Introduction
Professionalism is an integral component of medical training programmes globally. Yet, there remains ambiguity in understanding what professionalism means, and uncertainty in how best to teach it. This study aimed to explore the experiences of senior faculty in their endeavour to develop and include professionalism within a curriculum reform, and to illuminate challenges encountered.

We looked at how faculty may unintentionally influence the content and overarching processes of professionalism teaching and learning. Drawing on the work of Hafler and colleagues, the influence of the hidden curriculum may be seen by, for example, the adoption of certain definitions of professionalism, by its positioning in the timetable, who teaches professionalism, and who does not. How professionalism teaching and learning is enacted will thus depend upon the history and structure of the medical school, and the composition of its academic faculty.

Methods
A qualitative case study was conducted at one UK medical school between January and June 2014. Data were collected from interviews with senior faculty who were involved in a major curriculum reform, and document analysis of archived documents and files, to provide background, context, and aid triangulation. Data coding and analysis was inductive, using thematic analysis to generate an initial coding scheme, exploring themes and patterns in the data.

Data analysis revealed how faculty may unintentionally influence, through mixed messages and hidden meanings, the content and overarching processes of implementing professionalism teaching and learning. We identified several intersecting tensions related to the nature of the existing curriculum, staff knowledge, resources, and the lack of clear guidance about ‘the what and how’ to teach professionalism.

Understanding what professionalism is and how to include it:
Throughout the interviews, participants consistently narrated uncertainty about what professionalism was, and thus how to teach and assess it:

“…It was a difficult one, I think… It sounds great and yes, we want it, but what does that actually translate into? What does it mean? How do we teach it? Do we assess it? How do we assess it? Everyone was going: What does this actually mean?”

Priorities and what is valued:
Professionalism was perceived as less concrete and more elusive than clinical medicine or established teaching topics. Consequently, those leading the curriculum reform focused their attention on aspects of the curricula with which they were familiar:

“We treated [professionalism] like it was a little aside thing. And devoted a huge amount of time and effort to [other areas that required reform]… Partly that’s because we weren’t quite sure what to do… I think it’s very challenging, to do…we tended to do what we knew how to do… And we devoted lots and lots of time and resource and effort to [other areas] and less to this, less tangible, more tricky thing.”

Organisational issues - Lack of convincing leadership
While there was recognition that it was important and necessary to include professionalism in the new curriculum, there was major dichotomy between this acknowledgment, accepting what this would involve and the subsequent leadership it would require:

“We probably didn’t show the right leadership (at the time) … there was a resource issue, in terms of leadership that probably was quite key, in why it didn’t progress, or become so successful. That person then had other things to do and that makes things difficult.”

Results
17 interviews were undertaken and approximately 90 relevant documents reviewed. Collecting and analysing data from both interviews and archived documents was instrumental in identifying tensions and contradictions between what was thought to be understood to be planned for the dissemination of professionalism teaching and what transpired in reality.

Data analysis revealed how faculty may unintentionally influence, through mixed messages and hidden meanings, the content and overarching processes of implementing professionalism teaching and learning. We identified several intersecting tensions related to the nature of the existing curriculum, staff knowledge, resources, and the lack of clear guidance about ‘the what and how’ to teach professionalism.

Conclusions
Faculty can be an important vehicle of the HC, spreading it through their participation on faculty committees and interactions with colleagues as well as others in their institution. In turn, faculty influence the HC for other faculty through their leadership and opinions on various institutional committees. This study illustrates that hidden messages and contextual factors can enable, constrain or inhibit the translation of professionalism into curricula. Those involved in integrating professionalism need to be reflective, to keep the “hidden curriculum” in the spotlight in order to consider explicitly how the presuppositions and prejudices of their cultural milieu may be shaping curricular processes and outcomes.

Acknowledgements
We would like to acknowledge and thank: The Institute of Education for Medical and Dental Sciences, University of Aberdeen, for funding this programme of doctoral research and Professor Rona Patey and Dr Angus Cooper (IoEMDS) for their ongoing support and encouragement of this work.

References
Introduction:
• Lay representatives are independent external individuals who represent the patient, public and trainee view at meetings, committees, hospital and GP practice visits, and various Medical directorate panels.
• They have a fundamental role in ensuring the processes of recruitment and training for trainees is fair, transparent and robust, promotes equality and values diversity.

Aim:
To explore the experiences of the lay representatives in order that we can learn from their experiences and ensure that the support and training provided meets their needs.

