’s alpha. Validity was examined using Pearson r to correlate POCOE and MCQ scores. The MCQ mean was 73.7% (SD = 5.7) and POCOE mean was 18.1 (SD = 3.3). Reliability of POCOE total scores was 0.88. The correlation between POCOE total scores and MCQ scores was 0.65 (p < 0.05). The multi-dimensional oral exam, that produced reliable scores, is capable of measuring “other” qualities that are difficult to assess using a MCQ format.

**9B4 A cumulative assessment programme for assessing by theme**

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The MBBS Graduate Entry Programme at St George’s Hospital Medical School is taught in modules but assessed by theme. The four themes are: Basic & Clinical Sciences; Patient & Doctor; Community & Population Medicine and Personal & Professional Development. Assessment methods used during the first two years of the course include short answer questions, minicases, OSCEs and reports. All the assessments contribute marks towards each theme. These marks are then accumulated across the year to give a final total mark for each theme. The first year of the course is largely formative and is used to allow the students to become familiar with the style of assessment and to give them feedback on the appropriateness of their learning. The second year is exclusively summative. Students have to pass each theme independently in order to proceed to the third year of the course. The results, merits and disadvantages of the scheme will be presented.

**9B5 Integrating in-training and certification assessment**

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The integration of in-training evaluation with a final exit examination for certification by the Royal College of Physicians and Surgeons of Canada requires an overall assessment blueprint to optimise the strengths and weaknesses of the two modalities. The result is an integrated system of evaluation that balances concerns for validity, reliability and practicality. Pressures on the system, such as increases in costs, have recently resulted in a focus on the realignment of the two modalities towards the increased use of objective methods of in-training evaluation and the use of portfolios.

**9B6 Does feedback really exist in clinical education? Perception of Paediatric students**

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New curricular tendencies aim towards student-centred learning, where feedback (FB) becomes very important in clinical environment. We compare FB to a mirror where the student appreciates the image of his/her work. It acts like a constructive criticism evaluating the student’s performance in order to reinforce or correct it. The objectives of the study were to prove FB existence, characterise it, evaluate satisfaction and impact, and to offer medical teachers FB on their work. An opinion survey was carried out among 6th year students, pediatric internship, December 2001. All valued FB practices in their formation process. Fifty-six per cent experienced FB in at least 3 of 7 clinical units. From the 54% that experienced FB with the teacher in charge, 88% was during the clinical unit and 12% at the end of it. FB caused performance change in 97% of the students, though only 68% perceived it as positive. FB experience during the pediatric internship is appreciated as an effective tool in the integral medical education. A programmed and planned use of it is recommended.
9B7 Giving feedback on deficits in knowledge, skills and attitudes
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Faculty know the elements of good feedback but fail to give it. They are particularly loath to give feedback about behaviours that reflect poor attitudes. We developed workshops to help faculty differentiate among approaches to giving feedback when the learners’ deficits are in different domains (knowledge, skill or attitude), and to reflect upon their hesitancy to give feedback. Elements of the workshops included the use of a standardised student, reflection, and role playing the teacher identified as being difficult. We collected data during and after the workshop to determine (a) what faculty typically struggle with in giving feedback and (b) whether the workshop helped them identify and overcome their own weaknesses. We found that participants consistently identified social or attitudinal aspects of the teacher/student relationship as difficult; after the workshop, some tried to establish a dialogue and diffuse tension by asking for the student’s perception first.

Session 9C Teaching Evidence-Based Medicine and Critical Thinking

9C1 Teaching evidence based clinical skills
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The current educational practice involves teaching of the principles of Evidence Based Medicine mainly around therapeutics. However, the principles of Evidence Based Medicine extend to the clinical science of History Taking & Physical Examination. There are various factors behind this gap between the teaching of evidence-based therapeutics and that of evidence-based clinical science. This paper attempts to delineate these factors in brief and give an outline of a teaching programme in evidence-based clinical science at the undergraduate level.

9C2 Online PubMed searches as OSCE test - chance and risks
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In our new curriculum, all 143 third-year medical students at the University of Berne, Switzerland have a web-based course in literature search with PubMed (free medline access of the NLM). The course was based on online instructions, task-oriented small-group work, using an e-forum for feedback to the teacher and only one lecture at the end. All students had to take an 8-minute OSCE-test with direct online access to PubMed as part of a high-stakes exam. The short communication explains the construction of the OSCE, the assignement, the pilot-test, the experiences during the OSCE-test, the scoring procedures and the results. The chance was to test the skills of literature search with the most frequently used PubMed-access. The challenges were technical aspects such as the realtime internet access, how to turn off the browser history and to rate the printed out results.

9C3 Skills to practise EBM: results of a survey of medical students
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The objectives were to assess reading habits, participation in research projects, information-seeking behaviour and skills in interpreting clinical data in a population of medical students. Across-sectional survey of last-year students by an anonymous written questionnaire was carried out. All students (n=118) responded. The female: male ratio was 2.5, mean age 24. Forty per cent read medical information less than 1 hour weekly; 75% did not read medical journals regularly; 77% had never participated in research projects. The information source considered more important to solve a clinical problem was medical textbooks, consensus and clinical trials being less important. Median value for self-evaluated skills in interpreting clinical results was 4 (possible range: 0-10). Potential prescribing behaviour was influenced by the way results were expressed. Students felt less inclined to prescribe a drug when results were expressed as absolute change or numbers needed to treat. It was concluded that the medical curriculum at Lisbon School of Medicine is insufficient in providing skills to practise evidence-based medicine.

9C4 Perceived benefits of the third-year research experience
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As part of its curriculum, Mayo Medical School requires students to perform 16 weeks of research. Time is dedicated to designing a project, data collection, interpretation and writing a paper. The goal of the current study is to investigate the perceived benefit of the research experience by third and fourth-year
students. A survey was developed which included questions covering three topics: background information (type of research, amount of time spent on research, other activities), outcomes of research, and perceived areas for improvement. Although the results were difficult to categorise, the majority of fourth-year students perceived the experience as advantageous, particularly during their residency interviews, while a significant percentage of third-year students perceived it as an imposition on their clinical training. However, it was clear that the majority of respondents believed that the existence of such a research experience was beneficial to their training as future physicians.

9C5 An analysis of knowledge in clinical reasoning in Physiotherapy

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Generally, clinical reasoning (CR) involves recruiting knowledge in order to reach conclusions regarding appropriate treatment programmes. Such knowledge, which is often ill-described, is widely recognised as a crucial component in expert practice. This paper reports an analysis of physiotherapy knowledge in the management of patients with musculoskeletal dysfunctions, in order to enhance curriculum development. The physiotherapy curriculum was subjected to content analysis and then expert physiotherapists carried out a standardised CR task, whilst providing a verbal protocol. When comparing the knowledge identified in the curriculum with that in the protocols, procedural (eg the examination procedure), propositional (eg anatomical knowledge applied to produce the diagnosis) and meta knowledge (eg strategies used in CR) were identified. In conclusion, academic preparation for clinical practice should include a thorough grounding in these different types of knowledge. Identifying such knowledge therefore supports curriculum planning and the development of expert practice.

