EBMA Annual Academic Conference: Crossing Boundaries
Assessment in Medical Education

14 and 15 October 2016
University of Exeter, Exeter
European Accreditation Council for Continuing Medical Education (EACCME)

The ‘European Board of Medical Assessors (EBMA)’ (or) ‘Crossing Boundaries - Assessment in Medical Education’ is accredited by the European Accreditation Council for Continuing Medical Education (EACCME) to provide the following CME activity for medical specialists. The EACCME is an institution of the European Union of Medical Specialists (UEMS), www.uems.net.

The ‘Crossing Boundaries - Assessment in Medical Education’ is designated for a maximum of (or ‘for up to’) 12 hours of European external CME credits. Each medical specialist should claim only those hours of credit that he/she actually spent in the educational activity.

Through an agreement between the European Union of Medical Specialists and the American Medical Association, physicians may convert EACCME credits to an equivalent number of AMA PRA Category 1 Credits™. Information on the process to convert EACCME credit to AMA credit can be found at www.ama-assn.org/go/internationalcme.

Live educational activities, occurring outside of Canada, recognized by the UEMS-EACCME for ECMEC credits are deemed to be Accredited Group Learning Activities (Section 1) as defined by the Maintenance of Certification Program of The Royal College of Physicians and Surgeons of Canada.
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DEAR COLLEAGUES,

It is a pleasure to welcome you to the University of Exeter and in particular to the University of Exeter Medical School for your annual academic conference. As the Deputy Vice-Chancellor for Education, I take a keen interest in developing innovative pedagogy and assessment and will be keen to hear of your discussions.

The University of Exeter aims to make the exceptional happen; and currently we are celebrating our Diamond Jubilee year. As part of that celebration, we spent time collectively defining our values: ambition, challenge, collaboration, rigour, impact and community. We believe that these values embody everything that we aim to do as a University from our research, education and engagement with the local and regional community.

The University of Exeter’s Education Strategy sets out a vision of an education that transforms dreams and ambitions into global opportunities for success. It is this Strategy that drives our innovation and enhancement in learning and teaching and we continually strive to provide a research-inspired, inquiry-led approach to our pedagogy.

The University of Exeter Medical School was founded in 2013 to offer programmes that develop the science and healthcare leaders of the future, who are socially accountable and committed to the service of patients and the public. Our programmes are creative in their approach to assessment and our partnership with students continues to drive forward developments in this area.

So I challenge you all to spend this time at your conference to network with each other, share best practice and learn something new. Assessment is all about challenge and rigour; and we must ensure that all of our students are in the best possible position to demonstrate their learning and understanding. It is only then that they will be able to make the exceptional happen globally.

I wish you all well for the conference and your time with us at the University of Exeter.

Professor Timothy Quine
Deputy Vice-Chancellor (Education)
Professor of Earth Surface Science
AN INTRODUCTION...

On behalf of the board of the European Board of Medical Assessors (EBMA) I offer you a warm welcome to Exeter. This is the first annual conference of the EBMA that we have opened to all our academic colleagues. You will of course be aware of the excellent biannual Ottawa conferences organised by AMEE. Focusing on assessment in medical education they have always delivered a forum for enthusiastic colleagues to share ideas and look to new directions. For us in Europe there was always the logistical difficulty of funding travel to the Americas or the Pacific Rim. I felt that there was a need for a similar conference closer to home. EBMA are very proud to be working with the Academy of Medical Educators (AoME) and the Association for the Study of Medical Education (ASME) to present this conference. Together we have been able to deliver a programme with thought provoking keynotes and symposia.

Looking at the variety and depth of the short presentations and posters I believe we were right to identify this need for a European forum focused around assessment. In fact delegates and presenters are also here from outside Europe. We are grateful to the Universities of Exeter and Plymouth for supporting this event. Please spend some time talking to our commercial sponsors. Also you will find stands from EBMA, AoME and ASME please spend some time with them and learn more about what we are all aiming to achieve.

At the end of the conference we will provide an opportunity for feedback from you and one of the most crucial points is whether you would wish to attend something like this again.

EBMA was created to cross boundaries in assessment, recognising that in medical education, as in so many things, we are linked by our commonalities rather than our differences. So, feel free to talk to delegates you have not seen before, cross some boundaries, learn some more, advance our discipline but mostly enjoy your time here.

Professor Adrian Freeman
Director of Assessments
University of Exeter
Medical School
A special thank you to the colleagues and collaborators who worked together to help facilitate the inaugural **EBMA Annual Academic Conference: Crossing Boundaries: Assessment in Medical Education**, University of Exeter.

**Planning Committee**

**Professor Adrian Freeman**
Chair and Academic Organiser, European Board of Medical Assessors and the University of Exeter Medical School.

**Dame Lesley Southgate**
Academic Organiser, President of European Board of Medical Assessors.

**Professor Janusz Janczukowicz**
Academic Organiser, European Board of Medical Assessors and Head of the Centre for Medical Education in Europe.

**Annemarie Camp**
European Board of Medical Assessors.

**Tony Carlisle**
Academy of Medical Educators.

**Cecilia Mañosa Nyblon**
Conference Coordinator, University of Exeter Medical School.

**Dr Thomas Gale**
Academic Organiser, European Board of Medical Assessors and Plymouth University Peninsula School of Medicine and Dentistry.

**Professor Val Wass**
Academic Organiser, European Board of Medical Assessors and Keele University.

**Dr Julie Browne**
Academic Organiser, Academy of Medical Educators.

**Danielle Townsend**
European Board of Medical Assessors.

**Jenny Ogg**
The Association for the Study of Medical Education.

**Vivien Handy**
Conference Coordinator, University of Exeter Medical School.

Email: assessmentmeded@exeter.ac.uk  #ExeterEBMA  www.facebook.com/ExeterMed
The European Board of Medical Assessors (EBMA) consists of a group of European professionals who have expertise in assessment and/or have leadership roles in universities, or other institutional bodies concerned with medical education and training.

EBMA has come together to promote best assessment practice for medical education in Europe and to develop and implement the strategic use of assessment for learning.

EBMA shares its expertise in assessment by offering:

**Assessment products**
- International Progress Testing (IPT)
- European Knowledge Test (EKT)
- Video assessment
- E-portfolio
- Item Bank

**Faculty development products**
- Programmatic Assessment
- Workplace based assessment
- Effective feedback
- Item writing
- Psychometrics
- E-portfolio

**Consultancy services, for example:**
- On benchmarking against accreditation criteria
- Support for implementation of programmatic assessments

As a member of EBMA you can benefit from being introduced to a community of established experts working together to create unique assessment resources that could improve quality of healthcare. We offer two levels of membership: a trial and a full membership.

Visit our website [www.ebma.eu.com](http://www.ebma.eu.com) for more information on our products and services, our members, membership opportunities and activities.

**Or contact us via:**

European Board of Medical Assessors
Located in Maastricht University
PO. Box 616, 6200 MD Maastricht, the Netherlands
ebma@maastrichtuniversity.nl
Phone +31 43 3885733
Academy of Medical Educators

The Academy of Medical Educators (AoME), established in 2006, is a charitable organisation developed to advance medical education for the benefit of the public through:

a) the development of a professional standards framework and qualification systems;
b) undertaking research for the continuing development of professional medical education; and
c) the promotion and dissemination of current best practice in medical education.

Medical education is a field of practice based on the knowledge, skills and behaviours required for the effective teaching and training of medical, veterinary and dental students and of doctors, vets and dentists. It encompasses all stages of education from undergraduate medical, veterinary and dental education through postgraduate education to continuing professional development.

Members and Fellows of the Academy have access to a network of medical educators at every level of career progression, from those brand new to medical education to experienced academics. Our Professional Standards are an invaluable tool for career progression, evaluation and development in your role. Recognition by AoME demonstrates skills and competence when applying for revalidation, promotion and approval as a trainer.

Our Members and Fellows receive regular newsletters, mailings and updates via the online community. The Academy runs its own programme of academic meetings and events, offered at discount rates including the annual Calman Lecture and its national spring and autumn conferences. One day masterclasses concentrate on specific issues in educational development and are presented by contributors of international standing.

AoME provides a forum for Members and Fellows to influence government and regulatory policy on medical education through consultations, forums and working groups. Special Interest Groups foster participation among particular specialties and areas of professional interest. The Academy also offers its own awards and prizes, and can support medical educators in their applications for national and local awards.
The University of Exeter Medical School (UEMS) is improving the health of the South West and beyond, through the development of high quality graduates and world-leading research that has international impact.

As part of a Russell Group university, we combine this world-class research with very high levels of student satisfaction. The University of Exeter Medical School’s Medicine programme is ranked 10th in the Guardian University Guide 2017. Exeter has over 19,000 students and is one of the global top 100 universities according to the Times Higher Education World University Rankings 2015-16, positioned 93rd. Exeter is also ranked 7th in The Times and The Sunday Times Good University Guide 2016. In the 2014 Research Excellence Framework (REF), the University ranked 16th nationally, with 98% of its research rated as being of international quality. Exeter’s Clinical Medicine research was ranked 3rd in the country, based on research outputs that were rated world-leading. Public Health, Health Services and Primary Care research also ranked in the top ten, in joint 9th for research outputs rated world-leading or internationally excellent. Exeter was named The Times and The Sunday Times Sports University of the Year 2015-16, in recognition of excellence in performance, education and research. Exeter was The Sunday Times University of the Year 2012-13.

Visit us at: www.exeter.ac.uk/Medicine

For further information:
Louise Vennells
Communications Manager
University of Exeter Medical School
+44 (0)1392 724927 or 07768 511866
l.vennells@exeter.ac.uk
Plymouth University Peninsula Schools of Medicine and Dentistry (PUPSMD www.plymouth.ac.uk/peninsula) focuses on medical, dental and biomedical education and research. In education it takes the lead in using innovative, evidence-based curriculum approaches which nurture future doctors, dentists and biomedical scientists who are clinically excellent, have immense empathy for those in their care, and who are well-prepared for roles in an ever-changing health service.

The Research Excellence Framework 2014 ranked the organisation top in the UK for the quality of its research outputs. Educational based research is facilitated within the Collaboration for the Advancement of Medical Education Research and Assessment (CAMERA). CAMERA brings together academic researchers, medical professionals and educators seeking to improve patient safety and engagement through an understanding of assessment and its impact on the clinical workforce; including selection and widening participation, simulation, professional regulation and patient and public involvement. PUPSMD deliver a suite of part-time and full-time Masters level programmes for doctors, dentists and other healthcare professionals to promote scholarly activity in Clinical Education, Simulation and Patient Safety, Healthcare, Management and Leadership, Global and Remote Healthcare; as well as a full time Postgraduate Diploma in Physician Associate Studies.
Association for the Study of Medical Education (ASME) is a registered charity, established in 1957. Our strategic aim is to allow members to share and further best practice in Medical Education. We are a UK focused, internationally facing trusted and dynamic organisation, working with our members, for our members. ASME provides CPD, Education and Training, Leadership development, Research knowledge, skills and networks.

We welcome people with a commitment and interest in UK medical education and training e.g. those working in medical schools, Postgraduate trainers, Training programme directors, Deans, Medical students and trainees, Medical education researchers.

We hold an annual Researching Medical Education one day meeting every November in London, an annual Developing Leaders residential course in Windsor and of course our long established Annual Scientific Meeting over 3 days at different venues around the UK. Our journal Medical Education, is currently in its 60th year and we also have the online journal The Clinical Teacher. We have various interest groups running alongside ASME which members can have access to: JASME (Juniors), TASME (Trainees), ERG Education Research Group, EDG Educator Development Group, Psychometrics, Technology Enhanced Learning and Leadership Development. These groups hold various events and meetings throughout the year and also offer various awards and grants across UG, PG and the continuum of medical education.

If you would like to find out more please visit the ASME exhibition stand at the EBMA conference.
City of Exeter
Parking sites

Free of charge and delegates can park at car parks C and D.

- **C** Car Park C (5G - closest to The Forum)
- **D** Car Park D (4I)
Places to eat in Exeter

RESTAURANTS

Queen Street Dining Guildhall (Number 4 on map)
Comptoir Libanais / Lebanese and Middle Eastern Restaurant
Gourmet Burger Kitchen / Restaurant
Turtle Bay / Caribbean Restaurant

Princesshay (Number 5 on map)
Jamie Oliver / Restaurant
Wagamama / Restaurant
Yo! Sushi / Restaurant
Café Rouge / Restaurant

Côte / Restaurant / Cathedral Green
Harry’s Restaurant / Restaurant / 86 Longbrook St
The Olive Tree Restaurant / Restaurant / Queens Court
CIRCA1924 / Steak / Northernhay Pl
Tyepyedong / Chinese cuisine / Sidwell St
Ruby Modern Diner / Hamburger / Queen St

PUBS THAT SERVE FOOD

The Well House Tavern / Pub / Ales / Cathedral Green
The Rusty Bike / Pub / Longbrook St / Howell Rd
The Farmers Union / Pub / Queen’s Terrace

CAFÉ

Tea on the Green / Devon cream teas / Cathedral Green
Coffee #1 / Café / Roman Walk
Chandos / Café / Roman Walk
Artigiano Espresso & Wine Bar / Café / High St
Mashawi / Café / Sidwell St
Dinosaur Café / Café / Longbrook St / New North Rd

TAXI COMPANIES

EXE CARS  01392 555555  24 hours
Z Cars    01392 422888
Apple Central Taxis 01392 666666  24 hours
Club Cars 01392 595959
Jay Cars   01392 217000  5am–12am
Exeter Taxi 01392 555555
1st Call   01392 215724
A1 Cabs Contracts 01392 218888
The registration desk will be located within the Rougemont and The Forum and will remain open at the following times:

**Friday 14 October Rougemont**
0830 – 1700

**Saturday 15 October The Forum**
0830 – 1800

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**EMERGENCIES ON EXETER CAMPUS**
Contact the Estate patrol Team 24/7 on 01392 723999.

**MEDICAL CONTACTS**
NHS Walk in Centre - Unit 4, 31 Sidwell Street, Exeter EX4 6NN - 01392 276892.

Royal Devon and Exeter Hospital - Barrack Road, Exeter EX2 5DW - 01392 411611.

Exeter NHS Dental Access Centre - 3rd Floor, Royal Devon & Exeter Hospital, Gladstone Road, Exeter EX1 2ED - 01392 405700.

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**BADGES**

Please ensure you wear your badge at all times.

If you lose your badge, please go to the registration desk where a new badge will be made for you.

**LIABILITY AND INSURANCE**
The organisers are not able to take any responsibility whatsoever for injury or damage involving persons and property during the conference. Delegates are advised to take out their own personal insurance to cover travel, accommodation, cancellation and personal effects.

Mail, Messages, medical equipment, and lost and found please go to the registration desk.

Rougemont hotel has Public Liability Insurance. We do state that cars are parked at owners risk.

**MOBILE PHONES**
As a courtesy to speakers and other delegates, please ensure all mobile phones and other electronic devices are silenced before entering sessions.

**VISITOR WI-FI (ROUGEMONT)**
Select Mercure Network. Open browser – refresh and then click and connect. No password.

**VISITOR WI-FI (UNIVERSITY OF EXETER)**
How to connect to the wireless network:

1. Ensure Wi-Fi is enabled on your device
2. Search the available wireless networks and select UoE_Guest
3. You will be asked to provide the following details:
   - Your name and email address
4. Please tick the terms of use box
5. Click register, you will receive a confirmation receipt
   - You will need to renew this every day by repeating steps 1-5.
SOCIAL MEDIA

The EBMA Conference Twitter hashtag is #ExeterEBMA. Follow this page for live updates on conference happenings.

We encourage all delegates to livetweet sessions, voice opinions and invite debate on what you see at the conference, with the hashtag #ExeterEBMA

www.facebook.com/ExeterMed/

PRAYER ROOM
Ask in reception at the Rougemont and Forum.

BABY FEEDING ROOM
Ask in reception at the Rougemont and Forum.

CAR PARKING AT THE ROUGEMONT
Rougemont Car Park is on a first come first served basis. Currently free of charge for the day and £8.00 overnight.

Please visit this web address for more information: www.mercure.com/gb/hotel-A0H6-mercure-exeter-rougemont-hotel/location.shtml

CAR PARKING AT THE FORUM
Visitors may park in car park C and D free of charge. See map on page 11.

THEMATIC AND WORKSHOP PRESENTATIONS
Please ensure you bring your presentation on a USB-Stick to your allocated room at least 15 minutes prior to the start of your presentation (during the morning refreshments and/or lunch break). A Student Ambassador will be on-site to assist you.

Please do not send us your presentation in advance.

Presentation screen ratios will be 16:9, this is a standard ratio.

The lecture halls all have PCs. There is VGA and HDMI in all rooms however if you have a Mac, it is strongly advised by our AV team that you bring along your own MAC to VGA adaptor. We may not be able to supply for your machine. We would advise you to put the presentations on a USB-Stick in a compatible format to give everyone the full experience of your presentation.

CHAIR OF SESSIONS
Each thematic session will have a nominated chair identified below each session. The main duty of the chair is to ensure that all presenters adhere to the time allowed. Each workshop session will have a facilitator/s.

SESSION CHOICES
Your chosen sessions will be highlighted on the back of your badge.

If you have not preselected you sessions, please do so at registration.
## EVENT PROGRAMME

### DAY ONE  Friday 14 October

**VENUE**
Rougemont Hotel, Queen Street, Exeter, EX4 3SP

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<th>Time</th>
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| 9:30 - 10:00    | Registration and welcome  
Tea and coffee                                                        |
| 10:00 - 11:15   | **KEYNOTE PRESENTATIONS**  
Devonshire Suite                                                          |
|                 | Introduction from Dame Lesley Southgate  
President of European Board of Medical Assessors                          |
|                 | **Professor Chris McManus**  
Failing to cross boundaries: Is remediation possible and how much extra training is needed? |
|                 | **Professor Val Wass, OBE**  
The route to crossing boundaries: If you don’t know where you are going, any road will take you there. |
| 11:15 - 11:45   | Refreshments                                                          |
| 11:45 - 13:15   | **THEMATIC PRESENTATIONS**  
Six presentations of 10 minutes each, followed by 5 minute discussion. Themes for Friday are generally associated with written assessments. However, these ‘boundaries’ are not rigid.  
The 2016 EBMA Assessment in Medical Education Conference thematic presentations have been selected: |
|                 | 1. **Technology enabled assessment** - Current and future plans for using technology.  
Pros, cons and barriers. **Cavendish Room**  
Chair: Nicki Cohen, King’s College, London |
|                 | 2. **Licensing exams, credentialing and revalidation** - Use and experiences of assessments for these barriers. **Chatsworth Room**  
Chair: Steve Capey, Swansea University |
|                 | 3. **Assessment across the continuum/across borders**  
**Burlington Room**  
Chair: Nick Cooper, Academy of Medical Educators |
|                 | 4. **Predictive validity and Patient and public involvement** - What can assessments tell us about future performance/competence. Issues about selection assessments. **Derby Suite**  
Chair: Pauline McAvoy, Independent Consultant |
|                 | 5. **Performance based assessments** - Real time, real place, real conclusions?  
Crossing boundaries? **Compton B Room**  
Chair: Anselme Derese, Ghent University |
|                 | 6. **Standard setting/psychometric analysis** - Share issues and ideas about these recurring issues. **Compton A Room**  
Chair: David Kluth, University of Edinburgh |
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<td>13:15 - 14:00</td>
<td>Lunch and networking. Drakes Restaurant and Drakes Bar/extra seating in Devonshire.</td>
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<tr>
<td>14:00 - 15:30</td>
<td>WORKSHOP SESSIONS</td>
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<td></td>
<td>1. Computer assisted assessment</td>
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<td></td>
<td>Hartington Room</td>
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<td></td>
<td>Facilitators: Jose Miguel Pego (University of Minho) and Steven Burr (Plymouth University Peninsula Schools of Medicine and Dentistry)</td>
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<td></td>
<td>2. An introduction to generalisability theory</td>
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<td>Burlington Room</td>
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<td>Facilitator: Lee Coombes, Cardiff University</td>
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<td>3. How to make progress in progress testing</td>
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<td></td>
<td>Cavendish Room</td>
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<td></td>
<td>Facilitators: René Tio (University Medical Center Groningen, The Netherlands) André Bremers, Tineke Krommenhoek, Cees van der Vleuten (Department of Educational Development and Research, Maastricht University, The Netherlands)</td>
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<td>4. Assessment of Professionalism in Cultural and Social Competence</td>
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<td>Devonshire Suite</td>
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<td>Facilitators: Janusz Janczukowicz, European Board of Medical Assessors and Head of the Centre for Medical Education, Medical University of Lodz- Poland, Professor Charlotte Rees, Professor and Director of HealthPEER and Director of Medicine Curriculum at Monash University, Australia</td>
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<td>5. Assessing education competencies</td>
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<td>Compton A and B Room</td>
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<td>Facilitators: Gabriel Reedy (King’s College London, Chair, Education Committee, Academy of Medical Educators) and Chris Holland (King’s College London, Member of Council, Academy of Medical Educators)</td>
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<td>6. Item response theory</td>
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<td>Derby Suite</td>
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<td>Facilitator: Carlos Collares, Assessment Specialist, European Board of Assessors</td>
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<td></td>
<td>7. Developing good research questions about assessment</td>
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<td>Chatsworth Room</td>
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<td>Facilitator: Delivered for ASME by Karen Mattick, Professor of Medical Education, University of Exeter</td>
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<td>15:30 - 16:00</td>
<td>Refreshments</td>
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**Time** | **Event**
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16:00 - 17:00 | **SYMPOSIA AND DEBATE**  
**Devonshire Suite**  
Chair: Professor Robert Sneyd, Plymouth University Peninsula Schools of Medicine and Dentistry.  
3 speakers: 10 minutes each followed by Q&A  
Raphael Bonvin, University of Lausanne, Switzerland. National Licensing Exams/Written based test.  
Julian Archer, Plymouth University Peninsula Schools of Medicine and Dentistry.  
Judith Hulf, General Medical Council.

17:00 | Close

17:30 | **Shuttle transfer to the Forum for the Calman Lecture**

http://medicine.exeter.ac.uk/

Transport will be provided to the Calman Lecture which will be held at The Forum, University of Exeter, Streatham Campus.

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**Calman Lecture - The Forum Auditorium**

**Hosted by AoME**

18:00 - 18:15 | Welcome – Professor Tim Quine, Deputy Vice-Chancellor Education, University of Exeter  
Followed by:  
Introduction – Professor Derek Gallen, President, Academy of Medical Educators

18:15 - 19:15 | Calman Lecture – Keynote lecture by Cees van der Vleuten

19:15 - 19:30 | Honorary Fellowship Awards ceremony

19:30 - 21:00 | Evening Reception with drinks and canapés – Jointly sponsored by AoME and Prescribing Skills Assessment – delivered by the British Pharmacological Society
10:00 – 11:15 Keynote Presentations / Devonshire Suite

Introduction from Dame Lesley Southgate
President of European Board of Medical Assessors

Professor Chris McManus

*Failing to cross boundaries: Is remediation possible and how much extra training is needed?*

Students and trainees often underperform during summative assessments. Additional training is often offered, be it for, say, three months, six months or a year before resitting exams, both for undergraduates and for specialty trainees. An undergraduate taking finals has already studied for five years, so how much might an extra three months help? Few quantitative analyses are available, and this talk will try to provide some. A situation of particular interest is for able IMGs who may have come from an impoverished undergraduate training environment but in the UK find themselves in a much richer training environment. The key to any such calculations is being able to estimate absolute amounts of medical knowledge rather than merely assessing relative knowledge compared to other trainees.

**BIOGRAPHY**

Chris trained as a doctor in Cambridge (1969-72) and Birmingham (1972-75). He returned to Cambridge to do a PhD in the genetics and neuropsychology of handedness and cerebral dominance (1976-79). Since 1979 he has worked in various medical schools and colleges of the University of London.

Professor Chris McManus

Professor of Psychology and Medical Education
University College London, UK

Professor Val Wass, OBE

*The route to crossing boundaries: If you don’t know where you are going, any road will take you there.*

The greatest challenge to medical education is, arguably, the unpredictability of future health care. Shifts in population needs, globalisation, climate change, political and economic upheaval all bring uncertainty, ambiguity, and potential chaos. As boundaries become increasingly fluid, the hurdles needed to cross them are more difficult to define. Do we know where we are going? The linearity of progression, on which our current assessment frameworks rely, may prove no longer fit for purpose as skill sets for medical practice alter. The globalisation of health care requires the values lying “within” us to be nurtured. Yet these lie often “without” the traditional curricula frameworks of knowledge, skills and professional behaviour. Assessment has the formative potential to support change. Ironically as competence testing hurdles are increasingly established to address challenges of global migration, educational opportunities simultaneously arise to modernise the route to arriving there. As we proceed into a new “Wonderland”, let us reflect on the advice offered to Alice that in actuality “any road will take you there”.