Methods:
Telephone interviews were carried out with lay representatives who had recently (in the last 15 months) relinquished or were just about to relinquish their role.

Results:
Twenty lay representatives agreed to take part in a telephone interview. See table 1.

Six themes emerged from the data, see figure 1:

<table>
<thead>
<tr>
<th>Theme</th>
<th>Example Quote</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meaningsful involvement</td>
<td>“I found that wherever I worked or with whom I worked - I was very well accepted.”</td>
</tr>
<tr>
<td>Provision of information</td>
<td>“One of the interesting and important pieces of documents was that they gave us a page of acronyms, terminologies.”</td>
</tr>
<tr>
<td>Understanding of role</td>
<td>“You’re not there to do the job, you’re not there to be part of the work, you’re not one of the professionals. You’re there to ensure that there’s fair play and the quality and people keep to time, I suppose, and you treat everybody equally and you’re observe and think that it’s the observing that’s important.”</td>
</tr>
<tr>
<td>Qualities of a lay representative</td>
<td>“Discretion and tact because there are times when you’re getting access to information that isn’t in the public domain.”</td>
</tr>
<tr>
<td>Impact on self</td>
<td>“I’ve really enjoyed my six years, I’d do it again.”</td>
</tr>
<tr>
<td>Support</td>
<td>“They gave us support in the way that there was always somebody to contact with whatever we were doing.”</td>
</tr>
</tbody>
</table>

Table 1: Number of lay representatives by region and gender – overall population and telephone interview participants

<table>
<thead>
<tr>
<th>Region</th>
<th>Male</th>
<th>Female</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>East</td>
<td>4</td>
<td>3</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>North</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>South East</td>
<td>4</td>
<td>5</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>West</td>
<td>6</td>
<td>6</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>15</td>
<td>17</td>
<td>12</td>
<td>8</td>
</tr>
</tbody>
</table>

Conclusions and Recommendations:
The participants generally spoke favourably about their time as a lay representative. Only a few concerns were identified which were mainly regarding their level of involvement in the specific meeting/visit etc.

Recommendations for the future are:
All lay reps must have a named contact should they require support.
• Information provided in a timely manner and tailored to the needs of the lay rep.
• Clarity with regard to the role the lay representative undertakes for every activity for everyone involved in that activity.
Introduction:
In 1997, the UK Medical Workforce Standing Advisory Committee recommended that one way of increasing the recruitment of future doctors is by enrolling graduate applicants into medical schools. This was also seen as a means of increasing the socioeconomic diversity of medical students. There is much interest in comparing the nature and outcomes of graduates versus the more traditional (in the UK at least) non-graduate medical students.

The aim of this study is to examine if encouraging graduates into medicine has had an impact on the socioeconomic profile of the medical student population.

Methods:
• A quantitative, longitudinal study of applicants to UK medical schools between 2006 and 2014.
• Univariate analyses to compare applicants’ socio-demographic variables, particularly those associated with widening participation.
• Multiple logistic regression analysis to predict the odds of receiving an offer based on graduate qualification status, after accounting for the differences in UKCAT scores.

Results
• In those offered places, graduates had a higher mean UKCAT score than non-graduates (see figure below).
• After adjusting for UKCAT score, the odds ratio of an offer for graduates vs. non-graduates was just under 0.5 (OR=0.47, 95% CI 0.45-0.49).
• No statistically significant differences in socio-economic status and type of school attended, between graduates and non-graduates, with most applicants being from the highest socio-economic group.

Conclusions:
The commitment to increase diversity in the medical profession seems to have encouraged graduates to apply to medical schools. However, this has not improved their relative chances of getting an offer. Disadvantage still exists for graduate applicants. Moreover, graduate and non-graduate applicants do not differ on diversity markers, suggesting that the drive to recruit graduates has not led to significant changes to the socioeconomic profile of the UK medical student population.

Funding and Acknowledgements
This is a UKCAT funded project. Our acknowledgements to Rachel Greatrix, UKCAT, for help interpreting the data.

References:
Pre-Hospital Care Course: An Update

R Shearer, L Regan
Institute of Education in Medical and Dental Sciences, University of Aberdeen.