9C6 A quantitative analysis of the Diagnostic Thinking Inventory

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A decade ago, Bordage et al. developed the Diagnostic Thinking Inventory (DTI). In their analysis, the authors reported that the inventory scores demonstrated reasonable internal consistency and that it differentiated medical students from clinicians. This study extends the work conducted by Bordage et al. and by Sobral. The DTI, along with a learning styles and tolerance for ambiguity questionnaires were administered to the second, third, and fourth year students of different graduating classes. Preliminary results, using a subset of students, indicate that DTI scores are similar for same year of education but different graduating class. Scores increase with years of education (Year 2: 149.6; Year 3: 162.1; Year 4: 165.7). Correlations between scores on the DTI and scores on learning styles and tolerance for ambiguity range from 0.13 to 0.24. Results from an exploratory factor analysis suggest the DTI is multi-dimensional. Overall, the results from the preliminary analysis are positive.

9C7 Clinical ethical conferences: studentsí reflection on medical practice

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At the University of Groningen the ethical training in the last two practical years of the curriculum consists of so-called clinical ethical conferences. At these conferences each student introduces a self-chosen moral dilemma which he/she has experienced during his/her clinical practice. The aim of the conference is to teach students how critical thinking skills are part of their competence as a doctor. Important is the connection between thinking about moral issues and the student’s own experience. The necessity of moral thinking for their training as a doctor becomes more vivid to them. The ethical competence in medical practice is also examined and evaluated. Each student has to deliver a written analysis of his/her own chosen case. In our research group we are developing a method of assessing performance in ethical reasoning. In this presentation we will present the instrument we have developed for evaluating ethical competence.
Session 9D  The Patient

9D1  Using real patients to evaluate a competency-based curriculum

Stephen R Smith
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We conducted a pilot test to determine the feasibility of using real patients recruited from a low-income medical clinic to assess a competency-based medical school curriculum. Forty individuals were trained to assess 5 of the 9 competencies at Brown Medical School. Participants completed a rating form every time they were seen in the clinic. Clinic staff were aware that patients had been recruited for this study, but did not know the identities of patient-evaluators. Seventy-five forms were returned during the 6-month study. Factor analysis showed internal consistency within each domain, but all of the domains seemed to be reflecting a single underlying factor. We concluded that it is feasible to recruit real patients from a low-income practice to reliably assess trainees, but that the patients’ ratings seem to reflect a single underlying factor rather than being able to distinguish variations in performance among five competencies.

9D2  The recruitment and management of professional role-players for undergraduate and postgraduate medical education and assessment

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Role-players are widely used in medical education. This paper reports on a study of a team of 40 role-players who regularly deliver integrated consultation skills teaching and assessment programmes in undergraduate and postgraduate medical education. Established in 1991, the team is aged between 21-82. Some are theatre professionals although backgrounds vary. Anonymised responses to a questionnaire sent to the team are being collected and collated by the Department of Education at Birmingham University. Question types are demographic, numeric and free text. The questions have been designed to elicit what makes and motivates a good role-player. The results are being analysed from February 2002 onwards and will be presented at this conference. It will be considered whether role-players differ noticeably from the general population regarding previous health-related experiences or aspirations. The results should provide guidelines for others recruiting suitable individuals for role-play work in medical education.

9D3  Procedural skills using a mannequin or a fresh frozen cadaver?

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Procedural skills have a low priority in the curriculum. This study was designed to assess how medical students would favour a mannequin versus a fresh frozen cadaver for performing procedural skills. Third year medical students participated in the study using fresh frozen cadavers and mannequins. The only procedure that could not be performed on both the mannequin and cadaver was a nasogastric tube insertion. However, with the other procedure, the students found the mannequin to be easier, but the cadaver was more realistic. Most procedural skills can be performed on mannequins and fresh frozen cadavers. Medical students had more difficulty in performing basic procedures on a fresh frozen cadaver, but felt that this was a more realistic method of learning procedural skills. The use of a fresh frozen cadaver should be considered as part of a short basic procedural skills course for third year medical students prior to sub-internship.

9D4  Expanded educational applications of patient simulators

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The Alumni Center for Medical Education (a 1000 m2 facility) at the University of Louisville houses the recently completed Patient Simulation Center and also the Standardized Patient Clinic. The Center has four simulation suites (each with simulation laboratory, control room and small discussion room), and utilises four state-of-the-art METI simulators with four adult and one pediatric manikins. Use of the Center far exceeds the standard anesthesiology applications and has focused on learning via applied problem-solving. It has already been used for primary teaching in physiology and in pharmacology, family medicine crisis disease management, pediatric critical care teaching, geriatric education, surgery trauma conferences, resident orientation, EMT ACLS, endodontist and periododontist conscious sedation and nursing critical care. Applications span the uses from instruction to formative evaluation and summative evaluation. Planning is underway to provide unique integrated educational experiences involving the Patient Simulation Center and the Standardized Patient Clinic.

9D5  An integrated approach to learning-by-doing medical education

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Teaching specific areas of medicine in an isolated, serial approach does not prepare students for patient management involving multiple simultaneous, diverse tasks. The Alumni Center for Medical Education at the
University of Louisville houses the Standardized Patient Clinic (SPC), Patient Simulation Center, and cadaveric and fresh tissue laboratories in contiguous space. By itself the SPC is not unique, but its integration into a concentrated “learning by doing” center offers a novel approach. In addition to single discipline use, learners will soon move through an integrated patient pathway, beginning with a standardised patient’s history, using the simulation center to manage physical conditions, reviewing procedures on pro-sections and cadavers, and finally encountering standardised families to communicate the patient’s status. Thus the learning center will blend knowledge, skills, and attitude training in a format simulating realistic patient presentation while preparing learners to integrate diverse clinical efforts simultaneously.

9D6 Training health practitioners to assess acute traumatic stress and provide brief intervention: a Standardised Patient training model

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A major challenge of training health care practitioners to assess and treat victims of acute trauma stress is to provide trainees with actual patient experience without further victimising patients due to trainee inexperience. Standardised patients (SPs) have been used extensively since 1995 to portray psychiatry/behavioural problems in educating health practitioners at Philadelphia College of Osteopathic Medicine. The trainees were Physician Assistant students selected prior to beginning their clinical rotations. They received three ‘base-line’ skills’ evaluations with SPs portraying acute trauma victims prior to a short course on “Assessing and Treating Acute Traumatic Stress.” Evaluation included SP documentation of skills proficiency and faculty evaluation of patient notes. After the course the trainees encountered three more SPs simulating acute traumatic stress. Improvement in trainees’ skills was noted from the base-line assessment. This presentation with short video will discuss this skills-based curriculum.

9D7 A novel method for the training of medical students in the technique of vaginal examination using the iEpelvis, a trained actress and the virtual chaperone

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The difficulties of training undergraduate students in vaginal examination technique using real patients has led to increasing pelvic mannequins to improve technical skills, and separate teaching of communication skills. This dissociation of training methods does not mimic the clinical setting. The standard pelvic mannequin does not allow detailed scrutiny of what is happening internally during examination. We have developed an integrated approach which links the “Epelvis” with a trained actress to create realistic clinical scenarios. The “Epelvis” is a pelvic mannequin loaded with sensors which allows collection of detailed information about pressure applied to important points within the pelvis during examination. The visual feedback from the epelvis enables the actress to give immediate feedback during the simulated examination. Teaching sessions are recorded onto digital disc using a portable video system, the “virtual chaperone”, allowing individualised feedback. The development and working of the system will be described.

