Short Communication:
Patient Safety
Location: MR 120 – Pt 1

#10M1 (135538)
Critical Student Insights on Patient Safety and Quality Improvement Curriculum at The Telluride Experience

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Background: In 2015, medical students and nurses attended a five day safety and quality training program.

Summary of Work: At the end of The Telluride Experience (TTE) immersion in patient safety, N-57 health students (nursing and medical) provided qualitative and quantitative feedback for the program improvement. From the qualitative data, three investigators independently utilized phrase counting to generate broad categories. Through discussion, categories were narrowed to three specific themes, 1) Content Delivery of Patient Safety Topics 2) Understanding of Quality Improvement (QI) 3) Interprofessionalism and Team Building Exercises.

Summary of Results: 42% of interprofessional participants benefited from lengthier small group discussion on patient safety. Of the 18 students who commented on QI training, 56% noted that the fundamental knowledge acquisition served to identify areas of educational inefficiencies at their home institutions. Conversely, 44% of the sub-group stressed the need for more Requested emphasis on QI implementation rather than problem identification. 33% of all participants highlighted the increased need for networking opportunities through interprofessional and team building activities during the training.

Discussion: Findings suggest a divide amongst participants in fundamental knowledge and awareness of QI projects. It was evident that some students desired a deeper dive into formulating QI plans at their home institutions. Education in implementation science is critical for overcoming organizational barriers, professional hierarchies, and cultural norms, which ultimately reduce healthcare efficiency.

Conclusion: Overall, participants desired fundamental understanding, advanced discussion, and critical evaluation of patient safety and QI. Alumni networking, story sharing, and deliberate development practice may better develop students perceptions allowing them to act on the lessons learned after TTE. The QI and interprofessional aspects of TTE emphasized the reality of the hospital setting for the health students. Collaborative and team-based efforts between health professionals have been correlated with safe and effective health care.

Take Home Messages: Interprofessional learning and QI training is highly valuable for learners.

#10M2 (136010)
Learning in the Clinic: A Model for Learning, Improvement and Safety

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Background: Near-miss incident learning systems (NM-ILS) can improve patient safety. However, they are often perceived more as systems for reporting than learning; little research has been done to understand the types of learning, change and improvement that they can support. Our radiotherapy clinic has an established NM-ILS and good safety culture metrics. The study aimed to explore factors influencing NM-ILS engagement and to understand how incident learning occurs in one multiprofessional practice.

Summary of Work: Following IRB approval, 21 departmental volunteers participated in a series of focus groups and interviews about perceptions of NM-ILS reporting and learning, until theoretical saturation. Participants were resident and attending physicians, technologists, nurses, physicists and administrators, and included both those regularly engaged in event reporting, and those less active. Data analysis used Grounded Theory Methodology.

Summary of Results: Patient safety was the common motivator, even for those who did not use the system much; most recognized the many positive changes that resulted from NM-ILS. Many participants felt that more feedback, both individual and collective, would improve engagement and learning. A few expressed fear of retribution if documenting an incident, especially involving someone in power. Many saw only traditional classroom teaching as learning, but not practice improvement or process change, and those least involved perceived learning as individual rather than collaborative. A model emerged that ILS learning and change occurs on individual, team, and organizational levels.

Discussion: Patient safety is an important driver of participation in NM-ILS, but process and cultural changes are needed for full engagement in the NM-ILS, and optimized safety culture. A model has been generated that may facilitate understanding of not just incident reporting, but also of the learning that occurs with it.

Conclusion: Understanding the different types of learning that occur may enhance patient safety.

Take Home Messages: NM-ILS is a rich source of workplace learning, with patient safety as its outcome.
#10M3 (132626)
A multidisciplinary training program of intrahospital transport of critically ill patients: Model build-up and assessment

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Background: Intrahospital transport of critically ill patients for diagnostic or therapeutic procedures is at risk due to patient instability, inexperienced team or equipment problems. The project aims to explore threat-factors for patient safety during transport and the effectiveness of a multidisciplinary simulation training model.

Summary of Work: The effectiveness of a multidisciplinary simulation training model was evaluated by mixed methods; including quantitative competence measurements (for teams and members) and qualitative analysis (group discussion in training sessions). One team is comprised of three newly registered medical staff, including a physician, a nurse, and a respiratory therapist. In total, twelve teams participated. Threat and positive factors were identified from patient safety data and group discussions.

Summary of Results: Participants undertaking training achieved higher levels of skills. Most common threat-factors from patient safety data included inadequate securing of airway, and vascular access, and communication/liaison problems. Other threat-factors identified from group discussions were: loosely composed transport team, staff who work temporarily, or are inexperienced and less confident, and improper emergency elevator access. Increase awareness of critical situation, identity formation, trust construction and transformation into clinical practice were considered to enhance patient transfer and can be achieved by the simulation training. Newly registered trainees lack insight into their non-technical skills, in terms of task management, team working, situation awareness and decision-making.

Discussion: Scheduling and setting of multidisciplinary simulation training model are challenging, time-consuming and laborious. However, threat-factors on patient safety could be avoided by implementing an in-situ multidisciplinary simulation training model whereby the amendment could also be achieved.