Aim
- Pre-Hospital care is not in the undergraduate curriculum of most universities in the UK.
- In 2013, the University of Aberdeen (UoA) Pre-Hospital Care Course (PHCC) was devised for our 4th year medical students in Inverness.
- Nine, 2½ hour evening sessions are run over the academic year covering a range of PHC topics. Each evening is based around theory/skill stations and simulated scenarios:
  - 6pm
    * Introduction, set learning outcomes
    * Split into small groups of 3-4 participants
  - 6.10-7.10pm
    * Round robin of skills/theory stations
  - 7.15 – 8.15pm
    * Round robin of simulated scenarios set outside
    * 15-20 mins for simulation, 10 mins for debrief
  - 8.15 – 8.30pm
    * Round-up
    * Feedback from faculty and students
- The course is voluntary and all healthcare providers and medical students in the Highlands are invited.
- Faculty are drawn from volunteers within the region.
- Two students used a summer scholarship to produce a student and faculty handbook (Fig 1 & 2)

Results
- Over the past two academic years, 146 people have participated in at least one PHCC session with 19% (28/146) completing 7, 8 or all 9 sessions. The majority were medical students but other participants included search and rescue team members, paramedics, ambulance technicians and doctors in training.
- 60 different members of faculty have helped out over the past 2 years. Their backgrounds include BASICS doctors, GPs, consultants, nurse/nurse practitioners, doctors in training, ambulance crews, senior medical students and members of the mountain rescue team.
- Analysis of the feedback was overwhelmingly positive. All participants felt this was a worthwhile use of their time (Fig 3).

Free-text comments included:
- I love the course, thank you.
- Really useful way of learning to deal with emergency situations in a safe environment with great feedback.
- I am so grateful to all the faculty who volunteered their time.

Conclusions
- Now in its 4th year, the demand for the PHCC remains high.
- Although aimed at medical students, a number of other healthcare providers are using this resource for CPD attending as participants or faculty, making this truly multi-disciplinary.
- In the last two years we have equipped 146 people with the basic skills required to manage casualties in the pre-hospital environment and are grateful to the experts who volunteer in their own time to facilitate.
- Plans are in place to expand this to the Aberdeen site and further sites across Scotland.

Methods
Attendance registers for the 2015/16 and 2016/17 academic years were reviewed. Feedback was collated by those who attended session 9 this year with descriptive statistics and thematic analysis performed.
Factors Influencing Institution of Ceilings of Treatment in the Emergency Department

Mr Nathan Walzl¹, Dr Jessica Jameson², Prof John Kinsella¹-³, Dr David J Lowe¹,⁴
1. University of Glasgow Medical School, Glasgow, UK; 2. Emergency Department, Monklands Hospital, Airdrie, UK; 3. Intensive Care Unit, Glasgow Royal Infirmary, Glasgow, UK; 4. Emergency Department, Queen Elizabeth University Hospital, Glasgow, UK

Definition - “Ceilings of Treatment are a framework of decisions around level of care and placement of patients, which is often put in place when patients are critically unwell, or have the potential to become critically unwell.” - Interview 09

Background Decision making concerning limitation of potentially life-prolonging treatments is often challenging. Knowledge of end of life issues and decision making involved is lacking, and no research into ED ceiling of treatment decision making has been conducted in the UK. ¹,²

Aims To determine the factors that influence the institution of ceilings of treatment for patients presenting critically ill to the Emergency Department.

Methods Semi-structured interviews based on ‘current understanding’, ‘challenges’ and ‘improvements’ regarding ceilings of treatment were conducted. Consultants from 5 EDs (Table 1) were recruited via convenience sampling. Participant number was determined by data saturation (n=15). All interviews were transcribed verbatim and thematic data analysis was iteratively carried out. Classification stability was achieved by ensuring coding agreement from researchers.

Results Acute clinical factors and patient specific factors lay the foundations of ceiling of treatment decisions. Such case-specific information is heavily contextualised with patient and family wishes, collateral information, anticipated outcome and patient eligibility for higher care. This process flows through a ‘filter’ of cultural and environmental factors. The overarching nature of patient benefit was found to be of key importance, framing all aspects of ceiling of treatment institution.

Patient benefit - “If the patient has a terminal cancer... if they’re coming in with respiratory failure from a chest infection I’m not going to proceed to intubation, but I work out what level of treatment would be the maximal humane or tolerable treatment...” - Interview 12

Physician values - “There are some people that would continue to resuscitate and resuscitate, and just don’t want patients to die. With the best will in the world they will decide to keep going come hell or high water. And I’m not one of them.” - Interview 15

Anticipated outcome - “The boy was going to die. It’s where, who with and under what circumstances he was going to pass away.” - Interview 03

Conclusion To our knowledge this is the first investigation looking at factors that affect ED ceiling of treatment decision making in the UK. We present a model of factors that influence ceiling-of-treatments decisions. This may have importance as an educational tool and can act as a guide for physicians making end-of-life decisions in the ED.