Session 9E The Student

9E1 Intimidation and harassment and the surgical environment: what is it and what does it do to the educational atmosphere?

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Medical literature has documented a high incidence of intimidation and harassment in the educational context. However, the research has failed to adequately delineate the nature of these phenomena as well as the different ways in which diverse actors perceive the behaviours in question. While the literature has drawn important attention to incidents of intimidation and harassment, the meanings of these terms to those experiencing and reporting the behaviours has been inadequately explored. Based on qualitative methodology anchored in a social constructivist framework, how teachers (staff surgeons) and learners (surgical residents) define intimidation and harassment have been documented and compared. As well, teachers’ and learners’ perceptions of the impact of these behaviours on the learning environment, including their effect on the socialisation of surgeons in training, have been examined. The focus group and interview data will be presented and the implications of these findings will be discussed.

9E2 Perception of abuse in medical students

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We surveyed the perception of abusive situations by third, fifth and seventh year medical students in the University of Chile during 2001. The present study followed a survey made in 2000 and aimed to assess
this problem on a larger scale. The response rate was 75%. Ninety-three per cent of the students reported at least one abusive experience during medical training. The most common form was being verbally humiliated, at least once, by teachers and fellow students. Episodes of psychological, sexual and physical abuse were also reported. The number of abusive situations and their deleterious effects grew as students advanced in their training. Women were more affected than men. The results of this study moved school authorities to extend this survey to a national scale.

9E3  Equal Opportunity does not produce equity: (not) getting into medical school

Judy Searle
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9E4  Does academic cohabitation affect medical student education?

Steven Durning*, Paul Hemmer, Jon Sweet, Mary Lynn Sealey, Robert Nardino, Thomas Jameson, Kathleen Hogan, Eric Alpher and Louis Pangaro
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Academic cohabitation is the coexistence of students from two or more medical schools rotating on the same specialty at one clerkship site. We surveyed 79 teachers and 77 learners at 5 inpatient clerkship sites, representing students and instructors from over 10 medical schools. The effect of academic cohabitation was:

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<tr>
<td>Clear G and E</td>
<td>24 10 43</td>
<td></td>
</tr>
<tr>
<td>House staff teaching skills</td>
<td>62 0 17</td>
<td></td>
</tr>
</tbody>
</table>

I=Improves; W=worsens; NE=no effect; G and E= Goals and Expectations

90% of teachers agreed that standardizing goals and expectations would improve evaluation, feedback; 85% of teachers agreed that grading paradigm would improve evaluation, feedback. Students perceive that their education may be enhanced by academic cohabitation. Academic cohabitation may improve instructors’ teaching and the overall quality of the rotation and may negatively impact clear clerkship goals and expectations, evaluation and feedback, and grading.

9E5  What discriminates between female students participating in a volunteer seminar on breast self-examination and those who didn’t enrol?

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An optional small group seminar is offered to female first-year medical students as a part of their curriculum in anatomy at the Hannover Medical School, Germany. Considering the increase in prevalence of breast cancer it was considered whether the seminar should be integrated as a regular part into the pre-clinical curriculum of female medical students. To get some additional information regarding this consideration, we started a pre-post-seminar survey among the participating female students with the following variables: knowledge about breast cancer, body image, self-esteem, self-efficacy, and their usage of psychotropic substances (ATOD). The data of the participating female students in a pretest and a follow-up questionnaire three months after the seminar were compared. Further comparisons were conducted between the study group and those female students who didn’t enrol in the seminar (control group 1) and male students (control group 2).
9E6 The effect of an educational programme based on the PRECEDE model on the level of academic advisor's ability and the medical student's satisfaction

S M M Hazavehei
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Universities have a critical responsibility to train, educate and develop students, as well as prevent any physical, emotional, social and academic problems during their study. In order to achieve these goals and objectives, it is necessary that the universities offer effective academic advising services to the students. The purpose of this study was to investigate the effect of academic advisors’ (AAs) ability and the medical students’ satisfaction on the academic guidance and consultation offered by their AAs. In this study, of the 90 AAs and about 2,500 students in the Hamadan University of Medical Sciences (HUMS), 72 AAs and 445 students from four colleges (Medicine, Health Sciences, Dentistry, Nursing and Midwifery) voluntarily participated in a pretest section of the study. Also, 87 AAs and 961 student students randomly participated in the educational program. The AAs were then divided randomly into the two groups (PRECEDE model Educational Workshop Program I & Educational Material Program II). Data collation was conducted by questionnaires, pre- and post-test (after one academic semester prior of the intervention). The results will be presented.

Session 9F Curriculum Planning

9F1 Changing health professions programmes in Brazil: what are these innovations addressing?

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Following international trends, substantial changes were recently introduced in the medical and nursing educational programs at the Brazilian universities in Marilia and Londrina. Guided by the following questions the process of designing and implementing these changes and their impact were critically appraised:
1) What were the perceived shortcomings of the educational programs in Medicine and Nursing in Brazil?
2) What changes have been designed for the Marilia and Londrina Medicine and Nursing programs?
3) What were the problems and challenges met at these schools when we attempted to implement these changes?

In conclusion, given the fact that not all desired changes could be fully implemented, we may still expect the “innovated” programs to redress some of the perceived shortcomings of health professions education: a) integration of social reflections and actions facing poverty and adversity; b) competence to care integrally for a person, not to treat (only) the disease, and to care for the sick by understanding the individuality of each clinical manifestation, recognising each patient as a unique person; c) competence to face and live with multiculturalism, thinking about cultural diversity and expression, and reflecting on (in)tolerance and discrimination.

9F3 Dresden Reform Curriculum: DIPOL = Dresden Integrative POL

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Medical education in Germany is regulated by a federal law, which offers two possibilities of reforms: (1) to establish – for a limited number of students - a second curriculum (parallel to the traditional curriculum); (2) to reform the traditional curriculum for all students. The reform-curriculum in Dresden (2) is based on the principle of Problem-Based Learning (PBL) and is developed in collaboration with Harvard Medical School. All teachers are professionally trained in specific didactic courses. Every aspect of the reform-curriculum is evaluated by an external institution. The new curriculum is a hybrid-curriculum, consisting of tutorials, lectures, seminars, experimental courses and bedside teaching. New teaching modules are
interdisciplinary PBL-courses and clinical practice. The Dresden Medical Faculty is recognised as “Reformed Medical Faculty” by the Stifterverband für die Deutsche Wissenschaft, a national German “high-level non-profit funding agency” for advances in the Sciences. All aspects of the new reform program will be presented.

9F4 A new medical course and a medical course new in the Health Sciences School in the University of Minho, Portugal

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A new medical course started in the academic year 2001/2002 in the Health Sciences School in the University of Minho, as a medical course “new” in its conception and educational strategy: (a) curricular integration; (b) student-centred approach; (c) active pedagogical methods; (d) community-oriented. Curricular areas were developed in 4 phases (bio-psycho-sociology of health, bio-psycho-sociology of disease; clinical diseases, supervised clinical practice). The course highlights: learning by modules of objectives, use of information and communication technologies, practicals and skills laboratory, residency in health centres, interactive seminars, problem-based learning, learning in wards and learning with simulated patients. Internal and external-peer evaluations (students, teachers, program) are crucial tools, as well as a medical education unit to support and control the pedagogical process. Coordination between the Life and Health Sciences Research Institute and the Health Sciences School allow the active involvement of students in research throughout their medical education.