**BIOGRAPHY**

Val Wass has dedicated 20 years to developing an holistic approach to medical student learning: developing an increased focus on primary care; patient centred communication; professionalism and cultural awareness.

Professor Val Wass, OBE

Emeritus Professor of Medical Education
Keele University, UK
11:15 - 11:45 Refreshments

11:45 – 13:15 Thematic presentations
Six presentations of 10 minutes each, followed by 5 minute discussion. Themes for Friday are generally associated with written assessments. However, these ‘boundaries’ are not rigid.


Cavendish Room
Chair: Nicki Cohen, King’s College London

Using teenagers from local schools in Paediatric History taking OSCE stations

Background
The GMC state that ‘effective communication between doctors and young people is essential to the provision of good care’ (1). Cardiff medical students have paediatric specific communication skills taught before they go out on placement (2).

Aim
To develop and evaluate an authentic and reliable OSCE station to assess the student ability to communicate with young people.

Method
Teenagers from local comprehensive schools were recruited via their drama departments to become simulated patients. Scenarios were developed requiring the student to take a history of a common paediatric symptom and formulate a differential diagnosis. The information was put together in one side of A4 that was accessible to a teenage audience and divided into information that could be given spontaneously when asked about the presenting complaint and information only to be revealed if asked directly. The teenagers were trained in a session at school run by a paediatrician and an actor skilled as a simulated patient as close as possible to the date of the exam.

During the station the student is asked to take a focussed history from the teenager about the presenting symptom. Following this the student is asked to present their differential diagnosis, the diagnosis they think is most likely and why, and how they would proceed to confirm this.

Feedback was obtained from teenagers taking part and examiners were asked for their views on the simulated patients as part of their station feedback.

Results
34 teenagers from 3 schools provided feedback after acting in one or two of five different scenarios and the experience had been positive for them. Many wanted to be invited back. Examiner feedback was positive. Reliability statistics were also positive.

Conclusion
Links with local school has allowed us to develop authentic and reliable paediatric communication skills OSCE stations. School inspections and exam periods can be barriers otherwise schools are keen to be involved each year.

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Formative assessment at medical school using PeerWise: a mixed methods evaluation
*Walsh JL, *Wyatt K, Harris BHL, Denny P and Smith PE.

Multiple choice questions (MCQs) are ubiquitous in high-stakes medical school assessment. This has driven a demand from students for formative MCQs. However, medical school staff often do not have the time or incentive to produce formative material. Student-authored question banks such as PeerWise offer a potential solution. Answering questions is known to be valuable for learning via the direct effects of test-enhanced learning, but little is known about the value of writing questions for learning.

We introduced two cohorts on subsequent years to the student-authored question bank PeerWise, with one-hour introductory sessions. The first cohort (n = 297) has been using PeerWise for two years, the second cohort (n = 306) for one year. For both cohorts we examined: usage patterns; association between student question writing frequency and summative exam performance; and student perceptions of the value of PeerWise for learning, using focus groups and subsequent thematic analysis.
Over two academic years the two cohorts wrote 4671 questions, answered questions 606,658 times and posted 7735 comments discussing questions. In both cohorts question writing and answering activity rose exponentially prior to summative examinations. A directly proportional relationship was found between question writing frequency on PeerWise and summative examination performance.

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Very Short Answer Questions: A novel online assessment tool

Sam AH*, Field SM*, Van der Vleuten C, Wass V, Schupke K, Harris J, Meeran K

Background
Single Best Answer (SBA) questions assess recognition rather than recall. Open-ended questions assess the ability to generate an answer and are considered more valid, but their use is limited by resource-intensive marking. We developed an online assessment system that could efficiently mark open-ended Very Short Answer (VSA) questions.

Method
A 60-question formative examination was given to 299 medical students in SBA and VSA formats sequentially. The VSA questions were provided on a tablet with the same clinical scenario and lead-in as the SBA questions and a space to type a short answer. The VSA test was sat first by 155 students (VSA1/SBA2), whereas 144 sat the SBA version first (SBA1/VSA2). The results between the two cohorts were compared to assess reliability and validity. We evaluated the feasibility of VSA delivery and collected the students’ opinions to assess potential impact on learning behaviour.

Results
Two examiners reviewed the machine-marked VSA answers taking on average 1.36 minutes per question. Reliability was high: VSA1 (alpha=0.91) and SBA1 (alpha=0.84). The mean performance of the SBA questions in the two cohorts was similar (68.2% vs 69.7%, p=0.296). In the VSA1/SBA2 group, candidates scored significantly higher in the SBA2 (68.2%) versus VSA1 (52.4%).

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The Pattern of Social Media Use and Their association with Medical Students’ Learning

Professor Eiad AlFaris, College of Medicine, King Saud University, efariss2@gmail.com

Background
Social media (SM) usage is expanding at a fast pace and it has deeply penetrated the university campuses. It is a popular method to communicate and collaborate among university students. However, what factors affect their learning and performance is not clear.

Objectives
The study aimed to assess the pattern, extent and reasons of SM use among medical students compared with the socio-demographic variables, and to investigate association between SM usage and overall academic grade.

Methodology
In this descriptive analytic, cross-sectional study, stratified sampling strategy was used. Data was collected through structured survey instrument. Survey Monkey plan was used for the data collection and analysis.

Study setting
King Saud University, College of Medicine, Riyadh, Saudi Arabia.

Results
The results show that 98% of medical students used social media. The most popular online SM was WhatsApp (87.8%). There was a statistically significant association between the male sex and YouTube (p=0.003) and Facebook (p=0.006) usage. Female students had a higher use of Instagram (p=0.001), Path (p=0.001) and Twitter (p=0.04) compared to their male counterparts. There was a higher use of WhatsApp (p=0.001) and Google+ (p=0.02) for learning purposes among female students. A statistically significant association (p=0.04) was found between the grades and checking SM during lectures.

Conclusion
Social media is very popular among medical students. YouTube and WhatsApp emerged as the most frequently used in general and for learning purposes in particular. Our finding reveals valuable cautionary information about the impact of checking SM during lectures and the lower academic grades.
Enriching an electronic portfolio through learning analytics

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In workplace learning, student-learning opportunities often depend on specific work deployment and supervisor feedback. Within a medical setting, this means that the extent to which a learning opportunity occurs depends on the patient mix and the clinical supervisors (Billet, 2006). Consequently, learning opportunities may vary widely among students, making progress assessment difficult. For this reason, workplace learning is usually supported by assessment instruments that provide continuous, longitudinal and multi-faceted information on the development of the learner (Driessen et al., 2012). The results of these assessments are frequently collected in an electronic portfolio (EP). However, students find it difficult to gain access to information relevant for them, and to navigate through the portfolio data. As such, they often may miss important feedback. In this presentation we report on the WATCHME-project that aims at providing a solution to this by enhancing a portfolio with learning analytics (LA). LA are defined as the measurement, collection, analysis and reporting of data about learners and their contexts (Siemens & Gasevic, 2012) and provide the opportunity to offer an adapted, personalized learning environment (Greller & Drachsler, 2012). In this project, a learning environment providing personalized feedback in an EP on the basis of a student model is being developed. Using a personal student model, different types of personalized feedback are created and presented to the learner through:

Just-In-Time Feedback: a written set of observations and suggestions for areas of focus identified from data available in the EP-system.

Visualization feedback: graphical representations for displaying learner status and learning history over time.

This presentation focuses on the analysis of the user’s need, as a first step in the design process of personalized feedback. With our audience we shortly would like to brainstorm and discuss about the pro, cons and barriers of this workplace-based assessment technology for competency-based education.


*Dawson LJ & Mason BG Introduction

The goal of education/training for health professionals is improving ‘competence’. However, ‘competence is not just about acquisition of knowledge and skills, but about the ability to create new knowledge in response to changing work processes’ (Govaerts et al, 2013). Thus a true demonstration of competence requires the measurement of clinical capability, through establishing the longitudinal triangulated consistency and quality of the performance across contexts and complexities. This necessitates an integrated approach to accreditation and QA, clinical and work-based-assessment, provision of feedback, examiner performance, technology use, and learning analytics. Unfortunately, each of these requisites are often considered, developed, and managed in isolation.

Approach

LiftUpp is a technology-supported learning design to develop and demonstrate professional competence, conceived by the University Of Liverpool School Of Dentistry in 2009. LiftUpp is able to continuously and longitudinally triangulate all the learning outcomes assessed across domains/contexts and provide detailed personalised feedback over performance (student and staff). The design is capable of displaying individual real-time data over developmental progress, in an unlimited number of outcomes, distributed between any numbers of stakeholders, across any number of sites. A web-based dashboard is used to drive development through learner-centred reflection based around the longitudinal quality and consistency of performance.

Outcome

Student development/progression is now informed through reference to around 4000 triangulated contextualised data points per student. LiftUpp has been well received by both staff and students and through using it as a ‘developmental-framework’ our NSS scores in ‘Assessment and Feedback’ have improved from 40% to being consistently over 90%. Crucially, we have been able to only graduate the demonstrable competent.
Conclusions
The use of LiftUpp, with its symbiosis of technology and pedagogy, has enabled the University of Liverpool Dental School to monitor and develop clinical competence. This approach is transferable to other disciplines.

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2. Licensing exams, credentialing and revalidation – use and experiences of assessments for these barriers

Chatsworth Room
Chair: Steve Capey, Swansea University

Assessment, Appraisal, Achievement - Exploring the value of medical educators’ portfolios

*Dalton CL, Wilson A, Agius SJ

Today’s doctors are required to teach colleagues and other health professionals and are responsible for their own professional development as educators, evidence of which must be formally documented. Portfolios are a well-recognised tool used to support learning and assessment within medical education. Their main focus has been on assessment of doctors’ clinical performance, providing evidence of competencies and professional development for progression through training or appraisal. Portfolios with the specific aim of capturing educational activities remain underused by clinicians with a special interest in education, especially early in their careers. Additionally, portfolios seem a neglected source of evidence when assessing or appraising a doctor’s education activities.

Portfolios can be used for the storage of evidence, demonstration of activities, stimulation of reflection, gathering of feedback, setting of goals, and presentation of achievements. Their structure should reflect their purpose. Experiments with portfolios suggest that, for evidence to be meaningful to assessors, it should be organised to reflect the competencies learners want to demonstrate. When collating a medical educator’s portfolio (MEP) for assessment or appraisal a focussed approach should be adopted to avoid assessors having to search for value amongst vast amounts of material. One approach would be to organise evidence according the five domains that make up the core values of medical educators (AoME, 2014). These can be further subdivided depending on which competencies need to be assessed and evidence for the MEP selected accordingly. Portfolios should provide insight into the learner’s development and progress, so entries may benefit from reflective notes, explaining how evidence demonstrates particular competencies/required achievements.

MEPs are unique and dynamic reflections of a clinician’s educational activities and attainments. The data capture is highly qualitative but, if the structure and contents of an MEP is chosen wisely, they can be excellent tools for assessment and appraisal of medical educators.

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DTH entry requirements and life science knowledge: Exploring the relationship

*Zahra, D., BeField, L., McIlwaine, C.

The Dental Therapy and Hygiene (DTH) course at Plymouth University Peninsula Schools of Medicine and Dentistry is a new innovative three-year course, currently preparing to accept its third cohort into Year 1. DTH students are accepted from a range of backgrounds and enter the programme with a much more diverse range of prior qualifications than the Bachelor of Dental Science (BDS) students. All modules in Year 1 of the DTH programme are taught in an integrated fashion with students on the first year of the BDS course. Assessments for these modules are standard set in an integrated fashion as well, so it is important to ensure that DTH students are not disadvantaged by the difference in entry requirements between the two programmes. The current work explores the relationships between prior qualifications and attainment on dental science MCQ examinations, and also considers the relationship between performance on dental science exams and applied dental knowledge exams. The results are discussed in light of equality and diversity, widening participation, and in relation to how they can inform selection and admission in future cohorts.

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The Semantics of Remediation - primed to fail?
The impact of negative word association upon student performance in remediation

*Dr James Read, Peninsula Schools of Medicine & Dentistry, james.read@plymouth.ac.uk

The long term impacts of remediation remain uncertain, with evidence to suggest that interventions which are exam focussed are often short-lived, with any benefit associated with remediation wearing-off after short periods of time. This is also the case with those interventions which address lapses in professionalism, with recent studies demonstrating that those medical students who are remediated for professional lapses are much more likely to be involved in fitness to practice proceedings as registered practitioners.

To date, guidance in relation to medial policy has only been issued by a small number of bodies. For post-graduate trainees this limits the source of guidance to either the GMC or the Academy of Medical Royal Colleges (AoMRC). Other organisations, including those organisations which coordinate the training of doctors, such as local education and training boards, cannot offer guidance but only direct people to other existing sources of information. Consequently, our paper explores the existing guidance for remediation that is available for trainees.

Previous research conducted in a NIHR Academic Clinical Fellowship funded Masters in Clinical Education was used to abduct hypothesis about the experiences of students who were undergoing remediation whilst still in undergraduate education. This study indicated that student’s expectation of remediation were significantly more negative prior to the taking part in remediation than after being involved in a programme. From this we hypothesised that the language used in remediation guidance primes students to have negative experience of remediation, potential leading to unneeded psychological morbidity.

A semantic analysis of the textual data from the AoMRC highlighted the paucity of the information provided by medical schools and royal colleges for medical students. And indicated the importance that organisations which offer information about remediation do so appropriately so that trainees engage in the most informed and positive position possible for remediation.

The making of a new Swedish Licensing test for Non-EU/EES physician

*Hultin M, Sjlander A, Edin B

Presently there are three ways to become a licenced physician in Sweden. (1) 5.5 years of study at a Swedish university followed by 1.5 years internship, (2) Converting an EU/EES licence, e.g. obtained by 6 years of studies at a European university, or, if you have a non-EU/EES licence, (3) take the Swedish Licencing test followed by a clinical rotation.

Umeå University was in April 2016 assigned to create a new Swedish Licensing test for Non-EU/EES physicians to be available no later than October 2016. Those passing the theoretical and practical tests will be offered a short clinical rotation where other aspects of a practitioner’s knowledge, skills and attitudes will be assessed.

A framework has been developed based on the Swedish Acts regulating requirements for graduating from the Medical Programme and for becoming a licensed physician after internship. The framework will be refined and delineated in a National Reference group including the Swedish medical schools and selected stakeholders. The plan is that test should comprise of two main parts: one theoretical and one practical. The theoretical part includes Basic sciences (MCQ/SBA), Clinical sciences (MCQ/SBA), Patient cases (MEQ/SBA) and Scientific scholarship (MCQ/SBA). The practical test (OSCE), on the other hand, consists of multiple stations each requiring 6-14 minutes. Categories and topics for assessments during the clinical rotation will likely be developed autumn 2016.

In short, the aim is to design a high quality test program for assessing the knowledge and skills needed to be a licenced physician in Sweden. The presentation will discuss the design of the tests and the problems encountered in the process.

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MRCPsych Written Examinations - rationalising the content

Mrs Kiran Grewal, Royal College of Psychiatrists, kgrewal@rcpsych.ac.uk

Royal College of Psychiatrists’ MRCPsych has traditionally consisted of 3 written examinations, each with 200 questions. A feasibility study of reducing a) the number of examination papers to 2, and b) the number of items in each paper, all whilst maintaining current reliability (0.88-0.95 in 2014), considered good/excellent for such examinations (George and Mallery, 2003), was undertaken.

Stage a) consisted of reviewing and remapping the syllabus from across 3 papers to 2, creating mock Papers, investigating their psychometric properties and conducting equality analysis of candidates’ performance in them. Stage b) used the 200 item papers as references from which several random proportions of questions of the paper were selected and analysed for reliabilities. This anticipated reliability of such a shorter test was confirmed using the Spearman-Brown prophecy formula.

Analysis for stage a) showed no significant difference in paper reliability, pass rates, test scores, standard deviation of results or SEMs between current and new papers. Equality analysis found performances by most candidate groups remained the same, whilst the performance gap between PMQ/non PMQ candidates reduced.

Analysis for stage b) found that having only 50% of the items would give cronbachs of 0.83-0.88, and 60% gave 0.85-0.91.

In conclusion, the creation of 2 papers with less questions overall will not compromise desirable paper statistics, and within these, 120 questions yields the same quality of information as 200 questions. Streamlining the papers may have added benefits of reducing the performance gap between key groups.

Such a change would have financial, administrative and time resource benefits for the organisation, and time, cost and emotional investment benefits for examinees (Wainer and Feinburg, 2015).

Practical considerations include transitional arrangements, candidate feedback and quality assurances of items used.

Ultimately, smaller written examinations with good quality paper design and item selection yielding high quality information should be desired.

Revalidation as an effective assessment of fitness-to-practise: Trends in revalidation recommendations and fitness-to-practice complaints.


A key regulatory aim of the General Medical Councils (GMC) revaluation policy is to assess the medical competence of all UK licensed doctors every five years within a governed system. This system requires senior doctors (responsible officers) to appraise and make recommendations to the GMC on individual doctors’ practice. With the introduction of revalidation in December 2012, the GMCs registration system (which documents doctors qualifications and complaints raised against them) was updated to include a record of this on-going assessment of a fitness-to-practise (FTP).

The current work, carried out as part of the UMbRELLA project1, aims to evaluate the impact of medical revalidation regulation on doctors using GMC registrant data on revalidation recommendation and FTP complaints in conjunction with demographic information. Specifically, two research questions are addressed; first, is the GMCs objective of bringing all doctors into a governed system that evaluates their fitness to practise on a regular basis being consistently achieved? Second, are revalidation mechanisms facilitating the identification and remedy of potential concerns before they become safety issues or FTP referrals?

In order to address these questions, we explore of trends in revalidation recommendations since its introduction as well as trends in fitness-to-practise complaints before and after revalidation legislation was implemented, both in relation to doctors protected characteristics, specialty and career stage. The findings have implications for understanding the wider impact of revalidation policy and the improvement of its implementation.

1 UMbRELLA (Uk Medical Revalidation Evaluation coLlaboration) www.umbrella-revalidation.org.uk

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3. Assessment across the continuum/across borders

**Burlington Room**
Chair: Nick Cooper, Academy of Medical Educators

**Welsh translation of Year 1 single-best answer examinations**

Professor Phil Smith, Cardiff University School of Medicine

Corresponding authors *Smith PE, Whittam S, Tayaba S.

**Background**
The Welsh and English languages have equal legal status in Wales; Cardiff University offers all students the option of Welsh translated assessments, regardless of language of tuition. In practice, students and staff are unclear about available entitlements. Previous data show Year 1 students from Welsh medium educational background experience specific difficulties with single-best answer (SBA) questions, deliberately framed around clinical uncertainty and subtlety. We therefore have a duty to support students transitioning from Welsh medium education.

**Methods**
In 2016, we offered a Welsh translation of Year 1 written summative papers, with the University rather than the medical school meeting translation costs. Year 1 in Cardiff has summative assessments in knowledge only, with no summative practical or clinical examination. The written assessment comprises two papers each of 120 SBAs (~7500 words) with a re-sit opportunity (30 000 words for translation). Following international psychometric translation best practice, the papers were finalised early, translated into Welsh, and then back-translated into English. Welsh-speaking medical personnel compared the back-translated (English) version to the original English paper, changing as appropriate. Students were offered the Welsh translated paper alongside the English version.

**Results**
There are 99 fluent Welsh speakers throughout the 5 years and 68 who report that they are Welsh speaking but not fluent. There are 12 fluent Welsh speakers in Year 1 and 25 reporting that they have some Welsh skills. In 2016, only 5 of 300 students requested a translated paper, though we expect this to grow as the opportunity becomes better known.

**Conclusion**
We plan to repeat this in 2017, improving delivery following feedback. We have no plan to extend beyond Year 1, since students then should need less support in developing bilingualism; also, there are practical and financial challenges in conducting a parallel clinical examination in the medium of Welsh.

**Student-generated electronic flashcards for the learning and assessment of basic science concepts**

Dr Emma Taylor, University of Exeter Medical School

*Taylor E, Zamani R & Gallon C

Students undertaking Problem-Based Learning (PBL) courses are often uncertain about the level of detail required in their self-directed study. In many cases, students write large swathes of text gleaned from textbooks or journals, with little synthesis or clear understanding of the material. We introduced concept maps and electronic flashcards to our PBL sessions, to frame learning and encourage deeper understanding of basic science concepts. Here we examine the effectiveness of this approach.

For each PBL ‘trigger’ in a Year 2 Medical Sciences module, students generate electronic ‘flashcards’ to annotate each node of a pre-supplied concept map. Three flashcards - one formative, two summative - are submitted for staff and peer assessment, then released with feedback to all students as revision resources. This scheme was piloted in 2013/14, with formal assessment introduced in 2014/15, replacing a scientific essay. We compared short-answer question (SAQ) examination data from 2014/15 (n=48; post-flashcards) to 2012/13 (n=24; pre-flashcards).

Mean scores (56.3±15.2% vs. 44.3±14.6%; p<0.001) increased in a previously low-scoring SAQ assessment after the introduction of flashcard assessment. No difference between these two cohorts was observed in the first year equivalent module that did not use flashcards (p=0.205, unpaired t-test).

A successful flashcard requires engagement with numerous key scientific skills: identification of key points, concise summarisation, and clear and visually appealing presentation of information. Students foster a deeper understanding of the topic by explaining it in their own words, while peer assessment provides ‘assessment for learning’ opportunities and plentiful revision resources.
Early evaluation suggests that the flashcards have been successful in promoting deeper, more active learning, and improved examination performance. Further evaluation will be carried out with upcoming cohorts.

Determining the Influence of Student Ethnicity on OSCE Examiners’ Judgments

Dr Peter Yeates, Keele University, School of Medicine
Corresponding author Yeates, P*

Introduction
Students from minority ethnic (ME) backgrounds achieve lower average scores than white students, particularly on communication assessments. Whether this arises due to examiner bias or some other curricular influence is controversial. Some medical educators describe stereotyped views of south Asian students’ performance: good formal knowledge, but poor communication skills. This study investigated the influence of students’ ethnicity (white vs south Asian) on OSCE examiners’ scores, feedback, cognitive activation of stereotypes and performance-memory.

Methods
Randomised, blinded, 2 group experiment. 3 scripted performances were filmed by both white and Asian actors: P1 showed Strong Knowledge/Weak Communication; P2 Weak Knowledge/Strong Communication; P3 mixed ability.

Student ethnicity in each performance varied by group:
Group 1=Stereotype consistent: P1=Asian, P2=White, P3=Asian; Group 2=Stereotype inconsistent: P1=White, P2=Asian, P3=White. 158 UK OSCE examiners: watched and scored performances; provided feedback; performed a lexical decision task to measure stereotype activation; and completed a recognition-based memory test.

Results
Students’ ethnicity had no influence on examiners’ scores: Knowledge scores (out of 7.0) for Asian and White candidates were 3.9(95%CI=3.8-4.0) and 3.9(3.8-4.0), respectively (p=0.77); Communication scores were 3.9(3.8-4.1) and 3.9(3.7-4.0), respectively (p=0.31); Overall ratings were 3.1(2.9-3.3) and 3.1(3.0-3.3), respectively (p=0.88). Neither valence nor content of examiners’ feedback was influenced by students’ ethnicity.

The lexical decision task suggested that participants activated mental stereotypes: both groups responded to Asian-stereotype words more quickly (mean=716ms; 95%CI=702-731ms) than neutral words (769ms; 753-786ms) or non-words (822ms; 804-840ms), all p.

Validation by design: applying a validity framework for item development

Mr Neville Chiavaroli, University of Melbourne
Corresponding Author *Chiavaroli, N.

The use of MCQ assessment in higher education is widespread, and there is no shortage of easily accessible guidelines for developing effective questions. However, effective development requires that question writers understand and appropriately apply the broader underlying principles of effective assessment to their own discipline, rather than attempting to merely comply with published guidelines. Furthermore, while the importance of collecting and interpreting validity evidence post-assessment is widely recognised (eg Cook et al 2015), validity considerations must not be allowed to become an afterthought, when it may be too late to correct crucial errors of design or undo the negative consequences of poor assessment.