Acknowledgement We extend our deepest gratitude to all respondents who kindly agreed to be interviewed for this project.

References

Table 1: demographic characteristics of study participants

<table>
<thead>
<tr>
<th>Participant demographic characteristics</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital</td>
<td></td>
</tr>
<tr>
<td>Queen Elizabeth University Hospital</td>
<td>6</td>
</tr>
<tr>
<td>Glasgow Royal Infirmary</td>
<td>3</td>
</tr>
<tr>
<td>Monklands Hospital</td>
<td>3</td>
</tr>
<tr>
<td>Royal Alexandria Hospital</td>
<td>2</td>
</tr>
<tr>
<td>Hairmyres</td>
<td>1</td>
</tr>
<tr>
<td>Sex</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>8</td>
</tr>
<tr>
<td>Female</td>
<td>7</td>
</tr>
<tr>
<td>Experience as consultant [median (range)]</td>
<td>5 (4-7)</td>
</tr>
</tbody>
</table>

Figure 1: model of ceiling of treatment decision making

Acute clinical factors
- Acute disease process
- Severity of acute illness
- Reversibility of acute illness
- Patient level of care needs

Patient specific factors
- Trajectory of chronic illness
- Past medical history
- Comorbidities
- Age
- Functional capacity
- Independence at home
- Quality of life
- Cognitive state

Cultural factors
- Physician values
- Physician experience
- ED team input

Collateral information
- Patient GP/Specialist input
- Previous healthcare interactions
- Documented Ceiling of Treatment

Patient benefit
- Accepted for higher care
- Anticipated outcome
- Patient wishes
- Family input

Initial palliative care
- Environmental factors
- Resource factors
- Time related factors

Determine Ceiling of Treatment
- Full escalation (Critical Care)
- Ward based care

Initiate palliative care
- Family input
- Environmental factors
**Understanding Medical Grades**

By Dr Emily Price-Thomas and Dr Anna Charalambous

NHS Ayrshire and Arran

**Aims:**

The knowledge and understanding of the medical grades is poor amongst many of the multidisciplinary team on the ward. The term 'SHO' is still widely used as a 'catch all' term for any doctor who is not at FY1 level. This can lead to patient safety concerns if the MOT does not know the most appropriate grade of physician to contact for different clinical scenarios. Our aims were to improve understanding of the grades and competencies of the doctors on the ward, to help the MOT identify the most appropriate clinician to contact in different situations, and ultimately to help improve patient care.

**Method:**

There were 3 stages in our audit cycle

- **Stage 1:** We distributed paper questionnaires to ward staff, focusing on whether they had heard the term 'SHO' used on the ward and 19% (n=12) of respondents thought the grade FY1 was equivalent to an SHO. We also asked respondents personally used the term 'SHO' and 92% (n=57) of respondents had heard the term used on their ward. Interestingly, only 38% (n=24) had heard the term CT1/2 used on the ward and 19% (n=12) of respondents thought the grade FY1 was equivalent to an SHO. We also asked respondents to estimate the number of years experience a doctor at ST3 level would have (graph 1). This gave a very wide range of answers, with 24% answering with 4 years. The mean was 4.1 years.

- **Stage 2:** We performed snapshot, opportunistic training to the ward staff with the use of a poster (shown opposite) This lasted 5-10 minutes and gave an overview of the career pathways, relative competencies of different grades and the terminology. (Continued below)

- **Stage 3:** We distributed a second questionnaire to ward staff focusing on their knowledge and how this would apply to different clinical scenarios. (n= 33)

**Stage 2: Training**

We delivered the teaching to 33 members of staff across 3 days. The majority were staff nurses. The audit was completed only on medical wards in university hospital Ayr, and so is more specific to this hospital. The teaching was based on the poster opposite and covered:

- The number of years spent at university and the competency at gradation
- The foundation programme and process of GMC registration
- The training pathway through Core Training to Specialty Training and consultancy

The focus was on the relative competencies and need for supervision at each stage of training. This was delivered together to ensure the training was standardised. The colour coded grouping the trainees in levels of seniority and competency according to the grouping on the rota, i.e. CT2-ST7 carried the 2nd on call page for medicine, FY2-CT1 carried 1st on call page.