9F6 Clinical anthropology - a new educational method for ethics and humanity

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Clinical anthropology class is the most popular elective course for students in University of Tsukuba. The aim of this course is education of ethics and humanity. Characteristics of this course are as follows; class starts from presentation of concrete clinical case concerning human birth or aging or illness or death, small group discussion is the main part, general discussion including announcement of discussion abstract of some small groups, all learners write sentence of their own opinion each time. For medical students, this course is compulsory. One theme continues for three weeks; they collect information and discuss in small groups with a tutor(s) and write a report. The clinical anthropology class extension lecture is also popular for citizens.

9F7 Teaching Social Sciences in medical school: evaluation of an innovative project

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Teaching Social Sciences in the Faculty of Medicine of Lisbon aims at making students aware of the relevant contribution of different Social Sciences when dealing with problems of medicine, health, disease, death and of the socio-cultural framework of the medical action in a “globalizing” world. Beyond a theoretical component introducing health anthropology and sociology and psycho-sociology of health organisations, the process of teaching-learning is based on a strong practical component developed in fieldwork (3 days in a rural community) centred in the social-cultural characterisation of medical practice and of the patient, his health needs and his representations of health/disease. The whole process follows a strategy of group interaction and personal growth. We will evaluate this teaching strategy over the last four years.
Session 9G  Staff Development

9G1  Primary care-based undergraduate medical education: a curriculum for General Practitioner teachers

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The status and expectations of GP teachers have been raised in Cambridge by the allocation of realistic SIFT funds to community-based learning, a visit to the University’s clinical school by representatives of the QAA and the debate on standards for clinical educators. Student doctors have clear educational objectives within a primary care core curriculum and are assessed after each attachment. A parallel curriculum has now been developed for teachers, the aims of which are sets of standards both for the teaching practice (environment and resources) and for the individual GP (teaching skills). Objectives have been set which, when met, enable the teacher to meet the standards and achieve accreditation by the University. The GP teacher development programme in Cambridge has been revised accordingly for 2002. This paper aims to describe the preparation, delivery and evaluation of three educational meetings for GP teachers between April and June 2002.

9G2  Providing subject specific support for learning and teaching in the UK

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The Learning and Teaching Support Network subject centre for Medicine, Dentistry and Veterinary Medicine (LTSN-01, http://www.ltsn-01.ac.uk/) is part of a national initiative for sharing innovation and good practice in UK Higher Education (http://www.ltsn.ac.uk/). Following the first year of activity the LTSN-01 has prioritised four key objectives of building a knowledge base of learning and teaching materials (sharing good practice), raising funds for educational development, seeking research evidence for effective learning interventions, and managing change in response to statutory recommendations and quality benchmarks. This submission will outline the work of the LTSN-01 in the UK including engaging with the constituency to analyse UK support needs, brokering good practice, handling over 1000 enquiries, providing information to and assisting with over 30 educational funding proposals (there are over 200 funding sources listed on our website http://www.ltsn-01.ac.uk/), running a workshop programme and funding small ‘mini-projects’ of our own including examples to support best evidence education.

9G3  Faculty development in German medical schools

R Peter Nippert
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In 2001 a survey of German medical schools was done to ascertain whether faculty development programmes were established and if so, what kind of programmes. Results of the survey show that faculty development programmes have been established in only some of the 37 German medical schools. They differ in scope and intensity and seldom are mandatory for faculty members. Implications of the findings will be presented and discussed.

9G4  The creation of the first national faculty development program in Israel

Howard Tandeter
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The Israeli Society of Teachers of Family Medicine launched in 2001 the first national faculty development program in this country. This is a part-time, one-year postgraduate course for Family Medicine faculty presented as a series of six encounters of two and a half days over the course of one year. The goal is to develop a team of leaders in Family Medicine who will influence the future of education, research and public policy in Israel. The Program includes courses in: principles of adult learning; teaching strategies; curriculum planning; assessment methods; writing skills; computers & audio-visuals; administration and professional skills; critical appraisal – ebm. Participants have background readings and exercises, group work by E-mail between meetings, and have to present independent projects for their final assessment. This program is suggested as a model for small European countries interested in developing national Faculty Development courses.

9G5  Mayo Medical School’s Faculty Development and Education Leadership Succession Planning Program

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Mayo Medical School has implemented an educational role-related, competency-based faculty development and education leadership succession-planning program. Workshops will be used to assist our faculty to acquire the knowledge, skills, attitudes, experiences, and competencies needed to excel in their chosen educational roles and to become Educational Leaders. Our curriculum will have six themes: Teaching and Learning; Instructional Methods; Assessment;
Technology; Academic Skills; Leadership. An Intranet Web site that has survey capability will enable us to conduct workshops in response to the campus specific needs of our faculties at three campuses (Rochester, MN, Jacksonville, FL, and Scottsdale, AZ). This program will be used to improve the effectiveness of our educators, enhance professional satisfaction and career development, encourage and enable our educators to contribute scholarly educational works, and enhance succession planning efforts for educational leadership positions in our institutions.

9G6 Assessment methods - the course
iArt of Medical Education

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The main activity of the Croatian Association for Medical Education is to organize courses for further development of medical teachers: formal, designed for young teachers and advanced for experienced teachers. The main task of formal courses is to help young teachers acquire basic pedagogical knowledge, skills and attitudes. The following items have been included: psychology of learning; principles of adult learning; curriculum development; educational module development including: defining educational needs and objectives, choosing the educational methods, planning a timetable, methods of evaluation and assessment, giving a lecture, clinical teaching and tutorials; working in a small group; using educational tools; and current developments in medical education. Formative and summative assessment are used. Pre-course assessment is performed by MCQ. Peer-assessment is used for the assessment of the work in small groups and for assessment of individual performance, in lecturing and clinical teaching. Final assessment comprises: an essay about the participants’ achievements during the course written by the teachers, an assessment of the educational module in written form by the participants and presented orally. At the end of the course, the participants receive a formal certificate. Besides, each one is given a written essay including the teacher’s opinion about their strengths and weaknesses, with the recommendations for the future advancement. The aim of this presentation is to discuss and share experience in the assessment methods used in the courses for further teachers’ training.

9G7 Tutors’ training: a pilot project within the Leonardo da Vinci Program at the Faculty of Medicine, University of Lisbon

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The pre-registration clinical year is an important phase in medical training. Six institutions from five countries are looking for improvement of their tutors’ training program. A 1.5 day pilot course, structured upon 7 areas identified as “key points for change” in future clinical training, were given to tutors. Course evaluation was done through semi-structured questionnaires before and after the course (hot review). Tutors appreciate the training course (process) and what they have learned (product) and state their intention to change their practice by better structuring their practical skills teaching, providing regular feedback, using study cases as teaching tools, implementing continuous assessment based on pre-defined criteria, as well as designing new logbooks for students. Tutors from the pre-registration years find a specific training course a useful formative action, and state they will change their practice according to what was learned.