The response of the presenter’s medical school has been to explicitly structure a validity approach to assessment around a three-fold process, namely: internal (acceptance and understanding of current MCQ writing guidelines), ‘external’ (peer review), and psychometric (interpretation of item statistics prior to reporting). This approach has been developed and evolved locally over several years of practice and review, and can be seen as an attempt to ‘build in’ validity to test development (van der Vleuten et al, 2012).

There remain several pedagogical challenges of this approach, including the challenge of adapting MCQs to assess higher cognitive levels of learning, and faculty developers and academics critiquing items in a colleague’s domain of expertise. More recently, we have focussed on redressing a comparative neglect of the validity implications of reporting results and delivering feedback to students. Overall, this presentation will argue that a critical aspect of validation involves consistently creating the optimal conditions and processes to support the inferences we make regarding our students’ learning.
Assessing a medical curriculum across three continents: reflections from establishment of a new medical school

Sean Hilton, University of Nicosia Medical School

Corresponding author *Charalamous A, *Hilton S

We report on implementation of a single UK MBBS course, franchised to a University in Cyprus, with clinical placements in Cyprus, Israel and the USA. Standardised assessments of knowledge, clinical skills and of longitudinal assessments for professional behaviours are delivered at three separate sites.

In the St George’s, London (SGUL) MBBS4 course, assessment matches learning outcomes domains specified in the UK GMC’s guidance Tomorrow’s Doctors 2009: Doctor as Scholar and Scientist; as Practitioner; and as Professional (DaP).

End of year exams knowledge and clinical skills. Throughout years 1 and 2, DaP is assessed using multiple indicators of professional behaviours e.g. attendance, contribution to small group work, reflective writing. For clinical attachments and in years 3 and 4, these are enhanced by overall professionalism assessments (based on the AAPediatrics rating scale) and a workplace based assessment (WPBA) portfolio. Students are placed at one of three sites - Cyprus, Tel Aviv or Chicago - for 3rd and 4th years. Faculty training for assessment takes place at each site.

UNic has now admitted five cohorts, totalling approx. 550 students, and the first cohort graduated in May 2015 (All 28 passing). Students come from >50 countries (largest proportion from North America). The challenges of delivering written exams and OSCEs, and assessing professionalism in these groups across three different healthcare structures and cultures will be discussed.

Numerous challenges have been encountered to date, including lengthening the QC process to involve moderation and contributions from all clinical sites. Fitness to practise procedures have been invoked in a small number of cases.

Delivery of the course to a standard meeting the UK GMC’s QABME process has been achieved. Quality management processes are onerous but essential. Longitudinal assessment of professionalism is feasible in a wide range of learning environments and cultures.

Supporting international test-takers’ preparation for the BioMedical Admissions Test: A case study of BMAT in The Netherland

Dr Sarah McElwee, Admissions Testing Service, Cambridge Assessment

Corresponding author *McElwee S, Shannon M, Cheung K

Admissions tests, such as the BioMedical Admissions Test (BMAT) are used by medical schools alongside other selection criteria including interviews and work experience to differentiate between applicants. BMAT measures aptitude for demanding, science-based study by assessing the application of scientific knowledge, thinking skills, and written communication skills and is used by a range of UK and international universities to select for biomedical courses.

A revision of BMAT Section 2 (Knowledge and Application of Scientific Principles) was recently undertaken, with the specific aim of improving the extent to which BMAT could support widening participation and international candidates. The revision had two main WP aims: to clarify and more precisely define the test specification and content of BMAT to support candidate preparation; and to develop comprehensive and accessible free student preparation materials. An additional aim of the work in making the test specification more explicit was to support international students’ preparation and ensure that where BMAT was used internationally, the content of this section was targeted appropriately. The revision process will be outlined and the challenges of aligning the development with best practice principles for fostering positive washback ‘additional benefits for students in the knowledge and skills they develop through preparation’ will be discussed.

Senior academics from stakeholder universities collaborated on this project. In particular we will focus on the international dimension of BMAT and the work done by Dutch subject matter experts and the Admissions Testing Service (ATS) to prepare for BMAT’s use in The Netherlands. ATS worked with a carefully chosen publisher to produce a free ebook revision guide for BMAT Section 2; evidence from online forums suggest it was received very positively by candidates. Both the specification definition and revision guide helped clarify the scope of topics for candidates to revise, and made core preparation materials freely available to support equality of access.

Derby Suite
Chair: Pauline McAvoy, Independent Consultant

Parents as new Educators- the student perspective

Dr Roisin Begley, UCL Institute of Child Health and Whittington Hospital, rbegley@doctors.org.uk

Background
The General Medical Council have highlighted that the roles of patients in medical education are changing. There is greater consideration to what patients and/or relatives themselves can contribute to the educational process and what the benefits or harms are to them in doing so. It is common practice for real and simulated patients to be used in assessment and examinations and to provide feedback. Little research exists looking at their contribution to written formative or summative assessments.

Summary of work
Our study aimed to evaluate the possible benefits of using ‘expert’ parents to mark and provide text feedback on students’ written assessments. The students on UCL’s iBSc paediatrics and child health were asked to write a reflective essay on patient journey sessions. The purpose of this assignment was to improve the students’ skills in reflective practice: using their own and others’ experiences along with relevant literature to improve their future practice.

Building on our work that compares parent markers to medical (academic) markers and peer markers, we are now analysing student responses to parent feedback and exploring the usefulness and contribution to student learning. Students were given qualitative feedback and grades from a peer marker, medical marker and parent marker. We will explore students response to parent feedback in a focus group and they were encouraged to compare and discuss the usefulness of feedback for learning and the possible benefits or harms to using parents in written assessment of medical students.

Conclusion
We believe parents/patients have an increasing role to play as new educators but further research is required.

Take-home messages
Parent markers add a human perspective to clinical paediatric care that is much needed for holistic training of future doctors.

Crossing boundaries: working with adolescent smokers to improve the behavioural change skills of future doctors

*Peppas I, Moreiras J, Datt C, Sharma S, Fertleman C

Transition points in people’s lives represent an important opportunity for intervention in health-related behaviour. Adolescence constitutes a major transition point with unique challenges and opportunities for intervention by health care professionals. The significance of this is exemplified by the case of adolescent tobacco smoking, as 40% of adult smokers in the UK begin smoking before the age of 16. Evidence suggests that interventions involving motivational interviewing can be beneficial, but those delivering it must have been exposed to appropriate behavioural change skills.

The GMC has emphasised the need for new educational strategies to allow medical students to access real life-situations, but also to support the patients’ right to influence the attributes of newly qualified doctors. In this context, we organised a workshop with adolescent smokers and medical educators to identify which behaviours and attributes of doctors would facilitate their engagement with smoking cessation services. Together, we developed an OSCE to assess the communication skills of penultimate year medical students, in which adolescents played a central role from inception to the final assessment.

*Corresponding Author Dr Ioannis Peppas, University College London, ioannis.peppas@nhs.net
Using patient journeys - assessment really driving learning

*Macaulay CP, Powell P, Fertleman CR

Reflection and patient-centeredness are central to the GMC’s requirements of medical school curricula. UCL’s iBSc in Child Health (the first and only one of its kind in the UK) began in 2010. Central to the programme is the study and discussion of patient journeys. Students spend time discussing families’ experiences ‘their physical and emotional journeys’ using several different methods: they have small group sessions with families where parents or young people talk about their own experiences: they have fortnightly seminars facilitated by a child psychiatrist discussing journeys that have been collected by others using questions as prompts for themes to explore; they follow families with new babies along their own ‘journeys’ visiting them at home and accompanying them on medical visits.

At its inception, students were asked to write a reflective piece on one of the patient journeys they had discussed as part of their assessment. As the course developed, the value of this part of the course became increasingly clear in student feedback. Students are now required to collect their own patient journeys, from families they come in contact with, and write them up for future groups to learn from, thereby providing a bank of ‘journeys’ for subsequent years. This also forms part of their assessment. The collection of journeys involves many different skills ‘communication, distillation of information, reflection’ all required by the GMC. It also represents an innovative approach to assessment. These patient journeys have also been compiled into a book in press - for more students to study. Assessment driving learning in more ways than one!

*Corresponding Author Dr Chloe Macaulay, Evelina London Children’s Hospital, chloe.macaulay@gstt.nhs.uk

Can A Formative Integrated Clinical Anatomy Spot Test Predict Students’ Performance in Summative Applied Medical Knowledge Assessments?

*Chinnah T, Leitner C, Brandom K, Rice N, and Devaraj V.

Integrating knowledge of anatomy with other biomedical sciences is very important in clinical practice. We developed a formative integrated Clinical Anatomy Spot Test (iCAST), which focuses on students’ ability to demonstrate clinically-relevant factual knowledge. This study evaluates its validity and predictive value on students’ performance in summative applied medical knowledge (AMK) assessments. The iCAST was first piloted with 36 year 2 students in 2012/3 and rolled out to year 1 students in 2013/4 (n=130) and 2014/5 (n=129). It is delivered termly to years 1 and 2 students and requires students to rotate through 50 stations of integrated short-answer questions. Immediate feedback is provided, scripts are peer-marked and scores are independently verified. In both cohorts, average scores in the iCAST correlated with scores in the summative end of year 1 content-specific knowledge assessment (2013/4: $r^2=0.46$, p.

A GP curriculum within the medical school curriculum

*Professor Sir Denis Pereira Gray, University of Exeter, denis.pereiragray@btinternet.com

Medical schools have a responsibility for producing doctors for the country and in the UK this means the NHS. The NHS is clear it wants half of all medical graduates to enter postgraduate training for general practice. However, only 19% of medical students see general practice as their first choice career. Few medical schools teach the theory and principles of general practice apart from the diseases seen in general practice. Many medical schools have no teaching from academic staff on the principles of general practice in any of the five years. General practice teaching is effectively outsourced to general practices who have little or no support in illustrating the principles. There is therefore an urgent need for an undergraduate curriculum for general practice within the general curriculum of each medical school and the Health Select Committee of Parliament has recently recommended (para 144, Woolaston Committee) that general practice/primary care be taught as a subject in
each medical school and that the General Medical Council should hold schools to account for this. This presentation presents the first specific curriculum for general practice and therefore provides a basis on which learning about it can be assessed. These principles should be assessed in the final MBBS examination. This curriculum can be covered in 20 hours within the five-year medical course by medical school staff, but needs to be supplemented with educational support for the GP teachers, who should have adequate general practice libraries and files of key articles available in their practices. They can then illustrate these principles operating in practice during day to day consulting with patients. Reference Pereira Gray D. (2016) an undergraduate curriculum for general practice. Starfield Memorial Lecture, University of Exeter 2015 (submitted for publication)

Early identification of the struggling learner using learning analytics: Opportunities and Challenges

* Chatterjee A, Burr S, Zahra D, Gabe-Thomas E

In recent years, the conception of assessment as a summative function (i.e. assessment of learning) has been broadened toward the conception of assessment as a formative function (i.e. assessment for learning). Assessment is at the heart of formal higher education. Feedback is most effective when highly related to clearly identified learning goals so that effective formative feedback is not only based on monitoring progress toward the specific goals but also promotes students to develop effective learning strategies. These processes characterize formative assessment and are aimed at supporting learning. Within Clinical Education, a range of approaches are currently being used where summative assessment data sets are used for identifying learners who might require additional support and enhance scaffolding support. Siemens (2010) defines Learning Analytics as the use of intelligent data, learner-produced data, and analysis models to discover information and social connections, and to predict and advise on learning. Even though very promising the technology to deliver this potential is still very young and research on understanding the pedagogical usefulness of Learning Analytics is still in its infancy (Johnson et al., 2011b; Johnson et al., 2012). The authors will present a range of approaches, opportunities and challenges on how to best harness the state of the art learning technological advances. Siemens, G. (2010). What are Learning Analytics? Retrieved July 29, 2011, from http://www.elearnspace.org/blog/2010/08/25/what-are-learning-analytics/  Johnson, M.W., Eagle, M.J., Joseph, L., & Barnes, T. (2011a). The EDM vis tool. In M. Pechenizkiy et al. (Eds.), Proceedings of the 3rd Conference on Educational Data Mining 2011 (pp. 349-350). Eindhoven, The Netherlands: International EDM Society. Johnson, L., Smith, R., Willis, H., Levine, A., & Haywood, K., (2011b). The 2011 horizon report. Austin, Texas: The New Media Consortium, Retrieved July 29, 2011, from http://net.educause.edu/ir/library/pdf/HR2011.pdf

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5. Performance based assessments - Real time, real place, real conclusions? Crossing boundaries?

Compton B Room

Chair: Anselme Derese, Ghent University

Perception of OSCE exam amongst clinician-examiners


The aim was to evaluate clinicians’ perception of OSCE exam. Background: Practical skills assessment is crucial for proper evaluation of students and curriculum. Usually very busy clinicians should have a major role in setting and execution of OSCE exam as a crucial factor of perception of OSCE by students. Several ways to write OSCE stations include complete clinical encounter and skill specific stations. Department of Medical Education runs OSCEs at Jagiellonian University Medical College since 1999. 2 years ago OSCE was upgraded to clinician-driven multidisciplinary exam as entry exam to patient based learning in clinical departments. Clinicians involved were matched to content and included internal medicine, surgery, paediatrics and ob-gyn. Exam included medical interviews (3 stations), surgical skills (2), obstetric and gynaecological exam (2), interpretation of ECG and lab results, heart and lung auscultation and physical exam of different body parts (2). The exam was performed in February 2016 and has been
evaluated by means of anonymous questionnaire. Data was analysed with Statistica and MS Excel. Questionnaire included methodological and organizational items and those related to perception of the exam by clinicians. Results 45 (out of 50) examiners returned our survey. 91% of them stated OSCE as an appropriate test before students gain less supervised contact with patients. 72% believes that including multidisciplinary OSCE at transition period has positive impact on students learning habits by increasing and focusing their motivation. There was no statistical difference in perception of OSCE between different clinician groups. Conclusion Despite our fears clinicians perceive OSCE in a very positive way. Their involvement has been a major success and we hope to build quality of the exam based on this positive perception.

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Composite Reliability of Workplace Based Assessment


International Medical Graduates (IMG) assessment is a global issue. Most of the assessments are done on competency basis. However the ideal assessment should be based on performance. In 2010 we set up an IMG assessment program and so far over 160 IMGs have been assessed using miniCEX ,CBD and MSF assessments in addition to the In training Assessments. While most of the individual tools have been researched for their reliability , the “tool box ” has not been tested for the reliability in IMG assessment In this presentation , we will discuss the way we assess IMGs and the composite reliability of 12 minicex, 5 CBD and 6 MSF assessments for each IMG. This combination reaches a reliability of 0.89 which is excellent in any summative assessment we are accredited to do this assessment on behalf of the Australian Medical Council. We believe this assessment can be used for performance assessment in other settings.

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Assessing attitudes, performance and debriefing experience in simulation-based inter-professional learning: a tale of three instruments and the limitations of Cronbachâs Alpha.

*Roberts MJ, Gale TC, Endacott R, O’Connor A

Inter-professional learning (IPL) can improve attitudes and awareness of other professionals roles and may improve patient outcomes. Simulation is increasingly used for IPL and specific learning outcomes have been developed. Educators in the health care professions need to understand student attitudes toward the use of IPL in order to improve its relevance and effectiveness. The skill of the debriefer is known to be the strongest independent predictor of the overall quality of simulation encounters1 . Reliably assessing constructs such as attitudes to IPL and debriefing quality can be problematic however. As part of a study centred on developing IPL in undergraduate medical and nursing programmes we measured students attitudes to IPL, team performance during simulated scenarios and experience of post-scenario debriefings. Using three published instruments, the KidSIM ATTITUDES tool2, the Team Emergency Assessment Measure (TEAM)3 and the Debriefing Experience Scale (DES)4, we aimed to make three comparisons. The first was to compare students attitudes to IPL before and after participating in simulation-based IPL sessions. The second was to compare peer ratings of team performance between the first and second scenarios in each session. The third was to compare group experiences of debriefing between the sessions conducted before and after an intervention aimed at improving faculty debriefing skills. The three chosen measurement instruments have good published reliability: Cronbachâs Alpha of 0.95 (ATTITUDES), 0.89 (TEAM) and 0.93 (DES). Results from the study gave comparable figures: 0.93 (ATTITUDES), 0.57 to 0.89 across different scenarios (TEAM) and 0.88 to 0.98 across different debriefing sessions (DES). Despite these results only the first two instruments were sufficiently reliable to enable us to make our planned comparisons. We will explain, through generalisability analyses, why this was so and offer our experience as a cautionary tale to others seeking published measurement instruments to use in their own studies. References: 1. Fanning RM, Gaba DM. The Role of Debriefing in Simulation-Based Learning. Simulation in Healthcare 2007; 2: 115-25. 2. Sigalet E, Donnon T, Grant V. Undergraduate Students’ Perceptions of and Attitudes toward a Simulation-Based Inter-professional Curriculum:
Evolving from an ISCE to an OSCE


Prior to 2015 the Peninsula Medical College of Medicine and Dentistry undertook an Integrated Structured Clinical Exam (ISCE) for its year two students. This was a series of six twenty minute stations conducted on real patients within the Clinical Skills Resource Centre. For students failing to meet the standard as set by the Hofstee method, students undertook a second six by twenty minute station exam after a short period of remediation. The exam was commended for its validity, including the use of real patients. Comments from external examiners highlighted issues of reliability, particular due to variation between patient volunteers within the same station. There was also only a direct link between ISCE stations and the taught curriculum and its related learning outcomes. To address these comments we describe our experience of moving to an Observed Structured Clinical Exam (OSCE); this involved performing a twelve stations of ten minutes each; new materials had to be written, and these were built around the learning outcomes from the taught clinical skills programme. All stations were trialled in advance using volunteer fourth year students, and adjustments were made based on feedback from them, patient volunteers and examiners. A switch to the borderline regression method of marking was made. New examiner training materials were developed; this included an innovative use of electronic voting equipment to provide real time benchmarking on the day of the exam. Extensive communication was required between the faculty and the student body to explain the changes; this was provided in electronic and lecture form, as well as representation to the student liaison committee and faculty’s board of studies. The examination went smoothly, and feedback from examiners, students and external examiner was in the vast majority positive. Statistics showed a significant improvement in reliability.

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Crossing boundaries: Consultant Clinical Healthcare Scientists ensuring the cut above

*Gay S, Chamberlain S

As part of the Modernising Scientific Careers vision, a standardised, prescriptive assessment strategy has worked well for the blended, post graduate L7 Scientist Training Programme across nearly 30 diverse healthcare sciences. The strategy is detailed, right down to defining a minimum number of DOPs, CBDs, OCEs and MSFs to be completed in the workplace, the academic Masters and the final exit assessment (OSCE) as STP trainees have not experienced this type of training framework or assessments before. Time and effort has been invested into ensuring that the exit assessment, the outcome of which declares the trainee is fit to practise, is standardised with consistent regulations and policies applied across the specialisms. This paper highlights that the same strategy for the exit assessment cannot cross the boundary from L7 to the L8 Higher Scientist Specialist Training programme. HSST doctoral level trainees will go on to become the leaders, innovators and shapers of their specialist workforce or field of practice. More is expected of these future consultant clinical scientists to ensure patients benefit from the most up to date scientific developments, therapies and treatments. It was essential for the School to recognise that these trainees must be able to demonstrate that they are a cut above the rest and this is not without its challenges. We discuss how, within an overarching qualification led framework and aligned to a set of broadly defined proficiency standards and competencies, HSST trainees, charged with designing their own assessment evidence using any suitable format, will demonstrate that they are up to meeting their own individual, context specific, challenge and aspiration to their future role. So far, understanding and applying this self-directed assessment strategy has been the biggest hurdle for these future leaders and actually a demonstration of their capability at this level.

*Corresponding author, Mrs Sandie Gay, National School of Healthcare Science, sandie.gay@wm.hee.nhs.uk
Development of an Inter-professional Clinical Assessment Support Network


Six Schools within the College of Biomedical and Life Sciences, Cardiff University use OSCEs and related clinical assessments to assess students registered on health related programmes. It was identified that differing approaches to clinical assessments were in place and therefore there was an opportunity to learn from the diverse expertise of our inter-professional colleagues.

Aim
A collaborative approach was implemented to improve the quality assurance, efficiency and student experience of clinical assessments in Cardiff identifying academic and administrative best practice.

Method
In 2015 the College OSCE Project group was established with representation from all Schools with the aim of:

- Highlighting best practice, identifying issues, risks and solutions
- Identify similar activities across Schools and adoption of similar policies
- Collaboration with Registry to review logistics and quality assurance requirements
- Share and disseminate good practice and support the ongoing development of OSCEs across all schools, based on best evidence from the educational literature
- Promote best practice through training and peer observation
- Develop coordinated requirement specifications for an IT solution to manage OSCEs, with the primary aim of reducing administrative workload and minimise risk

Results
The group has achieved to date:

- A high level map of OSCE activities that represents individual School processes
- Requirement specifications and engaged with commercial IT product demonstrations
- Standard setting workshop
- Policy guidance- Safety alert, Specific Provisions, Continuity guidance (for unexpected events during exams)
- Peer observation across the College

Conclusion
Feedback from the group has highlighted the benefits of inter-professional collaboration in a clinical assessment setting, enriching and strengthening the quality of OSCEs and related assessments. It has also identified the challenges of establishing an inter-professional education platform.

Recommendations: Further areas of collaboration have now been identified, including development of innovative cross-discipline scenarios for pilot within OSCEs and an ongoing process of peer review of individual School assessments.

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6. Standard setting/psychometric analysis
- Share issues and ideas about these recurring issues

*Compton A Room*
Chair: David Kluth, University of Edinburgh

How does, information provided to judges during the modified Angoff process influence their standard setting decisions? Looking into the black box - a pilot qualitative study of standard setting in a UK medical school.

*Fowell SL, Fewtrell R, Coulby C, Jayne J, Jha V.*

The Angoff method is the primary method used for standard setting final written examinations in UK medical schools (1) and centres on judges’ estimations of the probability that a borderline candidate will correctly answer questions. Despite its popularity, there is debate regarding the feedback and type of information that should be given to judges to help them make informed decisions during the process. (2)

Many schools implement the two-stage modified Angoff, with a discussion phase where judges are able to re-consider questions and amend their ratings, supported by the provision of various forms of feedback during this phase. Meta-analysis of quantitative studies indicates that providing item analysis leads to lower probability estimates. (3) There are, however, concerns that judges may simply adjust their ratings to follow feedback data. (4) Such studies look at the consequences of providing judges with feedback data, but do not provide any insight into how the data may influence the judges’ thinking.

Qualitative research methods have been applied to investigate the thought processes of judges in standard setting. However, these are mainly within the US Elementary and High School system (5, 6) with few studies within medical education or higher education. (7, 8) The aim of this study was to utilise a qualitative approach to explore this aspect of standard setting in a UK undergraduate medical school. The discussion phase was observed and audio recorded and the transcript was thematically analysed by the research team.

In this paper, we will present the major emergent themes from the analysis and discuss the types of feedback provided. The implications of these findings, limitations of the approach and further areas of study will be addressed in order to stimulate wider discussion of this topic and the utility of this approach.

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Borderline Group Post-Test Standard-Setting of Student-Selected Special Study Units

*Curnow A, Hopcroft N, Rice N.*

The University of Exeter Medical School provides an extensive range of student-selected options to each of its students throughout its medical curriculum. As a result, our students engage in self-selected inquiry-based learning in small groups supported by a variety of providers in various locations (including clinical and scientific research environments) on eleven separate occasions during their studies with us. The rationale, advantages and challenges of having multiple markers assessing the diverse assignment content produced by these Special Study Units (SSUs) in large quantities will be discussed, along with the assessment strategies we have successfully implemented to help mitigate the inherent issues encountered. These strategies include adoption of a limited range of well-defined categorical theme-specific marking criteria, post-test standard-setting utilising the borderline group method to determine the pass mark for each iteration of themed SSUs delivered, in addition to extensive assessor moderation and benchmarking processes.

*Corresponding Author Dr Alison Curnow, University of Exeter Medical School, a.curnow@exeter.ac.uk*
Predictive abilities of standard setters using the Angoff method

*Professor Brian Lunn, Newcastle University, School of Medical Education, brian.lunn@newcastle.ac.uk

A retrospective analysis was made of the predicted performance of borderline candidates by standard setters, compared to how a nominal borderline group actually performed in SBA papers (including Common Content items). Candidates performing 2% around the examination cut-mark were identified for each assessment. Their performance on each question was compared to the prediction of standard setters for these questions. Looking at whole exam prediction standard setters tended to underestimate the ability of candidates by 1-4%. When the facility of questions were analysed it was noted that the higher the facility the more standard setters underestimated candidate performance (range 19-29% difference) and when the facility was lower the more candidate performance was overestimated (range 24-43% difference). The closer to the cut-mark the closer standard setters were to predicting performance. These data suggest that standard setters’ assessments tend to cluster around a nominal point where the cut-mark has been historically, rather than predicting borderline candidate performance. There is no gold standard for standard setting but the Angoff model is often cited as the best of the options available. This and similar methodologies depend on the ability of standard setters to gauge candidate performance and are resource and time intensive. If evidence suggests that the model does not hold to the theory then perhaps it is time to consider whether this methodology is the best choice? This will be discussed in the context of move to a National Medical Licensing Assessment and consideration of standard setting such an exam.