Conclusion: Newly registered multidisciplinary staff comprise loose teams, lack experience and confidence during practicing patient transport in both simulation and realistic daily practice. In-situ multidisciplinary team-based simulation training model uncovered factors which negatively affect patient safety during intrahospital transport and provided amendment.

Take Home Messages: Multidisciplinary team-based simulation training model brings positive impact on patient safety during intrahospital transport.

#10M4 (133603)
Diagnostic error and/or diagnosis related patient harm in the diagnostic reasoning process are related to residents’ subjective workload and work experience

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Background: Physicians are often subject to high workload. Most research on workload in medicine focuses on objective workload, such as the number of patients seen. However, the subjectively experienced workload may be the more important factor, particularly for physicians with little work experience who diagnose patients. The aim of this study was to determine the relationship between subjective workload, work experience and the occurrence of diagnostic error and/or diagnosis related patient harm. Furthermore, the objective workload factors that may influence subjective workload were explored.

Summary of Work: Residents with different levels of expertise, indicated the level of subjective workload that they experienced during the examination of dyspnea patients. Furthermore, they were asked about their work experience. After discharge, the patient records were reviewed to identify diagnostic errors and diagnosis related harm. Additionally, residents were observed during their work and objective work-related factors were scored and related to subjective workload measures.

Summary of Results: A higher subjective workload was associated with the occurrence of diagnostic error and/or patient harm (p<0.01). Less experienced residents encountered more subjective workload (p<0.01) and were more often involved in cases with adverse outcomes than more experienced residents (p<0.05). There was no significant interaction between subjective workload and work experience on adverse outcomes. The factor that most strongly influenced subjective workload involved the presence of a co-worker.
Discussion: Subjective workload was related to performance irrespectively of work experience. Reducing subjective workload could therefore reduce adverse outcomes in the diagnostic process, and does not necessarily require reduction of objective workload. Specifically, subjective workload was mostly related to the availability of co-workers, suggesting that having the possibility to get assistance may be helpful.

Conclusion: Ways to reduce physicians’ subjective workload should be further explored to reduce the occurrence of adverse outcomes in the diagnostic process.

Take Home Messages: Reducing subjective workload could reduce adverse outcomes in the diagnostic process.

#10M6 (127793)
Why do anaesthetists sometimes not follow the rules?

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Background: Protocols and guidelines are often central to medical education and their introduction is a common strategy in attempts to improve patient safety. However, clinicians sometimes choose not to follow guidelines and reasons for this are poorly understood. Therefore, we studied anaesthetic teams during highly-realistic simulated cases.

Summary of Work: To better understand the intentions underlying deviation from accepted guidelines we observed anaesthesia in 20 simulated cases, recording events that may increase the risk of patient harm. In semi-structured interviews, details of observed events were confirmed with participating anaesthetic teams, and intentions and reasoning underlying the confirmed deviations were discussed.

Summary of Results: Twenty-four observed events (69% of 35 recorded) were judged by participants to carry potential for patient harm, and 12 (34%) were judged to be deviations from accepted guidelines (including one drug administration error). Only two events were identified as potentially attributable to simulation.

Discussion: Underlying reasons for deviations included a strong sense of clinical autonomy, poor clinical relevance and a lack of evidence for guidelines, ingrained habits learnt in early training, and the influence of peers. Knowing when a guideline was not appropriate for a particular patient was seen as an important clinical skill.

Conclusion: Guidelines are important in clinical practice, yet self-identified deviation from accepted guidelines was common in our results. Anaesthetists often had good reason not to follow a particular guideline, and evidence was often seen as lacking.

Take Home Messages: While guidelines can yield benefits for patient safety, a strong evidence base is needed to achieve good compliance, and even in these cases important exceptions may remain to their applicability. Our results have implications for the development of better guidelines and medical education activities making use of them.
Training Against Medical Error (TAME), a curriculum transformation

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Background: Medical education in Eastern Europe and beyond is mostly still taught in a traditional setting, using lectures and face-to-face sessions. Past EC projects (ePBLnet and CROESUS) have successfully modernised the curriculum of partner institutions by introducing Interactive Problem-based Learning (PBL) using Virtual Patients (VPs). Medical error is an increasingly significant cause of harm to patients. Using the benefits of VPs, the TAME project looks to ‘Train Against Medical Error’ to avoid preventable adverse events caused by a lack of training.

Summary of Work: The project aims to train medical students to avoid making errors in real life situations. Using online VPs in a PBL setting, students will discuss management options and steps they should take. Students can practice clinical management, make errors safely, and see the outcomes of their errors. Institutions in Kazakhstan, Ukraine and Malaysia will create cases focusing on medical error, to be trialled with students, whose performance will be assessed.

Summary of Results: Paediatric cases provided by St George’s, University of London, will be repurposed by participating institutions to their local healthcare settings and implemented within their medical curricula. Training has been provided in the design and use of online VPs to teach medical error in PBL sessions.

Discussion: The effects of the error VP cases on student performance has yet to be determined, although the impact of modernising medical education using these methods has been successfully proven in past projects. The effectiveness of using error VP cases for avoidance of error will be discussed.

Conclusion: Allowing students to make mistakes early on in their career using VPs can provide opportunities to see the real-life consequences of those errors, therefore reducing the incidence of error in practice.

Take Home Messages: Using VPs, medical curricula can be modernised to provide training against medical error.