Session 9H Postgraduate Education

9H1 The use of educational science for the training of registrars in the Netherlands

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The Dutch Government has restricted working hours of specialist registrars. This legislation has seriously compromised the education of these doctors. In the meantime the demands posed upon medical doctors are intensified. Apparently the time has come to introduce educational techniques that allow a less time consuming learning process. This introduction of educational techniques is part of a culture change: consultants/teaching professors are going to recognise education as a branch of science. We investigated the penetration of modern educational strategies in the training of registrars in 7 medical specialties in the Netherlands. The strategies looked for were: the use of portfolio, structured assessment of knowledge and skills, communication training, the use of skills laboratory, the use of video for feedback on patient contact, continuous medical education programs and training the teacher programs. For Dutch registrars an educational revolution has been started!

9H2 Educational methodology applied to an introductory course for novice Anaesthetic Senior House Officers in the North Thames Region

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The Royal College of Anaesthetists (RCA) published a range of competencies, skills, knowledge and attitudes essential for novice Senior House Officers. We have constructed a learning plan that covers these requirements. Other issues of professionalism are introduced. Our aim is to provide a supportive, non-judgemental environment, away from their departments, where the novice practitioners can explore their own learner–centred needs. Numbers are limited to facilitate small group work. Learning is predominantly interactive with skills workshops, high-fidelity simulation, role-playing, case-scenarios and critical incident analysis. Group discussions cover medical errors, professional behaviours, medico-legal aspects and communication skills. Teaching is evaluated by 360° feedback and three-month long-term follow-up. In addition to the satisfaction of participating in such a vibrant course our feedback and successful novice performance in the RCA competency-based assessment confirms our dynamic approach to teaching is effective.

**9H3** Creating blueprints and curricula for a new postgraduate specialist education in Denmark

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Specialist training in Denmark is to be reorganised with definition of objectives and integration of assessment (formative and summative). The work takes place at three levels: Strategic level: The National Board of Health and the Scientific Societies work out blueprints and principles for portfolios. Tactical level: Education Regions work out curricula and control quality standards. Operational level: Training departments work out individual education plans and run the supervision and assessment system. A SWOT analysis shows: Strengths: Developing a uniform high quality postgraduate education by central definition of standards. Weaknesses: A top-down defined system may not respond to local opportunities and changing learning methods. Opportunities: Upgrading education in teaching departments. Changing educational culture. Threats: Change resistance; non-flexibility by written standards; duality in governmental wish for better specialist education and unwillingness to increase economic resource allocation. The process is ongoing and the actual status will be presented.

**9H4** Monitoring and developing the culture of learning/clinical training in a university hospital

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Semistructured interviews were performed with a representative selection of doctors of three university departments in order to describe the culture of clinical training. The investigation showed that the training potential was not fully realised; key persons make the educational agenda in the department; competence of training was not appreciated to the same degree as medical scientific or administrative work; the clinical training in the departments was without specific goals obvious for the trainer and trainee. The educational culture was dependent upon different factors like educational plans, planning of daily work, conferences and feedback. In conclusion: the applied indicators were well suited to describe the educational culture in a department. No such thing as a general educational culture exists; there are general indicators but the meaning and the ability to develop the culture is a matter of specific local conditions.

**9H5** How to use 942,000 EUR annually in medical education

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The County of Aarhus wanted to improve the quality of postgraduate specialist training. In 1997 this resulted in the County setting aside means for a pool that should contribute to strengthen initiatives in this area. The County of Aarhus has a population of approx. 640,000 people and about 1,900 doctors. The pool distributes approx. 942,000 EUR annually. Until now the hospitals in the county have initiated 77 projects. In addition the County itself has implemented a number of initiatives, e.g. consultant courses and new introduction-strategies. To date the overall conclusions are as follows: (1) Implementation of project-ideas after the project phase is difficult - many projects don’t survive when the means run out. (2) The daily routines in patient care often make the project phase difficult. (3) Spread of ideas and results is essential - demands for publication could be made. (4) An increased effect of the pool requires a central administrator to secure evaluation, publication and maintenance.

**9H6** A descriptive survey exploring the characteristics of Masters courses for healthcare professionals

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Emphasis on Masters provision has been facilitated by several factors including Continuing Professional Development. This study explored the characteristics of existing Masters courses for healthcare professionals. A descriptive survey methodology employed a postal questionnaire developed from a critical analysis of the literature, exploratory interviews and a pilot study. The total population of Masters courses within the UK was sampled by administering the questionnaire to Course Tutors (n=171). Data were analysed using a combination of descriptive and inferential statistics. A response rate of 86% was achieved. The results reflected the emphasis on developing clinical expertise through the use of clinical placement, mentorship and theoretical teaching. Similarities and differences were identified between courses, for example, the emphasis on placements for Allied Health Professions compared to Nursing and Midwifery (p=0.000). The findings highlight the role of Masters provision in developing clinical expertise for healthcare professionals, through specialist and interprofessional courses.
Portfolio learning amongst GP Registrars in Yorkshire, England

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GP Registrars in Yorkshire are required to keep a ‘Portfolio of Learning and Development’ for the duration of their vocational training. My experience as a GP Educator suggests that many GPRs don’t complete their portfolio and many trainers fail to encourage its use. This impression contrasts with the enthusiasm of educationalists and professional bodies towards Portfolio-Based Learning. I used a qualitative technique to explore this dissonance among a groups of GPRs and Trainers. Analysis of findings revealed: Registrars were unclear as to the purpose of the portfolio; used the portfolio for recording activity, not in reflective learning; received little encouragement from their trainers. Trainers appeared unclear as to the portfolio’s role; considered the portfolio generally unhelpful and were therefore reluctant to encourage its use. These findings are discussed in light of literature, and recommendations are made for further studies.

Session 91 Problem-Based Learning

What can be learned from the content analysis of PBL learning issues?

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A content analysis from 660 learning issues emerging from 150 PBL sessions was performed. 1072 thematic topics where identified and clustered in “basic sciences” (n = 421), “clinical” (n = 562) and “psychosocial” (n = 89) items. Content of Learning issues was compared to Papercases and faculty objectives, which are presented to students in advance of the respective thematic block. In 91.9% a thematic correlation of learning issues with Papercases was found. Out of the 87 (8.1%) topics, which did not match Papercases’ content, 69 (79 %) were classified as “basic sciences”, 17 (20%) as “clinical” and one as a “psychosocial” theme. An association of Learning issues content with faculty objectives was found in 82.5% of analysed topics. Learning issues not correlating with faculty objectives were 41 (22%) “basic sciences” topics, 128 (69%) “clinical” topics and 16 (8%) “psychosocial” topics.

Implications for curriculum planning and process evaluation will be discussed.

A qualitative study on function and effects of web-based scenarios in PBL (the EDIT-project)

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In 2001, FHS started the project “Educational Development using Information and Communication Technology” (EDIT) in its PBL-curricula. Web-based scenarios were constructed to stimulate students’ motivation and facilitate the application of knowledge. Text documents, video clips, digital images, sound and graphics were applied. EDIT is implemented in the medical-, nursing-, social care and physiotherapy programmes. A study has been initiated to study the interaction between tutorial groups and EDIT. Tutorial groups (n=10) from different programmes were observed. Open interviews with students (individual and focus groups), tutors and planners were conducted. Notes from observations and interviews will be analysed using content analysis. The basic interface and triggers seem to function but focus on and time spent interacting with EDIT differs between groups. Interactive whiteboard and software to support the PBL-process can cause user problems and lead to differences in the use of scenarios. Further results will be presented.