How sure are you that I actually failed? - Quantifying the precision of decisions on individuals in high stakes contexts

*Schauber S.K., Nouns Z.M.

A retrospective analysis was made of the predicted performance of borderline candidates by standard setters, compared to how a nominal borderline group actually performed in SBA papers (including Common Content items). Candidates performing 2% around the examination cut-mark were identified for each assessment. Their performance on each question was compared to the prediction of standard setters for these questions. Looking at whole exam prediction standard setters tended to underestimate the ability of candidates by 1-4%. When the facility of questions were analysed it was noted that the higher the facility the more standard setters underestimated candidate performance (range 19-29% difference) and when the facility was lower the more candidate performance was overestimated (range 24-43% difference). The closer to the cut-mark the closer standard setters were to predicting performance. These data suggest that standard setters’ assessments tend to cluster around a nominal point where the cut-mark has been historically, rather than predicting borderline candidate performance. There is no ‘gold standard’ for standard setting but the Angoff model is often cited as the best of the options available. This and similar methodologies depend on the ability of standard setters to gauge candidate performance and are resource and time intensive. If evidence suggests that the model does not hold to the theory then perhaps it is time to consider whether this methodology is the best choice? This will be discussed in the context of move to a National Medical Licensing Assessment and consideration of standard setting such an exam.” Professor Brian Lunn.
illustrate how to obtain an estimate of the precision of such classificatory decisions on the individual level within the framework of Item Response Theory. Based on real and simulated exam data, we show how these estimates can be calculated, reported, and used for decision making. Finally, we argue that whenever classificatory decisions are made, the use of traditional estimates of reliability to justify these verdicts should be discouraged.

*Corresponding Author Dr Stefan Schauber, Centre for Educational Measurement at the University of Oslo (CEMO), stefan.schauber@cemo.uio.no

The relation between relevance and psychometric properties

M.D., Ph.D, René A. Tio, University Medical Centre Groningen, r.a.tio@umcg.nl

Introduction

In a multiple choice test we often force students to give an answer (number right scoring). It is however also possible to give them the opportunity to not give an answer (formula scoring). It is expected that students answer questions that are more relevant to their cognitive processes and relate more to relevant items due to items authenticity. However, whether item relevance correlates with misfit items is still unclear. Therefore, we investigated whether the misfit items were less relevant in the two most common scoring methods, formula and number right scoring.

Methods

295 students were divided over two groups in a 2x2 crossover design. A sample of 200 previously used questions of the progress test were selected based on their p values. The response option analysis was used to identify misfit items. Furthermore, the items were classified according to their relevance in five categories: medical knowledge, degree of available knowledge, relation to practice, practical relevance and relation to the medical curriculum. We conducted t-test analysis to investigate whether there was any difference between misfit and fit items regarding to the relevancy.

Results

The response option analysis showed that the majority of the dysfunctional items emerged in the formula scoring condition. The t-tests analyses demonstrated that item relevance discriminated mis fit items for one of the groups. Within this group, for the formula scoring condition the misfit items were less relevant whereas for the number right condition the misfit items were more relevant than the fit items (t = 2.130, t = -2.368, p > 0.05, respectively). For the other group, there was no significant difference.

Conclusions

It seems that the relevance of items is sample dependent to discriminate misfit items. Furthermore, our findings suggest that the scoring methods have an influence on how the misfit behaves regarding the relevance of the items.

Practical Considerations on the reliability analysis of small numbers assessments: the case of a first cohort assessment in a Family Medicine postgraduate course

*Hadjipapas. A, Therapontos E, Kolokotroni O, Howard V.J.

We have recently developed a postgraduate course in Family Medicine. As, is typical for newly developed courses, especially in the postgraduate setting, the initial cohorts are inherently small. The first part of this course involved assessment of developing clinical competences, whereby test accuracy and reliability had to be evaluated. However, the accurate estimation of reliability in such small-numbers assessments (such as estimated by Cronbach’s alpha coefficient) is very questionable; a fact acknowledged by the GMC in their supplementary guidance (1). This is because for small numbers assessments, a lot of the parameters that psychometric statistics are based on (means, variances, covariances) can be strongly affected by extreme values. Perhaps the most widely used measure of reliability of assessment is Cronbach’s alpha coefficient. However, alpha does not solely depend on the properties of a given test but also crucially on the variation of scores among test takers who happen to take the particular test (2, 3). We have estimated very high alpha coefficients for both an applied knowledge written test (200 items) and a Clinical Skills Examinations (12 stations). In both cases, the alpha estimates were inflated due to the large variation between
test taker performance, which in turn was caused by either outlying values or bimodal distributions (split between better performing and worse performing test takes).

Alongside the alpha coefficient we have also estimated the Standard Error of Measurement (SEM). Consistent with previous literature (3), we found SEM estimates to provide a more robust indication of test accuracy against test taker variability and outlying values. We discuss these findings and suggest that in the case of small numbers, first cohort assessments the SEM may still be valuable in evaluating test accuracy.

References

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13:15 -14:00 Lunch and Networking

14:00 -15:30 Workshop Sessions

Workshop 1: Computer assisted assessment

Hartington Room

Facilitators:
• Professor José Miguel Pêgo, School of Health Sciences, University of Minho
• Dr Steven Burr, Plymouth University Peninsula Schools of Medicine and Dentistry.

Workshop description

Current trends in higher education assessment demand for increasing number of standardized assessment and sources of feedback to students. This creates an enormous burden on faculty members and administrative staff.

Computer assisted assessment (CAA) has emerged as a technological support to the increasing demand, reducing administration time, creating item data banks and improving the efficiency of the communication and feedback system.

In this workshop we will approach the benefits and difficulties of establishing a computer assisted assessment, namely, hardware and software choice, establishment of workflows, faculty communication and student-teacher interaction.

Finally, an overview of the potential use of CAA as a research tool as a big data source will be addressed.

Objectives of the session, indicating knowledge, attitudes and skills that participants should gain from it

At the end of the workshop the attendee is expected to:

• Understand the advantages and pitfalls of computer assisted assessment
• Establish a setup plan to implement a computer assisted assessment program
• Understand the implications for statistical management of assessment using CAAs
Workshop 2: An introduction to generalisability theory

Burlington Room

Facilitator:

- Lee Coombes, Centre for Medical Education, Cardiff University School of Medicine

Workshop description

Generalisability (G) theory is a statistical framework that is used for examining reliability in assessments. It is based on the idea that any measurable observation can have multiple sources of variance that can influence the score. Through statistical modelling, G-theory attempts to identify variance components that contribute error to a measurement estimate. It can then be used to investigate the impact of changes to an assessment on the reliability coefficient that it produces, and a strategy put in place to reduce error and increase the reliability.

This workshop aims to be a beginner’s guide to G-theory and its application, and will be a simple, understandable, and practical introduction so participants will be able to use what they learn on their own data. It will provide participants with two examples of G-theory being applied to simple knowledge and clinical assessment formats. It will also show how a decision (D) study can be used to investigate the impact on reliability of changing the assessment.

Objectives of the workshop, indicating knowledge, attitudes and skills that participants should gain from it

At the end of this session, participants will be able to:

- Apply G-theory methods to simple knowledge and clinical assessment data sets
- Calculate absolute (phi) and relative (g) standard error of measurement
- Calculate absolute (phi) and relative (g) reliability coefficients
- Explore changes to assessment reliability using a decision (D) study.

Workshop 3: How to make progress in progress testing

Cavendish Room

Facilitators:

- René Tio, University Medical Center Groningen, The Netherlands
- Cees van der Vleuten, Department of Educational Development and Research, Maastricht University, The Netherlands
- André Bremers, Department of Educational Development and Research, Maastricht University, The Netherlands
- Tineke Krommenhoek, Department of Educational Development and Research, Maastricht University, The Netherlands

Workshop description

In this workshop participants will learn about essential choices to be made for the implementation of progress testing. Participants will discuss their own situation and learn which steps could be taken to implement progress testing in their own situation. This will be done around the following topics: Place of the PT in the assessment program/goals of the PT, formative or summative, feedback, standard setting, test construction item writing and review, logistics, managerial support.

Objectives of the session and the knowledge, attitudes and skills that participants should gain from it

After attending this workshop attendees will:

- Have knowledge about the underlying educational philosophy of PT
- Have knowledge about legal, logistic and test related issues (such as standard setting) when using PT
- Have thought about what is the most essential hurdle or step to take in their own situation in order to establish a PT in their curriculum
- Have thought about the most ideal situation for a collaborative PT setting
Workshop 4: Assessment of Professionalism in Cultural and Social Competence

Devonshire Suite

Facilitators:

• Janusz Janczukowicz, European Board of Medical Assessors and Head of the Centre for Medical Education, Medical University of Lodz, Poland

• Professor Charlotte Rees, Professor and Director of HealthPEER and Director of Medicine Curriculum at Monash University, Australia.

Workshop description

Despite a long-standing debate involving doctors, researchers and the society, there is no single, universally agreed definition of professionalism. Yet the trust of patients and their families is significantly related to healthcare professionals’ professionalism in terms of a number of factors, including cultural and social competence, which is necessary to understand patients’ needs, to provide them and their families with the best possible care and support consistent with the principles of health equity and social justice, and to eliminate disparities and discrimination.

To effectively develop medical doctors’ cultural and social competence (PCSC) we need valid, reliable and acceptable assessment methods and standards, applicable to all levels of medical education and properly aligned with curricula content. Clearly this is not straightforward: assessing some domains but not others conveys a subliminal message that if it is not assessed, it is not really important (e.g. teaching both technical skills and respect for the patients of different cultures and assessing technical skills only). There is also the challenge of how to assess PCSC across the continuum of medical education and training.

Objectives of the session, indicating knowledge, attitudes and skills that participants should gain from it

Participants will receive the workshop handouts and the list of suggested reading resources. Conference participants who register for this workshop will receive via e-mail the introductory readings.

Workshop 5: Assessing education competencies

Compton A and B Room

Facilitators:

• Gabriel Reedy, Director of Faculty Development School of Medical Education, King’s College London, Chair, Education Committee, Academy of Medical Educators

• Chris Holland, Director of Clinical Practice, School of Medical Education, King’s College London, Member of Council, Academy of Medical Educators

Workshop description

Education has long been considered to be a fundamental and embedded part of professional practice in medicine. However, educational activities are increasingly being articulated as distinct domains of competence within the profession, with all of the associated issues of a competency-based approach.

In this workshop, we will explore the notion of educational skills as competencies that can be articulated, defined, developed, and assessed, and work with participants to explore current frameworks of educational competencies from various professional and disciplinary bodies. From these frameworks, we will explore ways of assessing educational competencies, and collaborate on further possible approaches for ways of assessing educational competencies in participants’ specific contexts.

Objectives of the session, indicating knowledge, attitudes and skills that participants should gain from it.
At the end of this session, participants will be able to:

- Consider educational activity as a domain of competence situated within professional practice
- Understand some of the existing frameworks for articulating educational competence
- Explore some of the existing tools to assess educational competence, including their strengths, limitations, and appropriate uses
- Collaborate with colleagues on ideas for assessing educational competence in the specific contexts in which they work

Workshop 6: Item response theory

*Derby Suite*

Facilitator:

- Carlos Fernando Collares, Maastricht University, Department of Educational Development and Research, Faculty of Health, Medicine and Life Sciences.

**Workshop description**

“Item response theory”, also known as IRT, is a name that does not make justice to what it actually is: a psychometric paradigm comprised of a family of models which attempt to establish a mathematical function between the probability of success in test items and the proficiency of the test takers.

In this workshop, IRT and classical test theory will be compared in terms of advantages and disadvantages. The usefulness of IRT in medical education will be discussed. Participants are not expected to have previous experience on psychometrics or IRT.

All participants are invited to bring their own datasets so that they can perform their own analyses and interpret their results during the workshop.

Objectives of the session and the knowledge, attitudes and skills that participants should gain from it.

By the end of the workshop, participants are expected to:

- enlist the differences between classical test theory and item response theory;
- acknowledge the usefulness of IRT in medical education assessment;
- provide a basic description of item calibration and score calculation procedures in IRT;
- perform IRT-based analyses on their own data.

Workshop 7: Developing good research questions about assessment

*Chatsworth Room*

Facilitator:

- Delivered for ASME by Karen Mattick, Professor of Medical Education, University of Exeter

**Workshop description**

This workshop will be particularly suited to those who are interested in developing their own scholarship or research projects, particularly in relation to assessment. In it, we will explore different types of research question; consider frameworks that can be applied to the critique of research questions; apply these frameworks to real and fictitious examples; and, finally, apply these frameworks to participants’ own project ideas.

Objectives of the session, indicating knowledge, attitudes and skills that participants should gain from it.

At the end of the session, participants should:

- Be familiar with some frameworks that can inform the design of Research Questions
- Be able to apply these ideas to the critique of Research Questions
- Be able to transform their research ideas into ‘researchable questions’
15:30 –16:00 Refreshments

16:00 -17:00 Symposia and debate

Devonshire Suite

Chair: Professor Robert Sneyd, Plymouth University Peninsula Schools of Medicine and Dentistry.

3 speakers: 10 minutes each followed by Q&A

Raphael Bonvin, University of Lausanne, Switzerland. National Licensing Exams/Written-based test.

Julian Archer, Plymouth University Peninsula Schools of Medicine and Dentistry.

Judith Hulf, General Medical Council.

17:00 Close

17:30 Shuttle transfer to the Forum for the Calman Lecture

Transport will be provided to the Calman Lecture which will be held at The Forum, University of Exeter, Streatham Campus.

18:00 – 21:00 Calman Lecture

Hosted by AoME and featuring a keynote lecture from Professor Cees van der Vleuten, Maastricht University this event celebrates the AoME Honorary Fellowship Awards ceremony 2016.

The Annual prestigious Calman Lecture is given in honour of Sir Kenneth Calman Hon FAcadMEd, one of the founders of the Academy of Medical Educators. As a tribute to Sir Ken’s own enormous involvement, leadership and contribution to teaching, learning and the organisation of medical training, the general theme for the Calman Lectures is reflections on the education of doctors.

Previous Lecturers include:

2015 Sir Terence Stephenson

2014 David Haslam CBE, Chair of NICE

2013 Professor Ian Cumming, Chief Executive of Health Education England

2012 Lord Nigel Crisp KCB

2011 Sir Peter Rubin, Chair of the General Medical Council

2010 Professor Karen Mann, Professor Emeritus, Dalhousie University

2009 Dr Bill Bryson, Author and Chancellor, Durham University

18:00 – 18:15 Welcome

Professor Tim Quine, Deputy Vice-Chancellor Education, University of Exeter Followed by: Introduction – Professor Derek Gallen, President, Academy of Medical Educators
18:15 – 19:15 Calman Lecture – Crossing Boundaries in Assessment in Medical Education

Keynote lecture by Professor Cees van der Vleuten

One could classify most of our assessment practices as being very modular and providing marginal information on a learner. This rather behaviouristic approach to assessment collides with modern constructivist views on (competency-based) education. From a constructivist perspective we need more longitudinal assessment that provides rich information on learner progress. In this talk such a new perspective on assessment is sketched from a theoretical point of view based on an interpretation of assessment research. Subsequently an illustration will be given of an assessment practice that has implemented some of these notions.

If our assessment approach is not able to cross the boundaries of a traditional view on learning, modern constructivist education programs will fail in their intent. We should reverse the often-heard mantra of “assessment drives learning” to “learning should drive assessment”.

BIOGRAPHY

Cees was Professor of Education and chair of the Department of Educational Development and Research in the Faculty of Health, Medicine and Life Sciences, until 2014. He is also the Scientific Director of the School of Health Professions Education.

19:15 – 19:30 - Honorary Fellowship Awards ceremony

Presided over by Professor Derek Gallen, President, Academy of Medical Educators

19:30 – 21.00 - Evening Reception with drinks and canapés

Jointly sponsored by AoME and Prescribing Skills Assessment – delivered by the British Pharmacological Society.

Professor Cees van der Vleuten

Professor, Department of Educational Development and Research
Maastricht University, The Netherlands
Our products, Practique and Kaizen are used by medical research and medical training organisations and help the advancement of medical knowledge around the globe. We provide eAssessment tools such as exam management and e-portfolio to ensure that the next generation of medical professionals are of the highest standards possible.

Come and meet us at the Exeter EBMA conference to find out how we could help you and your organisation.
Register now

PHARMACOLOGY 2016
13–15 December 2016 | Queen Elizabeth II Conference Centre, London

The British Pharmacological Society’s flagship annual meeting attracts over 1,000 scientists each year from the UK and around the world. Pharmacology 2016 will feature our largest ever selection of symposia on a range of topics, including a large focus on clinical pharmacology through clinical oral communications and poster sessions on Wednesday 14 October.

The latest research from across the whole spectrum of pharmacology will be the focus for plenary lectures, oral communications, and poster sessions. As with previous years, there will also be invaluable opportunities for participants to network with pharmacologists and clinicians from across the world.

Register now at

www.bps.ac.uk/pharmacology2016

For further information about attending Pharmacology 2016, please contact meetings@bps.ac.uk or visit www.bps.ac.uk/news-events
## EVENT PROGRAMME

### DAY TWO   Saturday 15 October

### VENUE

The Forum, Streatham Campus, University of Exeter, EX4 4QJ

<table>
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<tr>
<th>Time</th>
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| 9:30 - 10:00 | Registration and welcome, Forum Street  
Tea, coffee and pastries |
| 10:00 - 11:15 | Keynote presentation  
*Forum Auditorium*  
45 minutes followed by Q&A.  
Introduction from [Professor Jean McEwan](https://example.com)  
Professor of Clinical Education, Vice Dean (Education), University of Exeter Medical School  
**Dr Eric Holmboe**  
Senior Vice President of Accreditation council for Graduate Medical Education.  
Realising the Promise of Outcomes-based Medical Education through More Effective Assessment.  
The [Association for the Study of Medical Education](https://example.com) is delighted to be a partner in this event, including sponsoring the ASME Guest Lecture and keynote presentation by Dr Eric Holmboe. |
| 11:15 - 11:45 | Refreshments, Forum Street |
| 11:45 - 13:15 | Thematic presentations and poster presentations.  
Three streams of poster presentations taking place at the same time as thematic presentations.  
**Thematic presentations**  
Four presentations, 10 minutes each followed by 5 minute discussion. Themes for Saturday are generally associated with clinical skills and professionalism. However, these ‘boundaries’ are not rigid.  
1. **Professionalism including diversity and performance based assessments** - We all know what a professional should be? Do we? How do we assess?  
*Ground Floor, Seminar Rooms 1-3*  
Chair: David Leeder, University of Exeter Medical School  
2. **Preparedness for practice** - A major boundary to cross. How do assessments help or hinder?  
*Ground Floor, Seminar Room 4*  
Chair: Derek Gallen, Wales Deanery  
3. **Assessment across the continuum/across borders**  
*Ground Floor, Seminar Room 5*  
Chair: Debbie Jaarsma, Groningen University  
4. **Simulated patients/simulation** - Everybody uses them. How does it go? What are the barriers and do simulations cross boundaries of time and space?  
*Ground Floor, Seminar Room 6*  
Chair: Julian Archer, Plymouth University Peninsula Schools of Medicine and Dentistry. |
**Poster presentations, Forum Street**

**Stream 1 – Chair: Lesley Southgate**
- Assessment across the continuum/across borders
- Predictive validity and Patient and public involvement
- Preparedness for practice

**Stream 2 – Chair: José Miguel Gomes Moreira Pêgo**
- Professionalism including diversity
- Licensing exams, credentialing and revalidation
- Performance based assessments

**Stream 3 – Chair: Janusz Janczukowicz**
- Simulated patients/simulation
- Standard setting/psychometric analysis
- Technology enabled assessment

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<td>Lunch, posters and networking, Forum Street</td>
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<tr>
<td>14:00 - 15:30</td>
<td>Workshop sessions</td>
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<tr>
<td></td>
<td>1. European video assessment of real patient encounters, an innovative online IT tool for learning</td>
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<td></td>
<td><em>Ground Floor, Seminar Room 1</em></td>
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<tr>
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<td>Facilitators: Paul Ram and Annemarie Camp (European Board of Medical Assessors), Lesley Southgate (St George’s University of London), Pauline McAvoy (independent consultant)</td>
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<td>2. Item writing</td>
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<td>Facilitator: Colin Ferguson (University of Plymouth) and Jonathan Wyatt (University of Exeter)</td>
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<td>3. Angoff method for standard setting</td>
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<td>Facilitators: Fred Roberts, Senior Lecturer in Physiology, Neil Rice, Senior Assessment Analyst, University of Exeter Medical School</td>
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<td>4. Optimising workplace-based assessment: making words count</td>
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<td><em>Ground Floor, Seminar Room 4</em></td>
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<td>Facilitator: Marjan Govaerts (Maastricht University)</td>
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<td>5. Mentoring</td>
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<td>Facilitators: Erik Driessen and Sylvia Heeneman (Maastricht University)</td>
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<td>6. Appropriate use of fidelity when using simulation for assessment</td>
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<td><em>First Floor, Seminar Room 8</em></td>
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<td></td>
<td>Facilitators: Tom Gale (Plymouth University Peninsula Schools of Medicine and Dentistry) and José Miguel Pêgo (University of Minho)</td>
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Continued on next page...
7. **Using SPs for assessment and feedback**  
*First Floor, Seminar Room 9*

Facilitators: Liliana Alves Costa (University of Minho) and Paul Kerr (University of Exeter Medical School)

8. **Incorporating patient and public involvement into your assessment strategy**  
*First Floor, Seminar Room 10*

Facilitators: Dr Sam Regan de Bere (Plymouth University Peninsula Schools of Medicine and Dentistry), Ms Rosamund Snow (Oxford Health Experience Institute, Oxford University), CAMERA PPI Team (Plymouth University Peninsula Schools of Medicine and Dentistry)

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<td>15:30 - 16:00</td>
<td>Refreshments, Forum Street</td>
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| 16:00 - 17:00   | **Symposia and debate**  
*Forum Auditorium*                                                                 |
|                 | 3 speakers: 10 minutes followed by a Q&A.                           |
|                 | ‘Competency based education and assessment – pearls, controversies and challenges.’ |
|                 | Professor Debbie Jaarsma (University of Groningen), Professor Ian Curran (GMC), and Associate Professor Rene Tio (University Medical Centre Groningen). |
|                 | Competency-based medical education has become a popular approach to train doctors and health professionals. However, institutions and teachers struggle with implementing CBE both in the undergraduate and postgraduate setting. Alignment between competency outcomes, teaching and learning strategies, and assessment, remains a major challenge. This symposium will share best practices and discuss how to potentially overcome some of the challenges, based on research and experience in both undergraduate and postgraduate settings across Europe. |
| 17:00           | **Closing remarks**  
Professor Erik Driessen  
Maastricht University, The Netherlands |
10:00 – 11:15 Keynote presentation / Auditorium

Introduction from Professor Jean McEwan
Professor of Clinical Education, Vice Dean (Education),
University of Exeter Medical School

Dr Eric Holmboe

Realising the Promise of Outcomes-based Medical Education through More Effective Assessment.

The Association for the Study of Medical Education is delighted to be a partner in this event, including sponsoring the ASME Guest Lecture and keynote presentation by Dr Eric Holmboe.

Outcomes-based education (OBE) has become a driving philosophy and approach for many medical education systems around the globe. Major reasons for the interest in OBE by policy makers and health system leaders are persistent concerns about the quality, safety and costs of healthcare. However, implementing OBE using competency models has proved to be very daunting for educators and training programs due in no small part to significant challenges in assessment. OBE and competencies require a greater emphasis on work-based assessments, organized within programs of assessment and should include group process for making judgments. This session will explore some newer approaches in assessing competencies that are designed to promote better professional development and bridge professional boundaries in assessment.