**Results: Stage 1**

On our initial questionnaire, 58% (n=36) of respondents did not feel confident in what the medical grades were. We also found at 73% (n=45) personally used the term 'SHO' and 92% (n=57) of respondents had heard the term used on their ward. Interestingly, only 38% (n=24) had heard the term CT1/2 used on the ward and 19% (n=12) of respondents thought the grade FY1 was equivalent to an SHO. We also asked respondents to estimate the number of years experience a doctor at ST3 level would have (graph 1). This gave a very wide range of answers, with 24% answering with 4 years. The mean was 4.1 years.

**Results: Stage 3**

Of participants attending the training only 27% felt confident in what the medical grades were prior to teaching (graph 2). After the training session, 97% (n=32) reported feeling more confident in their understanding of the medical grades (graph 3). 91% (n=30) were able to correctly identify the most senior and most junior grade of doctor. The composition of the respondents was mostly nursing staff (graph 4).

The next part of the questionnaire looked at how many years experience the respondents thought a ST3 doctor would have. 48% correctly answered 5 years. The mean was 4.8years. There was still a range of answers with one respondent giving an answer of 10 years.

The final part of the questionnaire focused on the choice of medical grades for different clinical patient scenarios e.g. fluid prescription, family communication, and unwell patients. Crucially, 85% (n=28) correctly chose a CT1 or above to manage a critically unwell patient (graph 5). The majority would choose an FY1 to review an IV fluid prescription (85%), insert a cannula for IV antibiotics (88%), and review a well patient after a minor fall (91%).

**Conclusions**

The initial understanding of the medical grades and competencies was initially very poor, with a large proportion of the ward staff using the term ‘SHO’ instead of identifying the grade of the clinician. The teaching was well received on the ward, and was quick and easy to perform. It was important to standardize the training to ensure that all members of staff were taught the correct information. Following the teaching, the majority of staff felt more confident in their understanding of the medical grades. They were able to apply this knowledge to a range of clinical scenarios by identifying the correct grade of clinician most suitable to manage acutely unwell patients. Limitations of our audit were small sample size, with only 33 participants in the third stage of the audit. This is likely due to the more clinically orientated questions discouraging staff (such as auxiliary nursing staff and ward clerks) from participating.

Going forward, we would like to produce a short training video of ourselves delivering the training to nurses, which would be freely available on the intranet and part of the mandatory staff training. We believe that this would help improve patient care by helping the multidisciplinary team understand the different roles and competencies of different grades of medical staff.
The relationship between observer empathy and pain assessment of observed patients in medical and veterinary undergraduates

Duncan JC, Ross M*, Clutton RE, Shaw DJ
Royal (Dick) School of Veterinary Studies & The Roslin Institute, Easter Bush Campus, Roslin, Midlothian, UK.
* Centre for Medical Education, College of Medicine & Veterinary Medicine, Little France, Edinburgh, UK

Background: The trajectory of empathy in undergraduate medical and veterinary students continues to be debated, yet there is little information on how empathy impacts pain assessment, especially in patients who are unable to verbally communicate their pain.

Aims: To quantify and compare medical and veterinary student empathy, and determine if there is a relationship between their empathy and the pain scores they allocate to observed non-verbal human and animal patients.

Method: Permission for the study was granted by the CMVM Advisory Committee for the use of Student Volunteers. A SurveyMonkey questionnaire was developed comprising of:
1) Empathy Quotient (EQ) Questionnaire
2) Pain scoring section using

- a) Numerical Rating Score (NRS)
- b) a modified Face Limbs Activity Crying & Consolability score (FLACC)

Results: 76 medical and 100 veterinary students (19% response rate) completed the questionnaire with a mean age of 22.09 ± 2.50 (19 – 33). There was no difference in mean EQ scores for medical and veterinary students (42.79 ± 8.85 and 41.63 ± 10.93, respectively. P = 0.43) [Fig 2].

Discussion:

In this study medical and veterinary students with higher scores on the Empathy Quotient test were not more likely to give higher estimates of pain for observed human and animal patients. This conflicts with the previous publications which report an association between medical students who scored highly on the Interpersonal Reactivity Index and higher estimates of pain based on written patients histories.

The mean Empathy Quotient test scores for medical and veterinary students were comparable with the control population mean scores reported by Baron-Cohen & Wheelwright (2004) i.e. 42.1±10.6.