The tutor role in computer-supported and face-to-face problem-based learning

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The verbal activities of 8 tutors in computer-supported and face-to-face problem-based learning groups are explored for differences in tutoring strategies. Each group had 8 medical students in their 5th year at the University of Oslo. The data were collected in 2001 through registration of computer supported group interactions (“chat”) and transcriptions of videotaped group discussions. Tutor interviews and student surveys supplement these data. Qualitative analysis of interactions shows significant difference in tutors’ activity in computer supported and face-to-face groups. Content of the tutors’ verbal contributions in the groups also show differences in focus. On-line tutoring supports progression and organisation; face-to-face tutoring is focused on discussion of subject matter. Individual differences in tutoring are also apparent. Relating these findings to interviews indicates correspondence between tutors’ intenations and their activities in computer supported as well as face-to-face problem-based learning.

Multimedia case studies: an integrated approach to facilitation of Problem Based Learning

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Physiotherapy students take responsibility for patient management from their third year of study. Despite a problem-based curriculum and teaching approach, it
was found that students lack specific cognitive skills which influence their quality of clinical problem solving. Multimedia case studies were designed to facilitate learners in mastering these skills. The multimedia case studies are based on the conceptual framework of the body of knowledge of physiotherapy. As the learners work through the multimedia case study, they are compelled to use the methodology of physiotherapy - the process by which new knowledge is generated in the discipline. Reflection exercises are built into the program to facilitate learners’ metacognitive skills and as such facilitate metalearning. The multimedia case study is integrated with small/large group discussions in which learners have to present their opinions and contributions. The compilation as well as the assessment of the multimedia program will be discussed.

**915 Lecturing in PBL**

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When introducing PBL at Linköping University the objectives of lecturing were re-evaluated to introduce or summarise an area or alternatively illuminate theoretically complex topics. Despite the ambition to renew, lecturing still often mimics traditional “knowledge transfer”. Therefore a way of structuring lectures that, in accordance with PBL, pays attention to students’ prior knowledge, activity and need for integration, is presented. When introducing an area, written reflections or group discussions on fundamental concepts are used to activate prior knowledge. Students also generate questions, related to their future profession, that are used in organising subsequent lectures, intended to deepen understanding in complex theoretical issues. Finally the area is processed and integrated using real life cases. Keywords for the lecturer are interaction and flexibility. The way of structuring is intended to better meet the learning process for the individual student. This concept might also be helpful when practising PBL in large groups.

**916 A student initiated Problem-Based Learning project with real patients and a special facilitator team: experiences from Heidelberg University**

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Nowadays problem-based learning (PBL) is a widely used teaching method in medical education. Starting in 1996, voluntary PBL tutorials were offered to graduate medical students at the Faculty of Clinical Medicine Mannheim, Heidelberg University. These courses were initiated and established by senior medical students. Special features of these tutorials were the use of real patients as a base of discussion and the supervision of the groups by a facilitator team composed of a methodologically experienced medical student in addition to a medical expert. Real patients as trigger material in PBL modules potentially increase students’ study motivation, help underline the actual relevance of the contents studied and allow for integration of superior learning objectives into the PBL curriculum. A facilitator team consisting of an experienced physician and a specially trained medical student allowed us to rapidly establish a significant number of tutorials while ensuring a high methodological quality on a high level in substance.

**917 Embedding web-based learning resources into a PBL course: which format works?**

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A hybrid curriculum with PBL courses was established at the University of Munich. The musculo-skeletal course is taught for 240 students over four weeks in the 2nd clinical year with paper cases as teaching materials. Are web-based learning resources in a case-based (CB) or a systematically structured (SY) format for self-study more suitable to improve performance? Tutorial groups were randomly assigned to an interactive computer-based case study or a systematic review on back and knee pain on the Internet, respectively. A 21-item questionnaire on acceptance, motivation and self-rated learning success showed a higher level of satisfaction in the CB-group. The SY-group performed significantly better in the 12-question MC-exam than the CB-group (7.76±2.08 vs. 8.58±1.74, p<0.01). The data on the triple-jump exam showed no significant differences between the groups.
Session 9J Selection

9J1  Short-term outcome of alternative admission to medical education

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Since 1998 an alternative procedure for admitting students to the medical undergraduate program has been used in Linköping. Out of 273 students, 50% were admitted due to their performance on the Swedish Scholastic Aptitude (SSA) test and the rank obtained during a structured interview by a physician/medical teacher and a layman (group 1); 32% based on grades obtained from upper-secondary school (group 2); 8% based on the SSA test only; and 8% based on the SSA test in combination with working experience credits. There was no significant difference between the groups regarding temporary intermissions (15%) or interruption of studies (5%). Group 2 tended to perform better on Modified Essay Question tests compared to group 1 and the difference was significant in 4/5 semesters. Group 1 tended to fail more often in the examinations, although the difference was significant in only 1/5 semesters. A test during semester 4 assessing basic clinical skills, theoretical knowledge, and ability to use library resources, showed no significant differences between the groups.

9J2  Measurement of strength of motivation for medical training

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Students applying for medical school differ in quality and strength of their motivation, both aspects being important when selecting applicants. In order to measure strength of motivation a questionnaire was developed to investigate students’ readiness to start and continue medical training regardless of setbacks (failing examinations, having almost no holidays) or negative aspects of their education or their future profession (being not allowed to start a desired specialty, losing social contacts).

The questionnaire consisted of 20 items (five-point scale); ten items were added to distract students from the purpose of the questionnaire. The questionnaire was completed by 301 first year students. Internal consistency was 0.77. Items differed in the amount of strength of motivation expressed. A hierarchy of items was empirically determined. Several psychometric measures were investigated (construct and concurrent validity, stability of the measured construct) and will be discussed, as well as the practical significance of the questionnaire.

9J3  Predicting success in medical school from school marks and examination scores in Germany

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Applicants for medical schools in Germany receive admission from a central national bureau, which also assigns them to the specific school using secondary school grade (Abiturnote) as criterion for selection and distribution. The medical curriculum is divided into a 2-year preclinical and a 4-year clinical period, partitioned by 4 state examinations in total. After years 2, 3 and 5 nationwide state examinations are brought about in a multiple-choice format. Additionally, oral examinations in selected subjects must be passed after years 2 and 5. Students accomplish medical school with a comprehensive oral and practical examination at the end of a clerkship comprising year 6. Students’ school marks and examination scores are presented. Predictive validity of school marks, as well as correlations of different types of examinations are studied. Implications are discussed with special reference to examination formats.

9J4  The importance of panel composition in medical student selection interviews

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Students’ selection interviews have been discussed extensively at conferences and in published literature. However, little attention has been paid to the background of the interviewers. Interviews at Monash University assess a range of interviewee attributes using panels of three interviewers from different categories: a member of the Faculty, a doctor in practice and an individual not involved in medicine or medical education. This paper reviews experience with this panel structure over a decade, using factor analysis to compare (a) the contribution of interviewer category with (b) the contribution of the attribute being assessed. Outcomes of the factor analysis varied from year to year, but each time three factors accounted for most of the variance. These factors correlated with the type of interviewer giving the scores rather than the particular personal quality that they were scoring. This suggests that the category of interviewer is generally more portentous than the attribute rated.