BIOGRAPHY
Dr Holmboe, a board certified internist, is Senior Vice President for Milestones Development and Evaluation of the Accreditation Council for Graduate Medical Education. Prior to joining the ACGME in January 2014, he served as the Chief Medical Officer and Senior Vice President of the American Board of Internal Medicine and the ABIM Foundation. He is also Professor Adjunct of Medicine at Yale University, and Adjunct Professor at the Uniformed Services University of the Health Sciences.

Dr Holmboe was selected by the National Board of Medical Examiners as the recipient of the 2016 John P. Hubbard Award. The award is given to individuals who have made outstanding contributions to the pursuit of excellence in the field of evaluation in medicine.

11:15 – 11:45 Refreshments

11:45 – 13:15 Thematic presentations and poster presentations

Three streams of poster presentations taking place at the same time as thematic presentations.

Thematic presentations
Four presentations, 10 minutes each followed by 5 minute discussion. Themes for Saturday are generally associated with clinical skills and professionalism. However, these ‘boundaries’ are not rigid.
I: Professionalism including diversity and performance based assessments. We all know what a professional should be? Do we? How do we assess?

Ground Floor, Seminar Rooms 1 - 3

Chair: David Leeder, University of Exeter Medical School

Setting the standard for a new assessment: comparing outcomes using the Angoff, borderline regression and Cohen methods

Mrs Sandie Gay, National School of Healthcare Science

Corresponding author *Kirby A, Chamberlain S, Gay S

One of the most challenging and technical aspects of assessment design and delivery is defining the pass standard to ensure that individuals get the outcomes that they truly deserve. The consequences of selecting an inappropriate standard setting method, and setting a pass mark that is either too high or too low can be significant for the test-takers and, for professional examinations, all stakeholders in the field in which the test-taker has, or has not, qualified. The assessment literature provides guidance on the various standard setting methods available and the practical and theoretical considerations in selecting and applying a method that is appropriately aligned to the assessment context. However, this guidance can be difficult to apply in practice for new assessments. This is particularly the case when the new assessment consists of assessment tasks that are newly-created and their difficulty is untested; there are no prior measures of cohort ability; and the whole assessment infrastructure lacks maturity.

This paper describes these standard setting challenges in the context of a new, national assessment for clinical scientists. Three standard setting methods are used to model the outcomes of this new assessment to explore the impact on pass and fail rates. The methods used are modified Angoff, borderline regression and Cohen. The findings suggest that, in the context of a new assessment, the borderline regression method may lead to artificially inflated pass marks. Cohen and Angoff, although very different approaches to setting standards, seemed to produce similar pass marks. It is concluded that, for new assessments where there is uncertainty about the likely performance of each test facet, a blend of methods or a compromise method may be necessary.

Experiencing Gender Bias within the Multiple Mini Interview Using Multifaceted Rasch Modelling

Corresponding author, Adrian Husbands, University Of Buckingham

Background

The Multiple Mini Interview (MMI) is the primary admissions tool used to assess non-cognitive skills at an increasing number of medical schools. While statistically significant gender differences in performance have been observed in a number of studies none have compared gender differences among candidates at the same ability level. This study examines gender bias among MMI stations using Multi-faceted Rasch Model (MFRM).

Summary of work

A total of 563 candidates attempted the Dundee MMIs during the 2014-2015 admissions cycle. MFRM was used to adjust MMI scores for candidate ability, examiner stringency or leniency and station difficulty. Differential Item Functioning (DIF) analysis determined whether male or female candidates at the same level of ability were more likely to achieve higher station scores. Interpretation of results was conducted from a

Summary of Results

Separation-index reliability for the MMI was acceptable (.91) and separated candidates into 3 distinct ability groups. All 22 MMI stations showed a good fit to the Rasch model. DIF parameter magnitudes ranged from 0.01 to 0.28 logits, with measurement errors of between 0.06 and 0.12 logits. While three stations showed statistically significant DIF (p).

Re-Thinking Remediation: Using behavioural change theories to inform the development of remediation plans for doctors with performance concerns

Dr Linda Prescott-Clements, National Clinical Assessment Service (NCAS), NHSLA

Corresponding author, *Prescott-Clements L, Voller V, Bell M, Nestors N and van der Vleuten C

For practicing doctors, assessment is often experienced in the context of revalidation / recertification, whereby the outcomes are used as evidence to demonstrate that the practitioner is competent, safe and remains fit for practice. However, such assessment may also highlight areas of performance giving rise to concern. In this
context, a comprehensive assessment of performance in the workplace, encompassing an assessment of the practitioner’s health, behaviour, and working environment, might have a ‘diagnostic’ role in determining the extent of performance concerns which can then be used to inform the practitioner’s requirements in terms of remediation.

Evidence suggests that performance concerns are often complex involving multifactorial issues, encompassing knowledge, skills and professional behaviours. It has also been established that practitioners may perform poorly, despite having the necessary knowledge and skills, and competence does not always lead to consistently good performance. In such instances, it is important that “where possible and appropriate” practitioners are supported through effective remediation in order to return them to safe, clinical practice.

A review of the literature on remediation demonstrated that research in this area is in its infancy, and little is currently known about the effectiveness of remediation programmes and the design features or implementation strategies associated with success. Current strategies for the development of remediation programmes are to mostly ‘intuitive’, with few being based upon established cognitive or adult learning theories.

In recognition that performance concerns in practicing doctors often include behavioural issues, we have used behavioural change theories to explore known barriers to successful remediation such as insight, motivation, attitude, self-awareness and the working environment and have developed an approach to the creation of bespoke remediation programmes which target these issues in addition to knowledge and skills development. This novel approach will be described, and the evaluation of initial pilot testing will be presented.

Lessons from assessing Professionalism through monitoring Professional attitudes and behaviours

Dr David Kennedy, Newcastle University

Corresponding author, *Kennedy D, Lunn B

Background

Demonstration of acceptable professional attitudes and behaviours is an expectation of graduates and a complex area of assessment in medical school. Building on the conscientiousness index, described by McLachlan et al. (2009), indicators of professionalism are monitored, reviewed and contribute to assessment of professional attitudes and behaviours. Adherence to procedures (including carrying identification and evaluation), adverse outcomes from disciplinary procedures (including assessment irregularities), attendance at compulsory teaching as well as reporting of unacceptable attitudes and behaviours (including attitudes and behaviours towards patients, peers and staff) contribute to the monitoring record.

Implementation

A Professionalism Issue Notice (PIN) form was devised and made available to staff. PIN forms enable staff to report professionalism issues ranging from punctuality issues through to inappropriate attitudes and behaviours.

PINs are scores between 1 and 10, depending on severity, by a professionalism review panel that meets three times a year. Where the acceptable threshold in the monitoring record is breached students meet a curriculum officer and agree an action plan for improvement.

Lessons learnt

There has been a significant resource implication in recording, collating and reviewing all monitored data.

Initially there was some resistance by some staff to complete PIN forms. A perception that completion of a PIN for something trivial could cause a student to fail was dealt with by reassurance that no student could fail on the basis of a single PIN form.

The student body generally accepts this form of assessment and view it as a fairer and more valid method than the reflective essay used previously. Student feedback centres around ensuring students can access their own PIN forms and monitoring record. We enabled this in the 2015-16 academic year.

The process helps early identification of students in need of support and referral to wellbeing services.
Candidate use of a feedback site and how that relates to examination performance

Professor Brian Lunn, Newcastle University

Corresponding author, Woodhouse L, Kennedy D, Moss J, *Lunn B

Students surveys such as the UK National Student Survey consistently show a significant disparity between satisfaction with teaching and that for feedback and assessment. OSCEs do not lend themselves to providing personalised feedback in summative examinations. We developed a system to allow students to visualise and understand their OSCE performance. Beyond the initial investment in time developing this, the year-on-year academic time to use this system is minimal (less than two hours for a 20 station OSCE).

The site is well used by students with 65.94% of students visiting the site within 4 hours of result release and a mean of 2.95 visits per student over the following 4 months (range 0-15). Students valued both the amount of feedback available and the nature of it with significant improvement in satisfaction ratings (from 48% to 86% satisfied).

Students sit a 10 station formative OSCE after 4 months of Stage 3. They sit a further sequential OSCE at the end of the Stage. Feedback by station and skill domain was made available to all students. We analysed the correlation between student use of the site, how they used it and their performance at the end of year summative OSCE. We will discuss student behaviour in relation their initial exam performance and how that correlated with their end of stage performance.

2. Preparedness for practice. A major boundary to cross. How do assessments help of hinder?

Ground Floor, Seminar Room 4

Chair: Derek Gallen, Wales Deanery

Is a Secondary Task Method Appropriate for Measuring Mental Workload in Medical Students?

*Miss Bryony Woods, Cardiff University, woodsb@cardiff.ac.uk

Context

Mental workload (MW) is an abstract concept that sees cognition as a small and finite capacity to process conscious, logical thoughts. A secondary task (ST), an additional task added on top of the primary task, is one way of measuring MW. When workload of the primary task approaches capacity, ST performance will decrease giving an objective measure of MW.

Objectives

This study aims to validate the ST method as a measure of MW in medical students. It is expected that the measured workload will increase with task complexity.

Methods

Medical students from year 2 to year 5 at Cardiff University were recruited. The ST involved tapping the screen of an iPhone® when it vibrated at random intervals. The time taken to do this was recorded. Each participant completed four standardised tasks for a total of four minutes each, alongside carrying out the ST. Task 1 measured participants’ baseline workload. Task 2 involved listening to a recorded history. Task 3 was undertaking venepuncture on a simulated arm and task 4 involved simulated venepuncture, alongside listening to another history.

Results

40 students were recruited. Measured workload increased with task complexity.
Exploring the development of evaluative judgment: Illustrations from junior doctors’ longitudinal preparedness for practice narratives

*Rees CE, Bullock A, Mattick KL, Monrouxe LV

Continuous professional development is a critical constituent across the medical education continuum. Central to that is the development of learners’ evaluative judgment: ‘the ability to understand work quality and apply those standards to appraising performance’. Although medical students report better understanding of quality through peer-related observation, feedback and storytelling, the potential of narrative for exploring learners’ evaluative judgment is currently unknown. Innovative narrative methods in health professions education, such as longitudinal audio diaries, can provide learners with opportunities to make sense of their own professional development, with repeated acts of storytelling seen as an ongoing form of self-evaluative judgment. In this short presentation, we aim to explore what evaluative judgment means within the context of novice professional practice in the UK Foundation Programme, and how narratives can reveal the processes of evaluative judgments in medical trainees. We do this by analysing narrative excerpts from our GMC-funded study on junior doctors’ preparedness for practice. Although most current literature explores evaluative judgment using experimental approaches, we hope that our presentation will encourage qualitative approaches for exploring evaluative judgment in professional learning.

References

*Corresponding author professor Charlotte Rees, Monash University, charlotte.rees@monash.edu

The implementation of a national exit assessment for clinical scientists in the UK: challenges, hurdles and triumphs

*Chamberlain S, Gay S

As part of the Modernising Scientific Careers initiative, the National School of Healthcare Science was tasked with designing and administering an exit OSCE for trainees following each healthcare science pathway on the Scientist Training Programme (Level 7, leading to registration as a Clinical Scientist). In 2016 there are 27 different healthcare science pathways (across life sciences, physical sciences, physiological sciences and bioinformatics), and a total of 252 trainees in their final year. The number of trainees per science and per OSCE ranges from one in cytopathology to 33 in radiotherapy physics. This paper outlines the challenges, struggles and triumphs experienced in creating and delivering these healthcare science OSCEs. These encompass a broad spectrum of issues from consulting and seeking consensus among stakeholders on the design of the assessment; the development of the policy infrastructure; technical issues such as the use of score weightings and standard setting; marking issues including the creation of a standardised mark scheme template and ensuring the quality and reliability of marking; the technology infrastructure, which required a data mark capture system that could cope with the complexity of the whole assessment environment; and the training programme that was delivered to prepare over 300 assessors and station writers for this new and unfamiliar mode of assessment. Some of the challenges were more easily overcome than others. Indeed, it is discussed how being unencumbered
by legacy systems, investments, processes and preferences meant that there were opportunities to implement, from the beginning, some elements of good assessment practice. These included the introduction of on-screen marking, the use of domain-based mark schemes, and promoting ‘intelligent’ interpretations of the OSCE data. There were, however, a number of challenges; some of which remain unresolved.

*Corresponding author Mrs Sandie Gay, National School of Healthcare Science, sandie.gay@wm.hee.nhs.uk

Ensuring students’ preparedness for practice: a reflective framework for assessing capability

*Hanks S, *Neve H.

Medical and dental undergraduate education emphasises the development of student competencies. Expected competencies are detailed in national guidance and presented as learning outcomes, separated into domains such as biomedical, clinical and professional. Each domain tends to be assessed separately, using predictable and familiar tools and settings.

In this presentation we will question whether competency based education and assessment adequately trains our students to practice in today’s complex, ever changing healthcare environments. We will draw on research into students’ preparedness for practice to demonstrate how just ticking the competency box’ has often left young doctors and dentists unprepared and unsure how to tackle problems in the real world.

We will argue that we need to educate our students for ‘capability’ as well as competence. Building on the literature we will explore the nature of capability, its relationship to competency and the range of skills, such as the ability to formulate and solve problems in unfamiliar and changing settings, which underpin it. We will consider how capabilities are currently addressed (or not) within the continuum of assessment processes. Finally we will propose an assessment framework, which could be adapted to use in a range of assessment settings and which could support dental and medical students’ in their journey to become capable practitioners in a complex and unpredictable world.

*Corresponding author Mrs Sally Hanks, Plymouth University Peninsula School of Dentistry, sally.hanks@plymouth.ac.uk

Pharmacist-led video-based feedback to improve junior doctors’ prescribing

*Mattick K, Farrell O, Parker H, Bethune R.

Prescribing errors occur frequently and may have significant adverse consequences. Recent research highlights challenges faced by newly qualified doctors when prescribing medications in busy hospital environments. The important contributions of socio-cultural determinants of prescribing within hospital settings are increasingly recognised, such as the role of prescribing etiquette (Charani et al. 2013) and the medical hierarchy (Mattick et al. 2014). Junior doctors frequently enact the prescribing decisions of more senior doctors (Ross et al. 2011), often without understanding the rationale for the therapeutic choice. In addition, junior doctors report a shortage of timely feedback on their prescribing performance (Mattick et al. 2014). Some studies make recommendations for interventions intended to support junior doctors to reduce medication errors. A common theme in the recommendations is an enhanced role for pharmacists, who are knowledgeable about medications and the prescribing process but also sit outside the medical hierarchy. In this presentation we will summarise our current research which involves developing a video-based feedback intervention. Foundation Year doctors (in their first two years after medical school graduation) are filmed during a patient consultation involving a medication history and any subsequent parts of the prescribing process which occur away from the patient e.g. writing up the drug chart. The pharmacist then confirms the medication history and meets up with the junior doctor for a tailored feedback session. Together they review the video footage and the pharmacist asks a series of questions using a Self-Regulated Learning framework, designed to promote reflection and improvement planning. In this presentation, we will use Van der Vleuten’s utility equation (1996) to explain how we have carefully designed the intervention with respect to its acceptability, cost and educational impact; why we have decided to emphasise validity over reliability; and what we have learned through the pilot work to date. Prof Karen Mattick*

The implementation of a national exit assessment for clinical scientists in the UK: challenges, hurdles and triumphs *As part of the Modernising Scientific Careers initiative, the National School of Healthcare Science was tasked with designing and administering an exit OSCE for trainees following each healthcare science pathway on the Scientist
Training Programme (Level 7, leading to registration as a Clinical Scientist). In 2016 there are 27 different healthcare science pathways (across life sciences, physical sciences, physiological sciences and bioinformatics), and a total of 252 trainees in their final year. The number of trainees per science and per OSCE ranges from one in cytopathology to 33 in radiotherapy physics.

This paper outlines the challenges, struggles and triumphs experienced in creating and delivering these healthcare science OSCEs. These encompass a broad spectrum of issues from consulting and seeking consensus among stakeholders on the design of the assessment; the development of the policy infrastructure; technical issues such as the use of score weightings and standard setting; marking issues including the creation of a standardised mark scheme template and ensuring the quality and reliability of marking; the technology infrastructure, which required a data mark capture system that could cope with the complexity of the whole assessment environment; and the training programme that was delivered to prepare over 300 assessors and station writers for this new and unfamiliar mode of assessment.

Some of the challenges were more easily overcome than others. Indeed, it is discussed how being unencumbered by legacy systems, investments, processes and preferences meant that there were opportunities to implement, from the beginning, some elements of good assessment practice. These included the introduction of on-screen marking, the use of domain-based mark schemes, and promoting ‘intelligent’ interpretations of the OSCE data. There were, however, a number of challenges; some of which remain unresolved.

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Developing an Assessment Strategy for the 21st Century


Cardiff School of Medicine is currently rolling out a new curriculum, known as C21 and designed to be a modern curriculum for the 21st century. As part of this process, assessment has been rethought with a move away from traditional models of assessment to better prepare students for foundation practice by supporting reflection and self-directed learning.

This session will discuss how the assessment strategy was developed and what it includes, particularly focusing on the principles of frequent look/rapid remediation and programmatic assessment it is based on. As part of the new strategy, updated clinical and knowledge assessments have been introduced with the aim of supporting student progression through frequent low stakes assessments and by providing detailed feedback within and across domain based assessment, while emphasising an integrated, holistic approach to patient assessment, clinical reasoning and care planning. The aim is also to create an assessment programme that strives for authenticity through formative, summative, simulation and workplace assessment. This allows progression decisions that are educationally, statistically, academically and legally defensible.

It will also discuss the challenges in implementing the strategy and ways in which these challenges are being overcome. Success will be measured through improvements to student survey scores and preparation for practice, while maintaining acceptance by stakeholders. Finally, it will examine the potential impact and implications of the forthcoming medical licensing exam on modern assessment programmes where traditional ‘finals’ have been phased out to support a more gradual transition into practice.

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3. Assessment across the continuum/ across borders

Ground Floor, Seminar Room 5
Chair: Debbie Jaarsma, Groningen University

Rate of knowledge acquisition over 5 years

*Freeman AC, Rice N, Roberts F.

In a 5 year undergraduate medical course with a PBL and spiral curriculum knowledge acquisition is measured with progress tests. Peninsula medical school has been monitoring the rate of growth of knowledge over the 5 years of the course. Data will be presented to illustrate that growth of knowledge. The data will be used to illustrate how there are some changes to that growth rate which might have implications for the timing of final or licensing examinations.

*Corresponding Author Prof Adrian Freeman, University of Exeter Medical School, a.c.freeman@exeter.ac.uk

Cultural values assessment in a training GP practice

*Inkster C, Agius S, Hayden J

Learning environment and culture have been identified as the first theme in the new standards for training published in the GMC’s Promoting Excellence document. Similarly, HEE have identified this as the first theme for their multi professional educational standards. Assessment of culture and values in an organisation can pose many challenges. We describe the use of a tool developed by the Barrett Values Centre to assess the culture of a successful training GP practice. This requires participants to choose their top ten personal values from a list of approximately 80. They then choose the top ten values that they feel describe the current culture of the organisation, followed by the top ten values they feel would be required for the organisation to achieve its maximum potential. A comparison between personal values and current culture is a measure of alignment of employees’ values within the organisation. The difference between the current and desired culture can illustrate the views of the staff on how the organisation might develop in the future. We discuss the results of the survey and the positive impact they have had on aligning values in the practice. Results revealed a number of key themes which had not been anticipated prior to the implementation of the assessment. This has enabled development of an action plan to support all staff and learners to achieve their full potential in a compassionate and caring environment to the ultimate benefit of patients.

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The MRCGP International process (MRCGP INT)

*Prof A.C.Freeman, Prof Val Wass, Prof R. Withnall

Introduction

Although family medicine (FM) curricula around the world have aspects of commonality, there are also country-specific differences that reflect varying cultural influences and healthcare delivery systems. The UK Membership of the Royal College of General Practitioners International qualification (MRCGP[INT]) aims to achieve standardisation through assessment methodology and validity, in order to enhance the standing of FM as a specialty and improve the quality of patient care. Has this been achieved?

Methods

The MRCGP[INT] process enables individual sites to develop assessment methodologies that are appropriate for their country/region. Assessment experts make site visits to help support educational development and the establishment of rigorous examinations consistent with international standards. Different external UK evaluators then assure the process and accredit the examinations.

Results

MRCGP[INT] currently operates in eight sites over four continents. Over 800 doctors have achieved the MRCGP [INT] qualification. We will present data illustrating: the types of assessment chosen by different countries; the varying amounts of time and support required to reach accreditation; and the parameters chosen for evaluation. Changes that have occurred as a result of the process will be presented, including inter-site support and impact.

Conclusions

The expanding UK MRCGP[INT] programme illustrates the importance of empowering the contextual development of FM accreditation within its local health care system and culture.
AMSE - Quality Assurance Initiative

*Prof. Dr. Peter Dieter, AMSE, Association of Medical Schools in Europe, Peter.Dieter@tu-dresden.de

AMSE is the Association of Medical Schools in WHO Europe, a region of 54 countries. Currently, students are trained at about 500 medical schools in WHO Europe. The number of medical schools worldwide and in Europe has increased in recent years significantly, among them many private/profit medical schools without own research.

Medical education in the different countries varies, considerably in the length of study, the training program including teaching and examination formats, state examinations, scientific orientation and the cooperation of the medical school with affiliated teaching hospitals and community practices.

Also the quality standards of the education programs and the institutions involved in the education (school, hospitals, and community practices) as well as the quality control and quality recognition are country specific. Accreditation by nationally recognized accrediting agencies occurs only at about 50% of the medical schools.

The European Professional Qualifications Directive (2013/55/EU - 2005/36/EG) defines as "quality": "Basic medical training includes at least five years (can also be expressed in the corresponding number of ECTS credits) and consists of at least 5500 hours of theoretical and practical training at a university or under the supervision of a university. Furthermore, the Directive includes the automatic recognition of formal qualifications of medical doctors with basic training within the EU countries, the introduction of a European professional card is planned.

AMSE is concerned that the lack of a Europe-wide common quality standard and common quality assurance program including recognition on the one hand and the automatic recognition of doctor’s licenses on the other hand might lead to a risk of patients and health care system in the future. Therefore, AMSE calls for the introduction of a common quality standard (WFME) and a common quality assurance program across Europe.

Developing a Cross-Border Assessment Collaboration in Global Health

*Dr Jacob Pearce, Australian Council for Educational Research, jacob.pearce@acer.edu.au

This paper reports on a project designed to develop an assessment collaboration between medical schools in both Australia and the United Kingdom in the content area of Global Health. The work involved universities in Australia and the UK, developed an Assessment Framework for assessing Global Health internationally, developed Item Specifications, undertook assessment item writing workshops, built in a process of review, and resulted in the development of a focussed suite of assessment items.

This paper provides an overview of the processes undertaken in developing this collaboration. It begins by providing a brief background to the project, the rationale for the Global Health focus, and highlights the partnerships that the project developed. It then outlines the aims and objectives of the project. Importantly, the aim of the project was to improve and share assessment practice in the Global Health arena. The goal was to ‘pool resources’ to work with and for the participating medical schools to produce a suite of high-quality and relevant assessment items that could be used by the schools in whatever context they wished. The approach taken in the project will be detailed, following four broad stages: Defining Global Health and building an Assessment Framework; Specifying Item Parameters; Development of Items; and Consolidation of a Suite of Assessment Items.

The outcomes of the project are presented, along with reflections on the implementation and outcomes of the work. While the area of Global Health seems suitable for collaborative assessment across borders, a number of key issues were identified throughout the project. These key issues will be identified, both in relation to the content of Global Health, and to the process of more general cross-border sharing of assessment materials.
Equalities and differences in the curricula of the Dutch Progress Test Consortium members.

*C. Krommenhoek-van Es MSc, Dr. A.J. Bremers, Dr. R.A. Tio, University Medical Centre Groningen.

Four times a year, about 10,000 students of five distinct universities participate in the Dutch Progress Test of Medicine to measure their acquired knowledge. A Progress Test examines the knowledge at the level of the end of the curriculum. In contrast to a ‘normal’ final exam, all students participate, irrespective of the year they belong to. The increasing knowledge level of the individual student is reflected in an increasing score over the years. Judgement is based on a comparison between students within the same cohort. The Dutch Progress Test consortium has developed this test, in close cooperation with medical schools, however, local curricula differ, as do the practices of the boards of examiners. The information that is gained by progress testing can be used at several levels. We will focus on the comparison of different student cohorts of one university and student cohorts of different universities. In this way, insight into the results of the various curricula can be obtained. Moreover, curriculum changes can be monitored and effects, positive or negative, can be demonstrated at the university level. Over the last four years, three participating medical schools have undergone intensive curricular changes. What can we learn from the differences in scores between the respective cohorts of students?