9J5  Global versus itemized ratings of undergraduate admission interviews

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The impact of the admission interview in the selection process of medical students is a controversial issue. We consider admission interviews to be a suitable approach to learn about aspects of applicants that are not comprised in knowledge based admission exams. These aspects are former academic background and achievements, interests, skills, vocational decision and future plans. Pairs of previously trained and experienced faculty members conduct interviews. After the interview each pair of interviewers rates the student following two different procedures: a global grade rating and an itemised rating. The purpose of the study was to consider if we could use the global rating as the only procedure to evaluate admission interviews. We revised 150 interview protocols to relate global and itemised ratings and found that there was a positive relation. According to this relationship we could start considering global rating as a suitable procedure to evaluate admissions interviews.

Profiling of candidates at Specialist Registrar appointment interview

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The “mosaic” sequential interview technique, described previously, has been developed further. By scoring specific attributes from each part of the process, we are able to build up a personal profile of each candidate. Advantages of this technique are: (1) A detailed analysis of candidates’ strengths and weaknesses permitting a more informed appointment; (2) An appointee with a relative weakness in one area can be targeted earlier in their training. (3) Matching the profile against the annual assessment (RTA) permits analysis of a trainee’s progression throughout the 5-year training. (4) Appointees’ trainers will carry out a detailed appraisal after six months using the scoring system in the clinical setting. This can be used to validate the appointment process itself. We will present data from over 100 candidates. We believe this is a unique method of analysing candidates for appointment and could prove an important contribution to this difficult area.

Centralised selection for GP trainees in the West Midlands: lessons from the first two years

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Since October 2000, selection of GP trainees in the West Midlands has been conducted regionally, rather than by individual GP practices. The recruitment process includes assessment of communication skills, clinical knowledge and personal attributes, in a split-panel format which includes a role-play. Data were collected from sources including: analysis of scores (422 candidates); interviews with organisers (2), GP trainers (3), assessors (11) and candidates (12); and a questionnaire to candidates attending the assessment days (80% response rate, 205/255). The presentation will provide an overview of the new system, and reflect on its impact in four key areas: autonomy, equity, accountability and efficiency. Change is often uncomfortable, and one outcome of centralised selection is loss of autonomy for GP trainers. However, the benefits include improvements in equity, efficiency and accountability. A transparent, accountable process is clearly an improvement on a system open to patronage.

Session 9K  The TeacherSelection

Students’ and teachers’ perceptions on teacher roles in medical education: a survey at the Medical School at the University of Porto

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To better characterise the roles of the teacher at the Medical School of Porto University a study was conducted involving all the students and teachers. A questionnaire developed by the University of Dundee was used where the participants are asked to point to the importance given to each one of the 12 roles.

The questionnaire was completed by students at lectures with the greatest participation, and was sent through the internal mail to all the teachers of the school, being confidential and anonymous. Response rate was 151 of 247 teachers and 702 of 943 students. The results disclosed two distinguished profiles for students and teachers - basic and clinical years. They also revealed differences in the given importance to the 12 roles regarding intra and intergroups. The collected information with this study will enrich the ongoing discussion and reflection on staff development and curriculum planning.

Teachers’ roles seen by 1st and 3rd year students at the Faculty of Medicine University of Lisbon

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At the turn of the century, the way the teacher’s role is conceived has changed dramatically, and the teacher is now confronted with new, challenging tasks. Seen in the past mainly as a lecturer, the teacher is now expected to help students to be more active, participative and responsible for their own learning. The objective of the study was to identify the roles of the teacher that
students value most. First (n=223), third (n=90) and fifth year students (n=45) were asked to identify the three most important teacher’s roles. Results will be presented.

“Information provider” continues to be seen as the most important role of the teacher with a lack of importance attributed to “teacher as assessor or planner”. Implications for the teaching/learning process will be discussed, and major findings, namely the absence of significant differences along the course, will be stressed.

9K3 Teaching faculty and educational reform - impact of an ongoing curriculum reform on the perceptions of teaching

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Implementing PBL to a traditional undergraduate medical curriculum has an influence on faculty’s concepts of teaching. Opinions of facilitating and lecturing faculty were investigated during the implementation phase. The study was carried out in two steps. Curriculum committee members were interviewed in a semi-structured way. Statements were analysed, pilot tested and used to create an inventory. In the second step, the executing faculty was surveyed by the designed inventory. For analysis 192 (56.9%) inventories were used. No significant difference in facilitating and lecturing staff was found concerning educational approaches and motivation towards teaching. There was one exception within the facilitating group: the survey showed a significant difference between junior and the senior teachers with regard to their perception of students and in their motivation for teaching. The results contribute to the demand that successful implementation of PBL needs support and survey of faculties’ conceptual change in teaching.

9K4 See one, do one, teach one: role models and the CanMEDs competencies

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Role-modeling is widely regarded as a powerful teaching and learning method. At least four of the CanMEDs competencies are expected to be acquired through role-modeling. Yet this powerful, pervasive phenomenon is poorly understood, limiting its educational effectiveness. This project has three goals: (1) to analyse and synthesise the literature relevant to understanding role-modeling; (2) to develop enduring learning materials for use across the medical education continuum, beginning with faculty development; and (3) to develop a systematic research agenda for role-modeling. We have reviewed the literatures of education, moral philosophy, virtue theory and professionalism. Groups of faculty, residents and students are developing, through structured discussions, composite examples of positive and negative role-modeling by individuals and the institution from their personal experience. The examples will provide a basis for faculty development, analysis, and development of a systematic research agenda. Our process, findings and synthesis from the three groups will be presented.

9K5 †Clinician-Educator - the concept of a new academic track

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With changing framework conditions in higher education and the healthcare system academic clinical staff members are expected to perform clinical service activities, research, teaching and management tasks at an outstanding level. The present paper introduces the concept of the new academic track ‘Clinician-Educator’ to be implemented in Zürich in 2002. An ‘Educational Portfolio’ documenting main activity areas of the ‘Clinician-Educator’, i.e. didactic training, teaching with evaluation, publications and medical education projects, is used for assessment and re-evaluation purposes. Potential benefits - professionalisation in medical education by differentiating academic roles, intensification of a faculty development program as well as recognition of qualified medical teachers - are discussed in comparison with existing career tracks in US-American medical schools. It is emphasised that the integration of the tasks in academic medicine should be preserved; with the new track, integration is now feasible at the institutional or the individual level.

9K6 The motivation to teach - the undergraduate tutor's perspective

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There is evidence that many factors influence the motivation and the degree of satisfaction of medical teachers. The aims of this study were to explore these issues among respondents. An interview among undergraduate senior tutors to the 5th and 6th years (Pediatrics Course at Medical Sciences Faculty-Universidade Nova de Lisboa) was carried out. Interview results identified a number of barriers to motivation to teach, impairing their satisfaction and efforts in medical education mainly related to: unsatisfactory student exposure in hospital-based practice and emergency setting (for the 5th year); teachers heavily burdened by patient care and administration tasks; high numbers of students; work of the tutor not appropriately remunerated or not remunerated (free trainers); lack of space and equipment and lack of incentives for teaching tasks, taking into account the low scores devoted to this issue in a hospital career context.
**9K7** Anatomy education in the United States: where will future anatomists come from?

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The molecular revolution in biomedicine that began in the 1960s has profoundly influenced medical education, particularly anatomy. To attract research grants, anatomy departments have shifted their focus from classical anatomy to molecular biology. The field of gross anatomy has become less attractive to young anatomy faculty, as graduate anatomy curricula aim to provide students with experience in cell and molecular biology as a prelude to a productive research career. All of these changes have led to the present shortage of gross and microscopic anatomy faculty. Several solutions to this problem have been implemented, including offering two-year Anatomy Masters Programs to train educators in human gross anatomy and related fields. Another solution is to attract foreign medical graduates into the anatomy field. Recent changes in ECFMG requirements have created challenges in obtaining US medical licensure, therefore enlarging the pool of foreign medical graduates interested in an anatomy teaching career.

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**Session 9L  Curriculum Management**

**9L1** The introduction of concept mapping to nursing and midwifery curricula: a learning and teaching initiative

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The paper will present the drives, strategies adopted and evaluated outcomes from an eighteen month learning and teaching initiative within one English Department of Nursing and Midwifery. The initiative involved the introduction of concept mapping as both a learning and assessment approach across all curricula including Dip HE, Degree and Masters awards. Maps were introduced in a purposeful and planned way in order to foster propositional and critical thinking and facilitate the identification of relationships between theory and practice in new and reflective ways\(^1\). Evaluation strategies included focus groups which involved staff, students and structured questionnaires. Finally, opportunity will be given to view samples of maps produced and consider future directions.


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**9L2** Canopy computing in Dundee

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Curriculum maps are a method of integrating a variety of electronic learning resources for students and staff. Dundee University Medical School is developing a learning environment based on a relational database. Wireless Local Area Network connections from student laptops are used to access the resources. Preliminary evaluation of the system was undertaken in January and February 2001 with 15 students. A focus group, questionnaire data and review of website use was undertaken. We are currently extending this to all students as the program rolls out during 2002-3. Almost all the comments received to date have been positive, seen as making students more independent learners, and more time-efficient. Some students reported apprehension before use about breaking or losing equipment. There are some difficulties obtaining phone line access when LAN is unavailable. Machines were mainly used for standard computing tasks, word processing, Powerpoint and databases in project work. Wireless LAN technology is sufficiently straightforward for students to easily access curriculum resources from a wide variety of sites.

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**9L3** A computer-based system for managing the assessment of coursework in undergraduate medicine

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Student-centred learning and the increased assessment load which accompanies it are now features of many undergraduate courses. For example in the Edinburgh medical course the vertical themes are assessed by a ‘portfolio’ of 25 pieces of coursework submitted over the 5 years of the course. Administratively, managing a paper-based portfolio system comprising ~30,000 pieces of coursework exceeded the available human resources and it has now been replaced with an ‘electronic filing cabinet’ which facilitates quality assurance; audit; access by markers, students and administrators; and giving feedback to students. Students upload their coursework, via web forms. The portfolio system date-stamps it, converts it to read-only (pdf) format, and stores it in a personal folder. Authorised staff e.g. internal markers, external examiners, have access and assessment can take place online or they can print copies if they prefer. Marks and comments (submitted using specially designed proformas) are also stored.
Curriculum information systems - who will use them, at what time, and for what?

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Curriculum information systems (CIS) have been discussed in the literature since the 1970s and general guidelines have been formulated for their development. In the development of a CIS the questions of the intended users and the intended uses must be addressed in a rigorous fashion. The curriculum of the University of Vienna Medical School is undergoing a fundamental reform that builds upon an elaborated profile of student competencies. The school has funded the design and implementation of a CIS to fill the needs of planning, coordination and information exchange. We will present the current functionalities of the CIS and discuss the processes employed to derive user-groups and related information needs according to their roles in the curriculum reform and implementation processes. Furthermore, we found a need to prioritise the implementation of functions so as to make the system attractive to different users from the start.

Texas State Preceptorship website

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The Texas Statewide Family Practice Preceptorship Program (TSPPPP) is a state funded program that exposes students to community family practice and stimulates interest in family practice careers. In academic year 2000, more than 400 students from Texas’s 16 medical schools were selected from among 800 volunteer preceptors. To improve the program’s infrastructure, the TSPPPP recently completed the development of a website and database. The aim is to use electronic technology to: (1) increase the students’ knowledge of potential preceptors and their practices; (2) provide an overview of the program including its goals and requirements; (3) increase the efficiency of registering students and preceptors in the program and of gathering summative evaluations of the program from them. Initial feedback from the program’s users suggests a high level of user satisfaction and increased efficiency.

Managing an outcomes based Networked Learning Environment

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In order to accommodate an expansion of medical student numbers at Newcastle University Medical School, a revised curriculum explicitly focusing on an outcomes based approach was introduced in September 2001. A fundamental management tool of this new curriculum is the study guides. Since 1995 study guides have played a significant role in Newcastle’s implementation of a curriculum management database structure. It has provided the framework of a powerful online Networked Learning Environment that has brought together a curriculum (document) management system, on-line selection, electronic resource management systems, online self-assessment, computer mediated communication and information management information systems. This presentation aims to provide an insight into how students at Newcastle have used the study guides within the new curriculum.

1 Learning Outcomes for the Medical Undergraduate in Scotland: A Foundation for Competent and Reflective Practitioners’. Report from the Scottish Dean’s Medical Education Group, February 2000.
Session 10  Plenary 2 - The Core Curriculum and Learning Outcomes

10/1  Educating doctors to meet the challenges of tomorrow

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The advances in science, technology and medicine enable endless possibilities that may benefit mankind. These advances bring numerous challenges to ensure equity and social justice in the way resources are utilised for the benefit of all people in the context of health for all. These changes will provide for a challenging environment for doctors of the future. Many medical schools are changing their curriculum to produce “Tomorrow’s Doctors”, who will be able to meet these challenges and also clarify the concept of health and healthcare, and to be innovative and dynamic, so that they can fulfil their changing roles and responsibilities in this challenging environment.

10/2  Global minimum essential requirements for the doctor of the 21st century

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Medical education will be transformed to meet the mandate of the 21st Century for a different type of physician. Reflecting this need, the IIME, with a group of international experts, has developed the ‘Global Minimum Essential Requirements’ (GMER). These include 60 learning outcomes covering knowledge, clinical skills, professional attitudes, behaviour and ethical values that all graduates of medical schools must achieve. An IIME task force of individuals with expertise in assessment methods has made recommendations about the appropriate tools to assess each of the global minimum essential requirements. Work is currently in progress to implement the GMER, in the first instance in six leading Chinese medical schools. The learning outcomes as specified in the global minimum essential requirements can contribute to improving the quality of medical education worldwide.

10/3  The ACGME Competencies and Outcome Assessment Initiative

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Identifying competencies to be measured, tools to assess the competencies and policies to make accreditation decisions based on educational outcomes required the engagement of a broad community of certification boards, accreditors, program directors and residents. ACGME is committed to the use of educational outcomes as an accreditation tool. The work undertaken by ACGME in this field and the lessons learned to date will be reviewed.