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4. Simulated patients/simulation

Everybody uses them. How does it go? What are the barriers and do simulations cross boundaries of time and space?

Ground Floor, Seminar Room 6

Chair: Julian Archer, Plymouth University Peninsula Schools of Medicine and Dentistry.

Transition to Parenting Course (T2P): The use of case-based reflection to assess skills in supporting parents through the transition to parenthood.

Dr Caroline Fertleman, The Whittington Hospital, *Jordan CE, Bourne T, Clark M, Fertleman CR

Introduction

T2P is a simulated learning experience, which develops knowledge and skills to support parents through their transition to parenthood. It was piloted in 2015 by a multidisciplinary faculty; aimed to facilitate inter-professional learning amongst candidates.

Reflection is essential for effective learning, to develop insight into our practice. ‘It is not sufficient simply to have an experience in order to learn. Without reflecting upon this experience it may quickly be forgotten, or its learning potential lost. (Gibbs 1988)’

Methods

Candidates are required to complete pre-course reading, followed by group discussion. Each candidate then participates in one of a variety of simulated role-plays, using actors. The scenarios are designed to challenge the candidate’s communication skills, in a realistic setting. They include: adjustment to role of parent, relationship issues, support, anger, financial and housing difficulties.

Assessment is continuous throughout the day, including a personal feedback session. Each candidate must then submit a reflective piece, in order to complete the course. This should be a reflection on a new case, utilising the skills learned during the course.

Results

Reflective pieces are assessed using an adapted Gibb’s model, 3 looking at: Description, Feelings, Evaluation, Analysis, Conclusions and Action Plan4.
Some examples of reflections: ‘...by actively listening... she really opened up’, ‘...my approach was different...in particular how they were coping as a couple’, ‘...knowledge to support, safety-net and signpost’, ‘...more confident in liaising with other members of MDT’; ‘I will continue to use knowledge from the course to facilitate more meaningful consultations.’

Conclusions
Reflection is a useful tool, which encourages and consolidates learning across specialities. Assessing the benefits of multi-professional learning is difficult, but the positive feedback highlights the use of assessment in this area. We continue to draw on the experiential learning opportunities, to improve outcomes for parents and professionals during this important period.

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The learners role in determining the fidelity of a simulation

*Mordi N, Burford B, Thomson R, Vance G

Background
Fidelity in clinical simulation is defined as the degree of similarity between the simulation and the workplace. It has been conceptualised in a multidimensional framework comprising of dimensions that can be manipulated depending on the learning objectives. One argument for high simulation fidelity is that it improves the learner’s engagement, allowing them to more readily ‘suspend disbelief’ and act as if they were in real life. The assumption is that the higher the fidelity the closer the match in behaviour in simulation to the workplace. It could follow therefore that there is an association between participants’ behaviour deviating from ‘real life’ and lower fidelity. As part of a study examining learners understanding and experiences of fidelity in clinical simulations this paper presents early results exemplifying influences on learners’ behaviour in simulations.

Methods
Three final year medical students took part in in-depth semi-structured interviews into their experiences of simulation and simulation fidelity. The interviews were transcribed and are undergoing coding to develop overarching themes. Ethical approval was obtained through the University Ethics committee.

Results
Initial data coding revealed moments where each student recalled acting differently in the simulation than they would have done in ‘real life’. In exploring their reasons for one theme emerged from the data relating to their preconceptions around the purpose of the simulation activity - what was being assessed and what the learning objectives were.

Discussion
Demonstrating differences in behaviour may give us deeper insight to the determinants of fidelity in clinical simulations. Based on these results, the learner plays a role in determining fidelity of a simulation. This is important as it may cause us to focus less on manipulating the environment, but rather on how we frame the simulations for learners so they are more inclined to act as they would in real life.

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Safe and Effective Clinical Outcomes clinics in primary and secondary care: students’ perceptions of their educational value

*Bartlett M, Gay S, Kinston R, McKinley R.

Background
Untimed simulated surgeries in a general practice setting focussing on safe and effective clinical outcomes were first developed and introduced into undergraduate medical education in Otago, New Zealand (1). With agreement, we extended the concept and included a secondary care version for final year students. The clinics give opportunities to manage entire consultations and to make and implement clinical decisions with simulated patients (SPs). Faculty support is available in the form of ‘simulated colleagues’. Formative feedback is given by the SPs on the achievement of pre-determined outcomes from a patient’s perspective, and from faculty on clinical decision making, medical record keeping and case presentation skills.

Aim
To explore students’ perceptions of the educational value of SECO sessions in both settings.
Method
Ethical approval was obtained. Students were invited to take part in semi-structured group interviews immediately after their sessions and to give written feedback. Analysis was thematic, the themes arising from the data.

Results
We have data relating to 64 students in primary care and 194 in secondary care from pilot studies. These suggest that students enjoyed the clinics and wanted more of them in both settings. They identified gaps in their knowledge and recognised the unprecedented opportunity to develop the skills needed to make clinical decisions, to take responsibility for them and to handle uncertainty as a result of having to manage the whole consultation without being able to ‘play the student card’. The fictional contract was powerful. Students found feedback from faculty and SPs useful and most had plans to implement or develop their learning. For the majority, there were positive impacts on perceptions of self-efficacy. Negative comments related mainly to logistical issues.

Discussion
These clinics provide opportunities for learning and practicing, in an authentic setting, skills which students need to be prepared for their foundation years.

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Crossing boundaries: can the OSCE method work in the context of healthcare science education in the same way as medical education?

*Gay S. Chamberlain S

The Modernising Scientific Careers (MSC) initiative was implemented in the UK in 2009 to provide a common framework for the education and assessment of the healthcare science workforce from Level 2 (school-leaver or young apprentice) to Level 8 (Consultant Clinical Scientist). Much of the structure of MSC mirrored that of the Modernising Medical Careers initiative that was implemented in 2005. This included the mirroring of assessment methods for workplace-based assessment (e.g. Observed Clinical Events and Direct Observation of Practical Skills) and the OSCE which is used as an exit assessment for the Scientist Training Programme (Level 7, Clinical Scientist).

The OSCE method is used across multiple healthcare sciences (27 sciences in 2016), with trainees required to completed three common ‘shared skills’ stations, and nine stations that are unique to their science specialism. Bearing in mind that the quality of assessment outcomes is determined by the quality of assessment inputs, and also mindful that medical education OSCEs differ in their design, this paper lists and compares some common features of OSCE design and delivery across the two contexts. These features include the types of station tasks, the number of stations, station timings, the use of actors and equipment, standard setting and common indicators of performance. This comparison shows that the healthcare science context is not quite comparable to medical education and that this presents some unique challenges when using the OSCE method.

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Two birds, one stone - Using Podcasts as Assessment and Learning Tools in Dental Education

Corresponding author * Dr Hoda Wassif, University of Bedfordshire

As the use of technology increases in teaching and learning, there is more need to use technology in assessments to make it not only relevant but also engaging for postgraduate (PG) dental students. The aim of this presentation is to discuss the use of podcasts as an assessment and learning tool for PG students studying MA Dental Law and Ethics at the University of Bedfordshire, the only university accredited course designed for dental professionals.

Background
As a blended learning course that combines face to face teaching with online learning, the assessment strategy allows students to use technology where they are asked to submit a 10-minute podcast as part of ‘Ethical Dental Practice’ module. Students have the flexibility to select an ethical principle and offer a critique of that principle from an ethical and philosophical viewpoint with a reference to its application to their dental practice.

Using Podcasts
The podcast offers students an opportunity to present their views in a different format to the standard essay approach. Clinicians are often asked to be interviewed in the local
media to present their views reflecting on dental practice in one way or another. Submitting a podcast allows students to practice and rehearse new skills and it could be simply recorded on their smart phones. On completion of the task, each podcast becomes an educational resource. Overtime, a digital resource is available to use as an online audio library.

**Conclusion**

The use of new technology in assessments is not a goal in itself. However by using podcasts, the technology enabled the assessment of learning and supported students to develop new skills that are relevant to practice. It also assisted the development of an on-going, renewed database of digital audio resource that can be used in teaching and online learning.

Why I think caveman tribes set the standards for formative assessment neurophysiology of tribalism.

*Doctor Michal Nowakowski MD, PhD, Department of Medical Education, Jagiellonian University Medical College, m.nowakowski@uj.edu.pl*

It has been concluded that formative assessment does have positive impact on students’ performance. There are also numerous reports of stress as one of reasons for poor performance during testing and in real life circumstances. There are also multiple reports that encourage building positive study, assessment and work environments.

This presentation will discuss the impact human species evolution as tribal/social animals had on neurophysiology of human brain and how that explains why building positive environment for learning and formative assessment has strong positive impact on students’ learning.

Emotions associated with performed tasks and perception of environment are crucial for transfer of sensed phenomena to medium and long term memory. Defensive strategies often employed in unsecure environment do not promote contextualized long term memory formation but rather evolvement of avoidance strategies.

Dopamine driven push towards short term goals if properly utilised can significantly increase internal motivation of students.

Serotonin mediated social behaviours often linked to social status, tribalism, belonging but also team achievements and self-confidence are also very potent motivators which lack dopamine mediated addiction-like undesired results.

Oxytocin often associated with building of social and family structures, trust and empathy may play a crucial role in development of professional or corporate identity. Secreted also while observing empathic or trust based behaviours may explain crucial role of role modelling and development of cooperation and team based social skills.

Above mentioned neurohormones play crucial role in development of self-driven, patient oriented, empathic physician. For them to play their role student needs to be ‘inside’ a safe zone, included in a positive way in tribal mechanisms. Each tribe does have methods for positive enhancement of socially acceptable behaviours. Our type of that behaviour should include formative assessment.

Proper understanding of neurophysiology helps to understand many observed or even measured effects.
**Poster Presentations**

The Forum Street

**STREAM 1**

**Chair:** Dame Lesley Southgate, President European Board of Medical Assessors

**Assessment across the continuum/across borders**

**Medical ethics in a cross-cultural setting**

Dr Roger Worthington, NHS Global Health Exchange

*Corresponding authors:* *Worthington R, *Madhok R

By its nature, ethics is influenced by local culture and prevailing legal frameworks, so developing a resource suitable for self-study that can be used by learners in developing countries presents various challenges. If materials are too generic, they lack focus and have no practical relevance; if they are too specific, they will not cross national boundaries, let alone continents. The NHS Global Health Exchange [GHE] [1] embarked on a project in 2015, in association with Peoples-uni, [2] to develop a course that could help fill a vacuum that exists in countries where practitioners and institutions have limited access to specialist staff and resources, and no formal curriculum for teaching medical ethics, such as in India and Uganda. The authors (with contributions from an international team) collaborated to produce a new, online course, launched in April, 2016, incorporating self-assessment, reflection and feedback. The course aims to be culturally sensitive, departing from widely-used frameworks, such as those originating in the USA in the 1970s. Content is designed to have practical relevance to contemporary learners, such that it could potentially influence health care on the ground, where, for example, significant problems exist in relation to professional standards [3]. By October 2016, the course will have been live for six months, which is a suitable point to evaluate user feedback and reflect on possible developments for the future as part of an iterative process.

**An evaluation of medical student’s knowledge of paediatric vaccinations in United Kingdom (UK)**

Dr Nighat Nadeem, King’s College London

**Aims**

Medical Students now have decreased exposure to Vaccine Preventable Diseases (VPDs) as successful vaccination programs have decreased their prevalence. This combined with the media’s negative portrayal of vaccines may cause misconceptions and misinformation. The aim of this study was to explore medical students’ knowledge of paediatric vaccinations, highlight knowledge gaps, identify training needs and make recommendations for future training.

**Methods**

Vaccination knowledge of medical students from three UK medical schools was assessed by an anonymous, self-administered, cross-sectional, internet-based survey from 14 April 2015 to 14 July 2015. Questions addressed vaccine guidelines, schedules, administration, handling, contraindications and adverse events. Analysis included comparison of proportions with the use of descriptive statistics. Ethical approval was obtained from King’s College, University of London.

**Results**

A total of 109 medical students participated from 3 London medical schools. Overall, 33/109 (30.3%) students expressed feeling ‘not much’ or ‘not at all confident’ with children’s vaccines. The mean knowledge score of all students was 5.7/10 (57%). The most correctly answered question (answered correctly by 102/103 (99.0%) students) across all three medical schools was related to whether vaccines cause autism. The most poorly answered question overall was related to whether vaccines can be frozen to maintain their potency and was answered correctly by 31/103 (30.1%). The number of students confessing to not knowing an answer rather than attempting to guess the answer was also highest for this question: 43/103 (41.7%).

**Conclusion**

This study identifies gaps in knowledge amongst medical students in UK and the findings form a platform upon which to develop educational interventions which can be integrated into formal educational curriculum. Recommendations include developing up-to-date core competencies and promoting specific communication skills training in the role-play setting. Teaching methods used in various institutions should be analysed and compared to determine the most effective teaching strategies.
Can A Formative Integrated Clinical Anatomy Spot Test Predict Students’ Performance in Summative Applied Medical Knowledge Assessments?

Dr Tudor Chinnah, University of Exeter Medical School
Corresponding authors: *Chinnah T, Letner C, Brandom K, Rice N, Devaraj V.

Integrating knowledge of anatomy with other biomedical sciences is very important in clinical practice. We developed a formative integrated Clinical Anatomy Spot Test (iCAST), which focuses on students’ ability to demonstrate clinically-relevant factual knowledge. This study evaluates its validity and predictive value on students’ performance in summative applied medical knowledge (AMK) assessments. The iCAST was first piloted with 36 year 2 students in 2012/3 and rolled out to year 1 students in 2013/4 (n=130) and 2014/5 (n=129). It is delivered termly to years 1 and 2 students and requires students to rotate through 50 stations of integrated short-answer questions. Immediate feedback is provided, scripts are peer-marked and scores are independently verified. In both cohorts, average scores in the iCAST correlated with scores in the summative end of year 1 content-specific knowledge assessment (2013/4: r²=0.46, p.

Development and Evolution of Progress Testing in Undergraduate Dental Education

KAMRAN ALI, Plymouth University
Corresponding authors: *ALI K, ZAHRA D, SALIH V, TREDWIN C

Objective
To evaluate the Use of Progress Testing for Undergraduate Dental Students at Peninsula Dental School, UK

Methods
Data were collected for Progress Tests conducted from 2007-2016 involving ten cohorts of Bachelor of Dental Surgery (BDS) students in seventeen sittings. The data were analysed in SPSS version 22.0 (SPSS Inc., Chicago, IL, USA) and R to identify the differences in the performance of students in successive years. Internal consistency of test scores was calculated using Cronbach’s Alpha. Test-retest reliability of students’ scores was assessed using the Pearson correlation along with 95 percent confidence intervals in successive sittings. Item facility was calculated for each of the 100 items in each of the progress test sitting for all cohorts. Analyses of variance (ANOVA) were used to identify variations in total scores, correct, incorrect and do not know responses based on demographic factors.

Results
The test data showed satisfactory internal consistency as well as adequate test-retest reliability. The dental knowledge of students increases steadily over successive years as expected. The scores and correct responses mirror each other while, “don’t know” responses decrease steadily. However, the incorrect responses stay relatively stable. Differences in the performance of students based on age, educational background, ethnicity and any known disability were also evaluated.

Conclusion
Progress testing is a unique assessment tool which permits reliable longitudinal assessment of applied knowledge across the curriculum. There is merit in using progress testing for assessment of undergraduate dental student and monitoring the integration of applied dental knowledge during successive years.
STREAM 1: Predictive Validity and Patient and Public Involvement

The predictive validity of the BioMedical Admissions Test (BMAT) for Multiple Mini Interview (MMI) performance

Dr Sarah McElwee, Admissions Testing Service, Cambridge Assessment
Corresponding authors: Cheung K, McElwee S, Shannon M

Introduction
BMAT is used by medical and dental schools in their selection processes. It measures potential for demanding, science-based study by assessing across three sections: aptitude and skills (Section 1), application of scientific knowledge (Section 2), and written communication (Section 3). Previously, predictive validity studies have primarily used on-course academic performance as criterion variables; these studies have shown that Section 2 and Section 1 predict pre-clinical examination performance. However, admissions tests are commonly used with personal statements to shortlist candidates for interview, rather than to make final selection decisions onto a course, making it important to establish whether they predict performance at interview.

Method
Data on BMAT, personal statement and multiple mini interview (MMI) scores were collected for a single admissions cycle of a UK dental school, where shortlisting was conducted according to the school’s pre-existing criteria. For 278 shortlisted applicants, scores on BMAT were correlated with personal statement scores and performance on a 9 station MMI.

Results
BMAT Section 1 and Section 3 scores correlated positively with overall MMI scores. At the level of performance on individual MMI stations, three correlated positively with Section 1 and two other stations had positive relationships with Section 3. There was no evidence of a positive relationship between scores assigned to personal statements and overall MMI performance.

Discussion
BMAT scores show small but significant correlations with aspects of MMI performance, whereas personal statement scores did not demonstrate similar suitability as a screening tool for interview. These results are discussed alongside established findings that, of the three BMAT sections, Section 2 (application of scientific knowledge) most strongly predicts on-course academic performance. An overview of BMAT predictive validity and the test’s relationship with other selection tools, particularly personal statements, is presented.

Measuring knowledge growth: reliable change and identifying struggling students

Dr Daniel Zahra, Plymouth University Schools of Medicine and Dentistry
Corresponding authors: Zahra D, Cockerill J, Gabe-Thomas E, Roberts M.

Within medical education it is important both to assess student knowledge and help those who do not attain the required level of knowledge; but how these two goals are achieved and how they relate to each other varies widely across medical schools.

Students enrolled on the BMBS programme at Peninsula Schools of Medicine and Dentistry undertake four single-best-answer multiple-choice format medical knowledge assessments in each academic year. These assessments are designed as progress tests, developed on the principles of frequent-look and rapid-remediation, and track changes in medical knowledge over time.

At present remediation decisions are based on a test-by-test basis, with students failing to achieve satisfactory scores being referred for remedial support. Basing such decisions on individual test performance might be considered at odds with the principles of progress testing, especially where performance criteria are norm-referenced.

The Reliable Change Index (RCI; e.g. Jacobson & Truax, 1991; Zahra et al, 2016) provides a way to evaluate the consistency of changes in student performance across multiple tests over and above the variability inherent in the assessment format. This shifts the focus of the analysis from conventional group-level statistics to an analysis based on the individual’s performance. The current work investigates the possibility of using the RCI to complement existing remediation processes, in particular its usefulness in pre-emptively identifying students who may benefit from support and providing individually tailored feedback for entire cohorts.
A methodology to check the validity of OSCE cut scores derived by modified Angoff method

Dr Steve Capey, Swansea University

Introduction
The setting of standards for individual OSCE stations is a controversial area; the debate between absolute standards and relative standard methods has by no way been resolved. We currently use a modified Angoff method to set standards on individual stations and make progression decisions based on the number of stations passed.

Methods
We have collected data on our OSCE assessments that includes objective checklist data that is standard set by objective criteria. We also require our examiners to make an overall global judgement about the performance of the candidate on the station. We have analysed this data to evaluate the total number of fails by the Angoff method and the overall judgement by the examiners.

Results
We found that the overall judgement of the examiners on the candidate correlates well with our Angoff scores on most stations. We have tracked whether the same candidates that fail by Angoff are the same as the overall scores.

Conclusions
The checking of individual OSCE station cut scores with the overall number of failure and borderline students correlates well. Some differences remain with the individual candidates; however this may be related to examiner behaviour.

Take-home message: It is possible to estimate and check the validity of an Angoff cut score for an individual OSCE station by utilising global scores provided by examiners; allowing a useful post assessment check of the standard setting process.

STREAM 1: Preparedness for practice

Use of peer feedback to enhance medical students’ reflective writing

Dr Rose Crowley, Whittington Hospital

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Background
Doctors are expected to provide constructive feedback to their colleagues and to reflect on their own practice. We sought to improve medical students’ preparedness for these aspects of professional practice through an innovative peer feedback strategy for reflective writing. Reflective writing is a well-established strategy in medical education to promote deep learning and encourage self-awareness and well-conducted feedback can enhance this. Whilst peer feedback on reflection is relatively well established in teacher training, it has not been significantly evaluated for health professionals.

Objectives
To establish whether medical students gain any additional learning from peer feedback rather than faculty feedback on reflective writing. To determine the benefits and challenges when students peer mark reflective work and give written or verbal feedback.

Methodology
Seventeen UCL iBSc Paediatrics students anonymously marked a peer’s reflective writing assignment using the same mark scheme as faculty markers. Students completed questionnaires on how useful they found the experience of reading another student’s work, how valuable they found the marks and comments from their peer and faculty assessors and their experience of offering verbal feedback in a reflective group.

Results
Many students highlighted benefits from peer marking, particular that it made them re-evaluate their own submission and rethink what constitutes useful reflective writing. There was no significant difference between peer and faculty marks and students highlighted benefits from each type of feedback. However, some students struggled to assign a grade to a peer’s work, feeling they lacked the authority to assign even a formative mark.
Conclusion

Students gained from assessing fellow students’ work and from receiving peer feedback and this technique is now used as standard for their formative reflective writing coursework. The impact of this programme on their future reflective writing and the relative utility and acceptability of written and verbal peer feedback merit further exploration.

Can assessment information be used to understand how to learn a skill?

Dr Rachel Davies, University of St Andrews
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Medical training is critically dependent on the acquisition of skills, and much time is spent assessing these skills, however not much is known about how to help students acquire skills, short of saying ‘go away and practice’, and even that assumes that practising helps. The importance of reflection and feedback in undergraduate medical education is reinforced by the General Medical Council. Whilst the use of video and reflection in communication skills is well documented, its role in clinical skills development is less well established. The Medical School have developed a process of student self and peer appraisal of videoed clinical skills and personal reflection on performance. This research aims to evaluate whether engagement with this process (and thus enforced practicing) is linked to clinical skills OSCE performance.

We are collecting data from 1st year medical students at the University of St Andrews regarding engagement with the set clinical skills video tasks and aim to link this with how they performed in these skills in the OSCE. The OSCE includes stations which have had associated video and reflection tasks post teaching, and some that have not. For stations with video tasks, we propose to link performance to measures of compliance with the task set. We propose to evaluate how students who have met markers of engagement with the video tasks perform in comparison to their peers. We also seek to evaluate whether there is a significant difference in OSCE performance between skills associated with student video portfolio tasks, and those without.

Evaluating the assessments of the preparedness of medical students for clinical practice in preclinical phase of medical curriculum, a Competency Assessment Program (CAP) analysis

Mostafa Dehghani Poudeh, Phd Student, Tehran University of Medical Sciences, department of medical education
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Introduction

Innovative curricular changes must be supplemented with high quality assessment of the students. The Introduction to Clinical Medicine (ICM), the second phase of Isfahan medical curriculum, constitutes of horizontally integration of the pathophysiology, pathology, and pharmacology courses as well as incorporating some competencies such as clinical reasoning, patient communication, CPR etc. which are prerequisites for future clinical practices. This paper is about analysing the ICM student assessment methods.

Methods

Based on the Wheel of Competency Assessment we used various ways such as questionnaire and interview for evaluating the assessment methods employed in ICM. Furthermore we investigated the usability of 12 quality criteria of the ‘wheel’ in our context.

Results

Acceptability: having the right for appeal, students were able to compare the exams with course objectives.

Authenticity: by means of real scenarios, most of the exams were delivered in settings similar to future environments.

Cognitive Complexity: most of written exams were in low taxonomies.
Comparability: the exams items were analysed before and after the delivery, so, the problematic ones are remedied or excluded.

Cost and Efficiency: despite the financial advocacies, lack of exam cost analyses was apparent.

Educational Consequences: all but quiz exams were feed baked to students.

Fairness: equity and psychometric analyses were evidences for fairness of exams.

Fitness for Purposes: using diverse methods supported the accomplishment of assessment purposes.

Fitness for self-Assessment: ICM lacks students self and peer-assessment.

Meaningfulness: learning opportunity was not well defined for ICM exams.

Reproducibility of Decisions: real cases and various kinds of exams supported the accuracy of decisions.

Transparency: communicating about the exams was not in a good state.

Conclusion
Besides the obtaining a passing credit by ICM student assessment (as a whole), we could conveniently apply the wheels 12 criteria for evaluating the ICM Competency Assessment Program.

Mentoring support for undergraduate medical assessments: Two-year evaluation of a near-peer mentoring initiative

Mr Timo Tolppa, Peninsula College of Medicine and Dentistry
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Background
Peer mentoring has been shown to be a significant source of academic and professional support for those in the medical profession.[1-2] The additional support mentoring offers is welcome, especially during stressful transitioning times and throughout medical education to cope with new assessments.[3-5] We therefore developed a near-peer mentoring initiative across all years of three undergraduate medical programs in the South-West to assess the need for mentoring at various stages of training and to explore the potential benefits of mentoring on the assessment performance of both mentees and mentors.

Overview
Following a successful pilot in 2013-14, 228 student volunteers were trained to mentor 436 mentees at the start of 2014-15 across all years and main localities (Exeter, Plymouth and Truro). During this academic year the initiative has been expanded to one additional site (Torbay) with over 180 mentors working together to mentor around 130 students. The initiative has been evaluated each year with end of year questionnaires and focus groups of both mentees and mentors. The focus groups at the end of this year will specifically explore the impact of the initiative on assessments.

Results
The results from the pilot and first year of the initiative demonstrated that 87% of mentors and 57% of mentees significantly enjoyed participating. Assessments and academic support have been identified by mentees as the main benefits of the initiative. The existing results will be combined with the end of 2015-16 evaluation and presented with a particular focus on the benefits of near-peer mentoring on assessment performance.

Discussion
Similarly to other mentoring programmes, the initiative has been well received by both mentors and mentees, with significant benefits to both.[6-9] The full results of the evaluation aim to further characterise the benefits of mentoring on assessment performance and the reasons behind this.
STREAM 2:

Chair: Dr José Miguel Gomes Moreira Pêgo, University of Minho

Professionalism including diversity

Longitudinal Assessment of the Communication Skills OSCE: Implications for Performance Development and Student Diversity

Mr. Chris Edwards, Cardiff University
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Background
Communication skills (CS) are fundamental to the development of a good patient-doctor relationship and the GMC have made the inclusion of communication skills training in undergraduate medical curricula a necessity. Few studies – with conflicting results – have been reported so far regarding the development of CS.

The current study aims to investigate if there are any:
- Changes in student CS performance, as they progress through their undergraduate degree;
- Differences in CS and perceptions of the CS OSCE fairness, quality, and process across protected characteristics.

Methods
This study longitudinally followed a cohort of Cardiff University undergraduate MBBCh students (237), who graduate in 2016, as they progressed through clinical years 3, 4 and 5. CS performance was derived from the domain-based checklist mark sheet at the end of year OSCE examinations. The scores from CS content and process domains were combined to create an overall domain score. A 16 item survey was also created to investigate student perceptions into key OSCE domains.

Results
A repeated measures ANOVA revealed significant differences between CS performances over the 3 examination years. A 2-way ANOVA revealed an overall significant effect of ethnicity on CS performance. Gender alone and gender alongside ethnicity had no significant effect on CS. A one-way ANOVA revealed that there were no significant differences in students’ perception of the OSCE across ethnic minority and white students, and the majority of the students found the OSCE to be fair and objective.

Conclusion
The study demonstrates that CS dip in the 4th year and rise in the 5th year examinations to a level not significantly different to the 3rd year. Ethnic students underperformed in CS compared to white students. Ethnicity had no significant effect on perceptions of the OSCE. Gender alone and combined with ethnicity had no significant effect on CS.

Promoting cultural competence: Peer and tutor assessment of UK and Ethiopian students’ reflections of ethical case scenarios

Ms Annie Wood, Peninsula College of Medicine and Dentistry
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Background
Developing cultural competence is increasingly important in the era of globalisation, as doctors must be able to respond to the specific needs of patients from diverse backgrounds.[1-2] The GMC requires doctors to be culturally competent, yet contact with different cultures and assessment of cultural competence during medical education is limited.[3-5] With an aim to provide medical students exposure to different cultural professional values and assess their cultural competence, we created an ethical case scenario exchange programme between Peninsula Medical School and Wollega University Medical School in Ethiopia.

Method
Small groups of students were identified and asked to write descriptions and reflections of clinical scenarios highlighting ethical dilemmas. Case folders were exchanged and students at both schools participated in facilitated discussions to explore different aspects of each scenario. Students provided peer feedback on the case reflections and UK-based facilitators commented on the quality of the scenarios. The use of these peer and facilitator-assessed reflective case portfolios to promote cultural competence has been evaluated using student questionnaires.

Results
Two exchanges have taken place. The initial results revealed that students have gained a new global and cultural perspective of medicine, which was highlighted by similarities and differences in practices between the two student cohorts. Peer feedback from the UK highlighted
that the cases chosen by Wollega students lacked ethical dilemmas and appropriate reflection. The full results of both the exchanges, including the facilitator feedback on the quality of case reflections, will be presented.

**Discussion and Conclusion**

Overall, the programme has been well received by students. Ethics does not feature prominently in the Wollega curriculum, which may explain the students’ limited analysis. Further peer feedback and exposure to scenarios will develop their understanding and reflections. The facilitator assessments will provide additional feedback on the reflective case portfolios and supplement student learning.

**Development of a questionnaire for measuring students attitudes on the integration of gender in clinical research**

Mag. Nikola Komlenac
Corresponding Authors *Komlenac N, Siller H, Tuna H, Hochleitner M.

**Objectives**

The exclusion of one sex or gender from preclinical or clinical studies and the omission of mentioning the sex or gender of preclinical and clinical subjects is becoming more and more unacceptable in the scientific community. Our aim is to develop an instrument to measure medical students attitudes and opinions about the integration of gender into preclinical and clinical research.

**Methods**

After conducting a questionnaire study with open ended questions we constructed an instrument with Likert-scaled answer categories. To test the feasibility of this newly constructed questionnaire we handed this new instrument to 336 (51.8% F, 48.2% M) medical students. An exploratory factor analyses was used to analyse the questionnaires structure. Finally, gender differences in the opinions about gender in medical research were examined.

**Results**

A five factor structure of the questionnaire could be obtained. The first scale (α = .85; 6 items) covered statements about the validity improvement of medical research by integrating gender into research and the second scale (α = .81; 6 items) asked whether the integration of this variable would be appreciated by the scientific community. The third (α = .79; 5 items) and forth scale (α = .77; 4 items) asked about students awareness about gender in medical studies and the awareness of the lack thereof, respectively. The fifth scale (α = .77; 5 items) consists of general statements about gender medicine. Female medical students had more positive attitudes toward the integration of gender into medical research than did male students (all t(334)).

**STREAM 2: Licensing exams, credentialing and revalidation**

**The Evidence so far: a Guide to Assessment in Dental Education**

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**Aim of this work**

The term assessment derives from the Latin ‘assidere’ meaning to sit beside, suggesting that the assessor and the student travel together side by side on the journey to learn. Training the competent dentist requires evaluation against a series of standards. Our aim was to gather together current evidence for tools used for these two processes of assessment and evaluation as part of curriculum planning which, in turn, enhances the learning and development of successful dentists.
Summary of work
Methods used to assess the dental undergraduate and postgraduate were considered. A review of the literature included dental student, tutor and patient perceptions and evidence for the validity, reliability, educational impact, acceptability and cost of assessment methods.

Summary of results
A guide to dental assessment was developed based on the literature review and utilising a successful format already adopted in veterinary medicine. The guidebook includes a short summary describing each assessment method and considerations for both new and experienced dental educators at the undergraduate and postgraduate levels.

Discussion
Synthesising the literature in an accessible format for colleagues aims to support staff development and ongoing modernisation of assessment.

Conclusion
There is a body of evidence to support the use of a wide range of assessment methods although some score more highly in the utility equation than others.

Take home messages
This guide aims to promote the use of appropriate assessment methods within undergraduate and postgraduate dental education and is freely available online.


Available from: https://www.ole.bris.ac.uk/webapps/cmsmain/webui/_xy-7221180_1?action=ittach.[Accessed on 23 March 2016]

STREAM 2: Performance based assessments

Developing a short OSCE to select a prize winning final year student

Dr Elizabeth Metcalf, Cardiff University, School of Medicine
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Background
Historically, final year medical student prizes at Cardiff University were awarded on the basis of a viva, assessing knowledge but not offering students a forum in which they could demonstrate their clinical excellence.

Aim
We sought to develop a clinical assessment that gave students the opportunity to demonstrate their skills and knowledge beyond the confines of a viva, and beyond a more structured, competency exam. We sought to create an authentic test, retaining patients at the heart of our assessment, as is the ethos of our curriculum.

Method
Since 2011, the top five scoring students at the end of their final year are invited to attend the ‘Dean’s List’ OSCE. The prize winner is selected using a five station OSCE- including medicine, surgery, women and children, general practice and laboratory stations. Students are given 20 minutes per station, during which time they perform a variety of tasks. Previous examples include assessing complex surgical and paediatric patients with multiple pathology, challenging communication simulations and integration of procedural skills with interpretation of laboratory results.

At the end of the OSCE, Examiners rank students on the basis of their clinical competence, reasoning and management, in addition to their knowledge. Following the assessment students meet examiners and patients in an informal, congratulatory setting.
Results
Anecdotally examiners and students alike enjoy the opportunity to stretch students in a more post graduate style exam than would be acceptable in a conventional OSCE. During 2015/16 we plan to conduct qualitative research to explore further the student’s perspective of the assessment.

Conclusion and recommendations
The Dean’s list OSCE rewards global competence. We are unaware of a similar OSCE in other institutions and therefore we would recommend similar strategies are adopted elsewhere in order to allow the most highly achieving students the opportunity to excel.

Students’ evaluation of the OSCE experience in Cardiff Medical School
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Background
Students as ‘major consumer of the assessment’ play a key role in determining the quality, acceptability, and usefulness of the clinical exams. Appropriate feedback from students could be used for improvement and refinement of the design, implementation, and teaching of clinical skills and competencies assessment. Unfortunately, research literature on students’ evaluation of clinical assessment experience is still sparse and only a few studies have been reported to date in the published literature on students’ perception of OSCE experience.

Objectives
To evaluate MBBCH final year students’ perception in four key domains of OSCE experience (OSCE process, fairness, quality, and general attitude) and to investigate variation in these perceptions across diverse groups (gender, language, disability, and ethnicity).

Method
Data were collected from 335 final years’ students using a 27 items self-administered questionnaire given to students at the end of the OSCE. Ethical approval was obtained for the study. The sample included 8% students with reported disability, 68% females, 14% Welsh speakers, and 15% ethnic minority students.

Conclusion
The findings clearly indicate a vast majority of the diverse groups of students (including over 80% home and ethnic minority students, students with reported disability, and language groups) had a higher overall agreement with the process, fairness, and quality of the OSCEs, and felt that the OSCEs accurately assessed their skills and competencies.

The overall perception on fairness of the OSCE was higher among diverse student groups and there was no significant variation in the perception of the OSCE fairness. Over 60% students agreed OSCE examiners were objective, not intimidating (62%), personality, gender, and ethnicity of the patient did not affect their performance (70%), they got enough information on what would be covered in the OSCE (78%). There were some comments that pointed out acute station as having insufficient time for scenario and skill examination.

Enhancing the quality of clinical assessments through improved examiner training and peer review
Dr Elizabeth Metcalf, Cardiff University, School of Medicine
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Background
There are strong internal and external drivers for a rigorous and transparent process of clinical assessment. Our underlying educational principle is to assess students upon authentic tasks to their future role as doctors. Students are expected to develop and demonstrate in increasing levels of complexity and integration their competencies of communication, procedural and cognitive skills in OSCEs and ISCEs.

Aim
To ensure clinical assessments are reliable, reproducible and acceptable to stakeholders, it was identified that an enhanced approach to examiner training was required.
Method
Mandatory pre-requisites for Examiners were defined:

• Examiner training < 2 years
• Equality and Diversity training < 3 years
• Current GMC (or GNC) Registration with a License to Practice
• Examiners MUST be aware of the standard expected from a student and be regular teachers of that year group

Face to face workshops supplement online training. They define the purpose of the assessments, discuss domain marking and standard setting followed by marking videoed stations and calibration of markers.

On the day of clinical assessments, parallel circuit examiners discuss the station guidance and content in order to further calibrate their marking and improve the reliability of the assessment before the assessment begins.

Peer review of examiners has also been introduced to:

• Refine training and development of examiners
• Supplement the external examiner process, ensuring quality and consistency, demonstrating transparency
• Improve standardisation and quality of the clinical assessments
• Provide examiners with constructive feedback to develop their education portfolios and share good practice

Results and conclusions
Preliminary evaluation of these processes has found that Examiners find them both useful and constructive. Combining the previous psychometric examiner performance data with verbal and written feedback from peer observers will enhance the standardisation and quality of our clinical assessments. Further evaluation is planned over the coming year in order to fully assess the impact of these changes.

What is the best way to assess General Practitioner’s fitness to practise?

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Background
The GMC conducts Tests of Competence assessments for doctors referred for fitness to practise performance issues. In addition to knowledge test and OSCE, GPs also have a ‘simulated surgery’, devised to more closely reflect how they work. We sought the opinion of medical assessors conducting these assessments.

Summary of work
45 total assessors were sent participation invite emails with a link to the online questionnaire, on a secure server with responses anonymised. Respondents were asked to express views regarding OSCE and SimSurg benefits. We asked respondents to rate agreement to statements about whether they assess the same competencies and which provides better feedback about candidates.

Summary of Results
36 assessors responded. Inductive thematic analysis of free text responses revealed that assessors perceived OSCEs to be better suited to target specific knowledge and skills, as well as specific scenarios which SimSurg could not assess, such as colleague discussions. This targeted approach meant assessors perceived OSCEs to have lower fidelity compared to SimSurg, where scenarios more accurately portray a patient consultation. This authenticity was perceived to provide a more global picture of candidate performance. Specific skills, like prescribing, are assessed through integration within the consultation.

SimSurg is less intimidating as the assessor is not in the room, and does not penalise candidates who are not accustomed to OSCE format. Assessors felt SimSurg had poorer reliability, with greater risk of scenario going off-tangent. 70% of respondents agreed that OSCE elimination would still produce a valid assessment.

Discussion
Three methods of GP assessment is stressful for candidates. Assessors felt that both methods were valid and had merits, but that SimSurg also gives an overall GP ability impression.
Conclusion
A simulated surgery assesses many of the same domains as an OSCE, but with higher fidelity to the clinical practice of general practitioners.

Self-assessment Accuracy: the influence of gender and year in medical school
Corresponding author *Professor Margaret Elzubeir, College of Medicine & Health Sciences, United Arab Emirates University

Context and objectives
Assessment of one’s academic capabilities is essential to being an effective, self-directed, life-long learner. The primary objective of this study was to analyse undergraduate medical students self-assessment accuracy by examining their ability to assess their own performance on an MCQ examination, preparation, confidence and anxiety.

Methods
1st and 2nd year medical students (n=235) self-assessed pre and post-examination scores were compared with objectively measured scores (actual examination performance). Accuracy of score prediction (pre and post assessment) was correlated with students gender and year of education to determine if any associations existed. We also compared perceived preparation, confidence and anxiety with students gender and stage of medical education.

Results
Expected mark correlated significantly with objectively assessed marks ($r=0.407$; $p$).

STREAM 3:
Simulated patients/simulation
Chair: Professor Janusz Janczukowicz, European Board of Medical Assessors and Head of the Centre for Medical Education

Summative clinical assessment of medical student’s ability to provide immediate care in a simulated medical emergency
Dr Elizabeth Metcalf, Cardiff University
Corresponding authors: *Metcalf EP, Frost PJ, Goodfellow R, Kinnersley P, Williams S, Sillars A

Background
There is clear evidence that patient harm results from inadequate early clinical care, when patients present as an emergency.

The GMC stipulate that graduates must be able to provide immediate care in medical emergencies, recognise and assess the severity of a clinical presentation, formulate appropriate diagnoses and provide immediate life support.

Aim
To develop a summative assessment tool that will ensure medical graduates from Cardiff University have demonstrated the necessary clinical skills to provide emergency care to their patients beyond graduation.

Method
Since 2007/8, ‘Final’ summative clinical assessments in Cardiff have included the immediate management of acutely unwell patients.

The station format has evolved over time, as has the marking criteria and relative importance of acute skills assessment in the exam. In the early years, students were asked to make an ‘ABCDE’ assessment of a simulated patient, based upon a short clinical vignette.

Currently students must demonstrate their ability to manage both medical and surgical emergencies- integrating communication and technical skills, with clinical reasoning and care planning. Students take a brief history from a simulated patient, before reviewing clinical data, performing a procedural skill and answering standardised questions regarding differential diagnosis and initial management.
Simulated patient training is key to the effectiveness of these OSCE stations and is led by the clinical assessment lead in conjunction with critical care colleagues as necessary in order to ensure authenticity.

**Results**
Reliability psychometrics are positive, as is feedback from external examiners.

**Conclusion**
As a result of the evolving assessment, and in response to content expert recommendations, we have a novel, authentic, valid, reliable and feasible test of acute clinical skills.

**Recommendations**
Further planned developments include research exploring cohort performance through an evolving curriculum and increased fidelity of simulation in a summative assessment setting.

**Using teenagers from local schools in Paediatric History taking OSCE stations**

Dr Rachel Brooks, Cardiff University School of Medicine

Corresponding authors: *Brooks R, Pickerd N, Powell C, Metcalf E.

**Background**
The GMC state that ‘effective communication between doctors and young people is essential to the provision of good care’ (1). Cardiff medical students have paediatric specific communication skills taught before they go out on placement (2).

**Aim**
To develop and evaluate an authentic and reliable OSCE station to assess the student ability to communicate with young people.

**Method**
Teenagers from local comprehensive schools were recruited via their drama departments to become simulated patients. Scenarios were developed requiring the student to take a history of a common paediatric symptom and formulate a differential diagnosis. The information was put together in one side of A4 that was accessible to a teenage audience and divided into information that could be given spontaneously when asked about the presenting complaint and information only to be revealed if asked directly.

The teenagers were trained in a session at school run by a paediatrician and an actor skilled as a simulated patient as close as possible to the date of the exam.

During the station the student is asked to take a focussed history from the teenager about the presenting symptom. Following this the student is asked to present their differential diagnosis, the diagnosis they think is most likely and why, and how they would proceed to confirm this.

Feedback was obtained from teenagers taking part and examiners were asked for their views on the simulated patients as part of their station feedback.

**Results**
34 teenagers from 3 schools provided feedback after acting in one or two of five different scenarios and the experience had been positive for them. Many wanted to be invited back. Examiner feedback was positive. Reliability statistics were also positive.

**Conclusion**
Links with local school has allowed us to develop authentic and reliable paediatric communication skills OSCE stations. School inspections and exam periods can be barriers otherwise schools are keen to be involved each year.
Simulation-Based Medical Education (SBME) in Otolaryngology surgery

Dr Dione Lother, East Surrey Hospital

Introduction
True airway emergencies are an uncommon clinical presentation in general medical practice. However, surgical doctors (especially those working within Otolaryngology departments) may be required to care for patients requiring invasive airway intervention, such as cricothyroidotomy. Furthermore, junior Otolaryngology trainees are required to provide emergency on-call airway services, sometimes without immediate senior supervision or support. Despite this, currently, no formal curriculum around airway management exists within the core surgical training program. SBME enables trainees to learn within a controlled environment, provides exposure to rare clinical scenarios (such as airway emergencies) and in addition, offers the opportunity for formative assessment and feedback without compromising patient safety.

Objective
Design a SBME program utilising intermediate-fidelity simulation to teach junior Otolaryngology trainees the clinical and non-technical skills required to confidently manage airway emergencies and function safely as a member of the wider team.

Methods
Three skills stations that provide the opportunity for hands-on practice in basic airway skills (simple adjuncts) and intubation, surgical airways (both cricothyroidotomy and tracheostomy) and fibro-optic nasoendoscopy. These stations will be followed by a series of simulation scenarios using a SimMan patient simulator; all with the common theme of management of patients with rapidly deteriorating airways.

Conclusion
SBME is proving to be important in airway management education and as such may be an invaluable adjunct to both junior and higher Otolaryngology training. Furthermore, SBME in airway management may offer the only opportunity for formal teaching around this topic during core surgical training before junior trainees are faced with a real life patient with airway compromise.

STREAM 3: Standard setting/psychometric analysis

Comparison of Cohen and Angoff methods of standard setting: is Angoff worth it?

Dr Laura Woodhouse, Newcastle University
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Standard setting is an essential process in defining competency in medical education. However, currently there is no gold standard method of standard setting. One commonly used method is Angoff in which a panel of experts estimate the percentage of borderline students predicted to correctly answer each question in an examination. This method is costly, time consuming and relies on the assumption that the panel can accurately define the borderline student. Recently the Cohen method has been developed and subsequently modified, to overcome these disadvantages. Our aim was to compare the standard set using our current method of Angoff to Cohen and modified Cohen methods, to inform future standard setting practices. Cohen and modified Cohen methods were applied to historical data for written examinations across all 5 years of the MBBS programme at Newcastle University. Data included cohort sizes of 250-470 students per year, from academic year 2011/12 onwards. For single best answer (SBA) examinations in years 1 and 2, the Cohen method produced consistently higher pass marks and failure rates compared to Angoff. However, the modified Cohen method produced pass marks and failure rates comparable to Angoff. For year 3 SBA examinations, modified Cohen also produced comparable pass rates and failure rates to the Angoff. For years 4 and 5 SBA examinations the Cohen and modified Cohen methods produced comparable pass marks which were marginally higher than that determined by Angoff. This would have led to a 1-5% increase in the failure rate. With modified Cohen producing comparable standards to Angoff it suggests that this method may be a valid and economical alternative to standard set SBA examinations. We are currently analysing historical data for clinical examinations to determine whether standard setting using the Cohen or modified Cohen method is feasible for practical as well as SBA examinations.
**MRCPsych Written Examinations - rationalising the content**

Mrs Kiran Grewal, Royal College of Psychiatrists
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Royal College of Psychiatrists’ MRCPsych has traditionally consisted of 3 written examinations, each with 200 questions. A feasibility study of reducing a) the number of examination papers to 2, and b) the number of items in each paper, all whilst maintaining current reliability (0.88-0.95 in 2014), considered good/excellent for such examinations (George and Mallery, 2003), was undertaken.

Stage a) consisted of reviewing and remapping the syllabus from across 3 papers to 2, creating mock Papers, investigating their psychometric properties and conducting equality analysis of candidates’ performance in them. Stage b) used the 200 item papers as references from which several random proportions of questions of the paper were selected and analysed for reliabilities. This anticipated reliability of such a shorter test was confirmed using the Spearman-Brown prophecy formula.

Analysis for stage a) showed no significant difference in paper reliability, pass rates, test scores, standard deviation of results or SEMs between current and new papers. Equality analysis found performances by most candidate groups remained the same, whilst the performance gap between PMQ/non PMQ candidates reduced.

Analysis for stage b) found that having only 50% of the items would give cronbachs of 0.83-0.88, and 60% gave 0.85-0.91.

In conclusion, the creation of 2 papers with less questions overall will not compromise desirable paper statistics, and within these, 120 questions yields the same quality of information as 200 questions. Streamlining the papers may have added benefits of reducing the performance gap between key groups.

Such a change would have financial, administrative and time resource benefits for the organisation, and time, cost and emotional investment benefits for examinees (Wainer and Feinburg, 2015).

Practical considerations include transitional arrangements, candidate feedback and quality assurances of items used.

Ultimately, smaller written examinations with good quality paper design and item selection yielding high quality information should be desired.

**A Method for Ensuring Students’ Medical Knowledge is Assessed in all Areas**

Ms Josephine Cockerill, Plymouth University
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The BMBS programme at the Plymouth University Peninsula Schools of Medicine and Dentistry (PSMD) will be enrolling the fourth cohort of students later this year on to the five-year programme.

Each academic year students sit 500 single best answer medical knowledge questions across four tests up to a total of 2500 questions over the duration of the programme. Each question is categorised against an internal blueprint of 17 subject areas and 15 skill domains.

However, to ensure a balanced and comprehensive assessment of knowledge we need to make sure students are assessed across all of these skills and subjects. The current work describes how this is achieved by PSMD and provides an example for other medical schools facing similar challenges.

Our solution was to produce a blueprint heat map for each test to ensure a reasonable spread of questions, along with a cumulative heat map for each cohort to include all tests taken. We approached this by streamlining the data storage and by trialling various statistical packages to produce accessible heat maps displaying the number of items categorised under each possible combination of subject and skill domain prescribed by the PSMD blueprint.

The psychometric team now routinely produce these which are considered as part of the post-test review process. The cumulative heat maps contribute to identifying any subjects and domains with scant coverage needing to be included in future tests, or to be highlighted to the question writing panel if more questions fulfilling a blueprint criteria are required.
This new method of evaluating assessment coverage will ensure that as we move towards graduating our first cohort of students in July 2018 that their medical knowledge has been tested across all appropriate areas, as well as providing evidence should the coverage of medical knowledge testing be required by external sources.

Systematic evaluation of teaching qualities of surgical clinical teachers in the Arabian Gulf University (AGU) in the Kingdom of Bahrain: psychometric properties of the modified SETQ tool

Dr. Ahmed Al Ansari, MBBSCh, MRCSI, MHPE, PhD, Consultant in Medical Education, Director of the Training and Education Department, Bahrain Defense Force Hospital. Assistant Professor of General surgery Arabian Gulf University, Head of medical education department in the Arabian Gulf University (AGU) Senior Clinical Lecturers in medical education RCSI Bahrain

Dr. Mona Rushdi Arekat, Vice Dean - Clinical Affairs, Assistant Professor - Internal Medicine Department, Arabian Gulf University (AGU)

Professor A.Haleem Deifalla, Vice Dean- Academic affairs, Professor of Anatomy. Anatomy department, Arabian Gulf University (AGU)

Corresponding authors: *Al Ansari A

Background

Effective clinical teaching is crucially important for future patient care. Strong clinical training therefore is essential to produce strong physicians capable of delivering high quality health care. Tools used to evaluate medical faculty teaching qualities should be reliable and valid. This study investigates (i) the teaching qualities of clinical tutors in the Arabian Gulf University (AGU), (ii) improving the teaching qualities of clinical tutors, (iii) modifying the System for Evaluation of Teaching Qualities (SETQ) instrument, and (iv) assessing the reliability and the validity of the modified SETQ instrument.

Methods

This cross sectional multicentre study was conducted in three teaching hospitals in the kingdom of Bahrain. 150 medical students were invited to evaluate 35 surgeons working with the Arabian Gulf University (AGU) in the kingdom of Bahrain using the SETQ instrument between January 2015 and March 2015. Questionnaire feasibility was analysed using response rates, the average time required to complete the form, and the number of raters required to produce reliable results. Instrument reliability (stability) was assessed by calculating the Cronbach's alpha coefficient for the total scale and for each sub scale (factor). To provide evidence for construct validity, exploratory factor analysis was conducted to identify which items on the survey belonged together and were grouped as factors.

Results

A total of 87 medical students completed 391 evaluations of 35 surgeons. The response rate was (58%) for the SETQ evaluation. Factor analysis showed that the data on the questionnaire decomposed into 6 factors that represented 71.7% of the total variance. Cronbach’s alpha was 0.92 and higher for the six scales on the modified SETQ survey. The item-total correlation was above 0.40 for all items within their respective scales.

Conclusion

Our modified SETQ questionnaire was found to be both reliable and valid, and was implemented successfully across various hospitals around the Kingdom of Bahrain.

Attainment in undergraduate Medical Sciences: does high school background and route of entry into the programme really matter?

Rice NE, Brandom K, Taylor E

Corresponding author, Mr Neil Rice, University of Exeter Medical School, n.e.rice@exeter.ac.uk

The University of Exeter Medical School has a unique model for teaching Medical Sciences, based around small-group and problem based learning alongside self-directed learning. This study considers how high school background, choices of subjects studied and attainment prior to entry are associated with performance in the UEMS Medical Sciences programme. We also consider whether the route of entry into undergraduate study is associated with attainment.
STREAM 3: Technology enabled assessment

Very Short Answer Questions: A novel online assessment tool

Dr Amir Sam, Imperial College London

Corresponding authors: Sam AH*, Field SM*, Van der Vleuten C, Wass V, Schupke K, Harris J, Meeran K

Background

Single Best Answer (SBA) questions assess recognition rather than recall. Open-ended questions assess the ability to generate an answer and are considered more valid, but their use is limited by resource-intensive marking. We developed an online assessment system that could efficiently mark open-ended Very Short Answer (VSA) questions.

Method

A 60-question formative examination was given to 299 medical students in SBA and VSA formats sequentially. The VSA questions were provided on a tablet with the same clinical scenario and lead-in as the SBA questions and a space to type a short answer. The VSA test was sat first by 155 students (VSA1/SBA2), whereas 144 sat the SBA version first (SBA1/VSA2). The results between the two cohorts were compared to assess reliability and validity. We evaluated the feasibility of VSA delivery and collected the students’ opinions to assess potential impact on learning behaviour.

Results

Two examiners reviewed the machine-marked VSA answers taking on average 1.36 minutes per question. Reliability was high: VSA1 (alpha=0.91) and SBA1 (alpha=0.84). The mean performance of the SBA questions in the two cohorts was similar (68.2% vs 69.7%, p=0.296). In the VSA1/SBA2 group, candidates scored significantly higher in the SBA2 (68.2%) versus VSA1 (52.4%).

A survey of current UK practice in videoing high stakes OSCEs in undergraduate and postgraduate medicine.

Mrs Rhianna Hogley, Manchester Medical School

Corresponding authors: *Hogley H, Thampy H, Fisher J.

The use of technology is rapidly altering the means by which many aspects of medical programmes are being delivered and OSCEs are no exception to this. At Manchester Medical School, there have been repeated requests by students for the summative, high-stakes OSCEs to be videoed, in order that grades might be appealed and stations re-marked using video footage. This study was designed in response to student feedback in order to investigate the potential benefits, drawbacks and feasibility of videoing summative OSCEs. It includes a review of the literature on videoing OSCEs, a survey of the current practice of videoing high stakes OSCEs in UK medical schools and postgraduate medical examinations and semi-structured interviews. The semi-structured interviews are being used to explore the experiences and views of assessment leads in those medical schools and postgraduate medical institutes that are currently videoing high stakes OSCEs or that have seriously considered doing so.

At present, the research is ongoing, with 50 undergraduate and postgraduate medical institutions having been contacted. The response rate has been good, with 60% of questionnaires having been returned. 3 of the responding institutions do currently video high stakes OSCEs and their reasons for doing so are varied. 12 further institutions have seriously considered videoing high stakes OSCEs. While research is still ongoing, the findings so far indicate that the attitudes of assessment leads towards videoing for student appeals are wide-ranging and divided. In those institutions in which videoing has been seriously considered, many assessment leads express concerns about the potential costs of videoing and the technical challenges involves. However, the use of videoing for formative means, and for examiner training, are emerging themes cited as potential benefits.
Evaluating the Impact of Electronic OSCE Marking in Manchester Medical School

Mr Michael Pollitt, University of Manchester
Corresponding authors: *Pollitt M, *Thampy H

Medical students increasingly want to receive high quality feedback from both formative settings in clinical placements and from their summative assessments. Common to many UK medical schools, Manchester Medical School (MMS) uses OSCEs across all five years of the programme to allow assessment of clinical competency. Traditionally the feedback provided by examiners to students had been handwritten. In 2015, MMS adopted an electronic means of OSCE marking using iPad devices. This significant change brought with it a number of clear logistical benefits including rapid collation and analysis of scores and typed legible, feedback immediately after each OSCE cycle and a reduced paper burden (especially important given that our OSCEs are simultaneously conducted across four sites). Furthermore, the transition to electronic marking has reduced error rates (i.e. those mark sheets which require a manual intervention) from around 25% to around 0.5% per OSCE. Full costing analysis revealed a saving of around £16k per annum.

In addition to these economic and practical benefits we wished to ascertain students’ views of the pedagogical impact of electronic marking. We aimed to determine whether students who had experienced both feedback systems felt there were differences in the quality or quantity of the feedback they received (handwritten versus electronic) and any perceived impact onward learning.

An electronic survey was sent to our final year MBChB students (n=431). Responses are still incoming and as of 15/06/2016 93 have replied (response rate of 21.58%). Emerging results suggest that respondents feel that electronic marking has improved both the quality and quantity of feedback when compared to handwritten. In addition students report that electronic feedback has improved their capacity to use OSCE feedback to trigger onward learning more so than with written. Detailed results will be presented.

The use of an e-module to improve student competence in stroke imaging

Miss Soraya Nazerali-Lorenzon, St. Georges, University of London
Corresponding author: *Nazerali-Lorenzon S

The aim of this project is to assess whether a concise, case-style e-module on the diagnosis, management, and imaging of stroke can immediately improve medical student performance on examination style questions and therefore on stroke knowledge and competency. Understanding of certain topics, if not covered extensively in medical school curriculum, can be improved by offering short e-modules to students: Radiology is often under-taught, formally, in medical school.

Participants in this study were administered a six-mark multiple choice pre-test before completing an online module on territories, presentation, non-contrast CT interpretation, management, and imaging signs in ischaemic and haemorrhagic stroke. They were then administered a post-test and results were compared.

Participants showed a mean improvement of 24.18% from pre-test to post-test (CI 3.90% to 44.47%, P-value .025). All participants reported the module as helpful, and 85.7% were not confident in neuroimaging prior to completing it. Therefore, it may be inferred that implementing similar e-modules on other important topics would be successful in that they would be read and valued by medical students. Results also reflect a potential gap in formal teaching. There was no correlation between the length of time taken on the module and the change in score. Therefore, we can infer there are individual differences in pace and retention which are accounted for in e-modules, as personal pace of learning can be controlled.

In conclusion, a short e-module comprising of the assessment, management, and neuroimaging of stroke is effective in improving short-term knowledge and competency of stroke among medical students in their clinical years. It could therefore be an effective method of augmenting formal radiology and neurology teaching at the undergraduate level.
We are delighted to announce that there will be an award for the best poster.

**Poster prize criteria**

**Attraction and design of poster**
- Does the poster attract the viewer’s attention?
- Is it visually appealing and clear?
- Does it conform to good practice in terms of content, style and layout?

**What was done**
- Is the description of the activity both clear and appropriate?

**The poster message**
- Is there a final message or conclusion?
- Is it clear and appropriate (correct)?

**Relevance and innovativeness**
- Does/will the poster add or impact upon our present day understanding of the subject area?

**Poster Judges**
- Lesley Southgate
- Janusz Janczukowicz
- Charlotte Rees-Sidhu
- Pauline McAvoy
- José Miguel Gomes Moreira Pêgo

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**13:15 – 14:00 Lunch, posters and networking**

*The Forum Street*

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**14:00 – 15:30 - Workshop sessions**

**WORKSHOP 1: European video assessment of real patient encounters, an innovative online IT tool for learning**

*Ground Floor, Seminar Room 1*

Facilitators:
- Paul Ram, European Board of Medical Assessors, Maastricht, The Netherlands
- Annemarie Camp, European Board of Medical Assessors, Maastricht, The Netherlands
- Lesley Southgate, St George’s University of London, UK
- Thomas Gale, Collaboration for the Advancement of Medical Education and Research in Assessment, Plymouth University Peninsula Schools of Medicine and Dentistry, UK
- Pauline McAvoy, Independent consultant, London, UK

We are delighted to announce that there will be an award for the best poster.

**Poster prize criteria**

**Attraction and design of poster**
- Does the poster attract the viewer’s attention?
- Is it visually appealing and clear?
- Does it conform to good practice in terms of content, style and layout?

**What was done**
- Is the description of the activity both clear and appropriate?

**The poster message**
- Is there a final message or conclusion?
- Is it clear and appropriate (correct)?

**Relevance and innovativeness**
- Does/will the poster add or impact upon our present day understanding of the subject area?

**Poster Judges**
- Lesley Southgate
- Janusz Janczukowicz
- Charlotte Rees-Sidhu
- Pauline McAvoy
- José Miguel Gomes Moreira Pêgo
Workshop description

Workplace assessment relates to assessment of the performance of doctors in real practice. Standardised assessment provides indirect evidence on how doctors function in the workplace.

For that reason, the European Board of Medical Assessors has developed an innovative and flexible software tool to assess doctors (in training) by using real videotaped patient encounters. It enables doctors to demonstrate their competences (communication with patients and medical performance) and European medical schools to benchmark their graduates’ performance across countries.

With this tool students upload multiple encounters, which will be distributed to multiple assessors for qualitative rating and to provide (narrative) feedback. The competency framework is designed by European experts in medical education at the level of medical graduates that have just started clinical activities in the workplace or undergraduates in the later years of medical studies.

The tool will be demonstrated followed by an interactive assessment of a real consultation. Delegates rate the consultation with the instrument and discuss the content validity, standard setting and implementation with the focus on the difficulties and possible solutions associated with European (video) assessments.

Objectives of the session and the knowledge, attitudes and skills that participants should gain from it

After the workshop both knowledge and skills regarding video assessment will be improved. Delegates will have explored the possibilities of video assessment and the difficulties and possible solutions associated with European (video) assessments including:

- Procedures around video assessment
- Scoring on competences by the use of videotaped patient encounters
- Content validity of the selection of encounters and the assessment instrument
- Ethical and legal challenges for patient’s consent
- Definition of standards to assess real encounters of the newly graduating doctors across European borders.

WORKSHOP 2: Item writing

Ground Floor, Seminar Room 2

Facilitators:

- Colin Ferguson, chair of Clinical Assessment Panel, Peninsula College of Medicine and Dentistry and module lead for Applied Medical Knowledge, Plymouth University Peninsula School of Medicine and Dentistry
- Jonathan Wyatt, module lead for Applied Medical Knowledge, Peninsula College of Medicine and Dentistry and University of Exeter Medical School

Workshop description

- We plan to explore what constitutes the characteristics of a good item, together with how to ensure a secure and steady supply of them.
- We will summarise how to best structure items, illustrating good and bad items in a practical approach.
- We will work towards a template or checklist to enable writers to optimise their output.
- Some group work will aim to improve “poor” items and generate some new items, led by the needs of the group.
- We will consider item writing for difficult and/or problem areas such as ethics and law.
- The session will not assume prior expert knowledge of the subject.

Objectives of the session and the knowledge, attitudes and skills that participants should gain from it

We aim to provide participants with the tools to address their individual item writing needs with greater confidence. We will work through a systematic approach which can be tailored to different circumstances.
WORKSHOP 3: Angoff method for standard setting

Ground Floor, Seminar Room 3

Facilitators:
• Fred Roberts, Senior Lecturer in Physiology
• Neil Rice, Senior Assessment Analyst, University of Exeter Medical School

Workshop description
The perfect process for standard setting remains elusive. The Angoff method is one of the most widely used, and this workshop will be aimed at showing how to apply it effectively.

It will start with a short presentation about the principles of standard setting, and move on to a practical demonstration of the Angoff process, involving group participation in a completely non-threatening environment – no prior expert content knowledge will be required!

Objectives of the session and the knowledge, attitudes and skills that participants should gain from it

We would hope that the participants will gain confidence in applying the Angoff process to best effect, which they may then take forward to use in their own standard setting.

WORKSHOP 4: Optimising Workplace-based Assessment: Making Words Count

Ground Floor, Seminar Room 4

Facilitator:
• Marjan Govaerts, MD PhD, Maastricht University, Faculty of Health, Medicine and Life Sciences, Dept. Educational Development and Research

Workshop description
Whatever you may think about WBAs, they are here to stay for the foreseeable future: WBAs are at the heart of competence-based education. Implementation of WBAs has certainly proven difficult: it is not an easy game to play. Can we think of ways to win this game?

A productive way to frame WBA is around the notion of “informing judgement”: it should enable trainees to make informed judgments about their own learning as well as meet legitimate needs of others to have an account of trainees’ learning outcomes. Obviously, informing judgement will rely on use of portfolios and narrative data. In this workshop, participants will review and discuss advantages and challenges of narrative evaluations in the clinical setting. They will review characteristics of useful narratives and practice writing narrative assessment comments based on video clips of learners; discuss ways to enhance learner engagement as well as options for management of narrative data (with example provided by workshop facilitator).

After brief introduction/didactic presentation:
• Participants will engage in small and large group discussions about advantages and challenges of narrative evaluations in the clinical setting;
• Participants will discuss and practice methods for writing high quality narrative comments as well as discuss design principles for assessment programmes using narrative data.
Objectives of the session and the knowledge, attitudes and skills that participants should gain from it

- Acknowledge idea and importance of WBA as being a process of informing judgement
- Knowledge regarding role of narrative evaluations c.q. written feedback in WBA
- Skills in writing useful (meaningful) narrative
- Knowledge about options for management of narrative assessment data in WBA

WORKSHOP 5: Mentoring

First Floor, Seminar Room 1

Facilitators:

- Professor Erik Driessen, Faculty of Health Medicine and Life Sciences, Department of Educational Development & Research, Maastricht University
- Professor Sylvia Heeneman, Faculty of Health Medicine and Life Sciences. School of Health Profession Education, Department of Pathology, Maastricht University

Workshop description

Like so many things that we are told are good for us, mentoring has remained underused, despite ample evidence of its beneficial effects. A probable explanation for this is that mentoring is surrounded by numerous unanswered questions, unknown opportunities, and uncertainties about pitfalls. In this interactive workshop we aim to shed some informative light on mentoring and its potential role in workplace based learning.

Three perspectives on mentoring will be discussed and practiced:

- a theoretical perspective on mentoring and why mentoring is so essential for learning;
- an empirical perspective on the effects of mentoring and effective mentoring;
- a practical perspective on how to organize mentoring.

Objectives of the session, indicating knowledge, attitudes and skills that participants should gain from it

- Becoming aware of the power of mentoring
- Knowledge regarding theory and evidence on mentoring
- Practice mentoring skills
- Practice staff development for mentoring

WORKSHOP 6: Appropriate use of fidelity when using simulation for assessment

First Floor, Seminar Room 8

Facilitators:

- Dr Tom Gale, Peninsula School of Medicine and Dentistry, Plymouth University
- Professor José Miguel Pêgo, School of Health Sciences, University of Minho
- Dr Arunangsu Chatterjee, Peninsula School of Medicine and Dentistry, Plymouth University
Workshop description
Simulation is being increasingly used within undergraduate and postgraduate curricula to cover wide ranging learning outcomes such as those listed in GMC Tomorrows Doctors. Graduates entering the complex world of healthcare need to be able to perform a range of skills which can be assessed using part task trainers, simulated patients, team based simulations and virtual environments. This workshop will cover evidence based practice for choosing appropriate fidelity of simulation for teaching different learning outcomes, as well as appropriate metrics for assessment in these situations.

Objectives of the session, indicating knowledge, attitudes and skills that participants should gain from it

1. Familiarise attendees with examples of best practice when using simulation for assessment
2. Increase understanding of the term “fidelity” when using simulation and how this can influence the choice of simulations used for a range of learning outcomes
3. Understand differences in using checklist versus domain specific scoring for different contexts in simulation

WORKSHOP 7: Using SPs for assessment and feedback

First Floor, Seminar Room 9

Facilitators:
- João José Cerqueira, Associate Professor Clinical Skills Laboratory, School of Health Sciences, University of Minho and Neurology Department, Hospital de Braga, Portugal
- Pedro Morgado, Assistant Professor, Clinical Skills Laboratory, School of Health Sciences, University of Minho and Psychiatry Department, Hospital de Braga, Portugal

Workshop description
Standardised patients are widely used to assess communication and other clinical skills, but are also able to provide critical feedback.

This workshop will provide an overview of the use of standardized patients for assessment of clinical skills and for giving feedback. Numerous practical examples and case studies will be used to illustrate the practical aspects.

Topics to be covered include:
- how to recruit and select SPs
- writing SPs scenarios: do’s and don’ts
- SP training: practical tips
- assessment checklists: writing and validation
- designing your assessment with SPs
- training SPs to give feedback

The session will be highly interactive with sufficient time for questions from the participants and discussion.

After brief introduction/didactic presentation:
- Participants will work in groups to produce SP scenarios and receive immediate feedback.
- Participants will also work in groups to design an assessment using SPs, which will be discussed by all participants.

Objectives of the session, indicating knowledge, attitudes and skills that participants should gain from it

After the workshop participants will be able to:
- Acknowledge the roles of SPs in assessment and as feedback providers
- Understand the principles of SP program management, SP training, uses of SPs for assessment and feedback, scenario and checklist building and assessment design.
- Distinguish good and bad practices regarding SP training, scenario and checklist building and assessment design.
- Write adequate and complete SP scenarios.
- Design assessments using SPs.
WORKSHOP 8: Incorporating patient and public involvement into your assessment strategy

First Floor, Seminar Room 10

Facilitators:

- Dr Sam Regan de Bere, Plymouth University Peninsula Schools of Medicine and Dentistry at Plymouth University
- Ms Rosamund Snow, Oxford Health Experience Institute, Oxford University
- CAMERA PPI Team, Plymouth University Peninsula Schools of Medicine and Dentistry at Plymouth University

Workshop description

Patient and public involvement (PPI) has been an important agenda for medical educators for some while. A plethora of studies have demonstrated the value of engaging patients to work in medical schools as advisors, guest speakers and tutors, and as members of panels and committees. PPI in assessment of medical students, however, is less well documented.

This workshop is facilitated by experts working in PPI teaching and research, across the continuum of medical learning - from selection of students to medical school to their revalidation as practising doctors.

They will introduce you to the key issues and debates surrounding PPI in assessment, and encourage you to reflect on your own objectives, using group work to actively address the challenges, and opportunities, of engaging patients as assessors.

15:30 - 16:00 Refreshments

The Forum Street

16:00 - 17:00 Symposia and debate

The Forum Auditorium

3 speakers: 10 minutes followed by a Q&A.

‘Competency based education and assessment – pearls, controversies and challenges.’

- Professor Debbie Jaarsma (University of Groningen), Professor Ian Curran (GMC),
- Associate Professor Rene Tio (University Medical Centre Groningen

Competency-based medical education has become a popular approach to train doctors and health professionals. However, institutions and teachers struggle with implementing CBE both in the undergraduate and postgraduate setting. Alignment between competency outcomes, teaching and learning strategies, and assessment, remains a major challenge. This symposium will share best practices and discuss how to potentially overcome some of the challenges, based on research and experience in both undergraduate and postgraduate settings across Europe.

17:00 Closing remarks

Building the ark: Can we help our teachers and learners to survive the assessment demands of competency-based medical education?

Professor Erik Driessen

Chair, Department of Educational Development and Research at the Faculty of Health Medicine and Life Sciences at Maastricht University

Editor in Chief of Perspectives on Medical Education
The EBMA Annual Academic Conference: Crossing Boundaries – Assessment in Medical Education, would like to thank the generous contribution and support of our sponsors.

LiftUpp

LiftUpp is an app-based curriculum mapping and quality assured feedback and assessment platform developed at the University of Liverpool and now used widely across the UK. Tutors and students can access the system anywhere to obtain a real-time overall performance picture. The technology is capable of handling the complexity of data associated with lengthy courses, multiple settings for learning including classrooms, labs and clinics, and the requirement to incorporate rigorous professional body standards. Other features include an exam builder, OSCE platform and attendance monitor. The system supports improved learning and provides institutions with all the tools they need to satisfy regulatory body requirements.

We are delighted to be supporting the EBMA conference and warmly invite you to:

• Professor Luke Dawson’s paper on Friday 14 October as part of the EBMA ‘Technology Enabled Assessment’ stream, 11.30am - 1pm, the Mercure Rougemont Hotel, Exeter.

• The LiftUpp stand at the EBMA conference exhibition on Saturday 15th October in the Forum, the University of Exeter.

Fry

Using the power of software to help people improve and save lives.

Our products, Practique, Kaizen and Haiku are used by medical research and medical training organisations and help the advancement of medical knowledge around the globe. We provide eAssessment tools such as exam management and e-portfolio to ensure that the next generation of medical professionals are of the highest standards possible.

Come and meet us to find out how we could help you and your organisation.
Prescribing Skills Assessment

The Prescribing Skills Assessment is a valid and reliable test of prescribing competency, delivered by the British Pharmacological Society in partnership with teaching professionals around the world. Our flexible, collaborative approach to working with local educators ensures that the Prescribing Skills Assessment builds upon existing capacity, maximises local expertise, and is delivered in a sustainable way. EBMA attendees are invited to find out more at our stand on the mezzanine outside the main Lecture Theatre.

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Speedwell

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- Some of the largest and most prestigious educational institutions in the world rely on our innovative systems every day for both their summative and formative exams.

ExamSoft

ExamSoft is a leading provider of educational assessment technology. The company’s software-as-a-service (SaaS) solution enables clients to more efficiently and effectively create, administer, grade, and analyse various forms of assessments with the end goal of improving student performance, curricular design, and accreditation compliance. ExamSoft’s mission is to empower educators with learning analytics, helping them to make data-driven decisions, and to ultimately have a positive effect on student learning, engagement, and retention.
### Participants List

Please note: only professional email addresses are listed below.

<table>
<thead>
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