There was a significant difference between mean EQ scores of male and female medical students (P = 0.007), which is similar to previous findings where female respondents scored significantly higher than male respondents. There was no gender difference in EQ scores was found in veterinary students (P = 0.93).

Future work: Each respondent has been allocated a unique identifying number to enable the data from this questionnaire to be linked with previously gathered background data, including previous experience with different patient types and previous pain experience. Work is underway to combine these data sets to identify factors which influence empathy and pain assessment. Semi-structured interviews to investigate the influence of training on this group of students perception of pain in non-verbal patients have also been carried out.
Introduction
Developing a professional identity is considered crucial to becoming a doctor\(^1\). Students enter medical school with early identities and preconceptions of what it means to be a doctor\(^2\). The wider literature suggests the interaction of these early internal identities and newly developing identities can create emotional conflict\(^3,4\), but little is known about this process in medical students. Thus, the aim of this study was to advance our understanding of how medical students experience the intersection of early identities and preconceptions with their newly developing professional identities. This understanding will enable educators to better support students through this experience.

Methods
This was a qualitative study underpinned by constructivist epistemology. Using phenomenological methodology, we ran biannual focus groups with 23 first year students in one UK medical school. Data was recorded, transcribed and then template analysis\(^7\) used to undertake an inductive, iterative process of analysis until it was considered the template provided a detailed representation of the data.

Results
First year medical students identified preconceptions associated with becoming a doctor. Significant preconceptions of a doctor were ‘to help’ and ‘to be a leader’. Students then experienced how these early preconceptions intersect with realities of medical school creating the emotional tensions of ‘being unable to help’ and feeling ‘powerless’, with implications for interactions with patients. However, by the end of first year students are starting to negotiate and navigate tensions.

Conclusions
This study explored participants’ early identities and preconceptions associated with becoming a doctor. We revealed how early identities and preconceptions intersect with students’ newly developing professional identities throughout their first year of medical school. Our results highlight the importance of supporting students to embrace the development of a “learner” identity early on in medical school, as this is a necessary part of the process of becoming a doctor.
Constructing written feedback on academic writing
Derek Jones, Gill Aitken, Tim Fawns
Centre for Medical Education, University of Edinburgh

Background:
Substantive pieces of written work are a feature of undergraduate medical education and postgraduate qualifications. Historically, direction on the content of feedback has highlighted that it should be:
- timely and detailed
- identify strengths and weaknesses
- and provide clear guidance about ways of making improvements

(Nicol, 2010)

Results/Discussion:
Analysis of feedback revealed a number of frequently used types of feedback which serve different functions. The common features of feedback directly related to content, confirming the accuracy and relevance of material in the work being assessed;

Phatic Comments
“You have produced an interesting piece of work...”

Content Related Comments
“You have covered the key theories....”

and developmental comments designed to engage the student in further thinking on the topic.

Developmental Comments
“An interesting point, I wonder if...”

The feedback provided shows evidence of going beyond simple commentary on the content of the work submitted. There is clear evidence of a concern to personalise what is written within the limits of the written format and anonymised marking. The authors of the feedback analysed are Senior Fellows of the HEA, so it was no surprise that comments mapped to the extant literature on good practice which highlights engaging students in an academic dialogue, rather than presenting a monologue from the assessor.

What this research shows is some of the strategies used by experienced markers to promote this dialogic relationship.

The work described here relates to a small sample; further research is being undertaken with a larger data set and range of markers.

Aim:
To explore the uses of language in written feedback provided by supervisors to students submitting a dissertation for an MSc in Clinical Education.

Methods:
We undertook a functional discourse analysis of 17 pieces of feedback given between 2015 and 2016 to identify patterns of language and language use. The functional categories of feedback developed by Hyatt (2005) were applied to the data.

Feedback is laden with meaning beyond the words used. The construction of feedback has the potential to impact on student engagement and satisfaction with the learning experience.

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There remains however, a high degree of flexibility in how feedback is conveyed and more recently the emphasis has been on dialogic aspects of feedback (Dowden et al, 2013). Allied to this, work on audio feedback has highlighted the role of emotional tone conveyed by assessors and its impact on mediating student response to the information provided (Gould & Day, 2013).

Low levels of satisfaction with assessment feedback have been a cause for concern for some time (Chalmers et al 2014), more so with undergraduate than postgraduate programmes. Analysis of the uses of language in summarising performance provides an opportunity to emphasise dialogic aspects of feedback and in doing so enhance student satisfaction and performance. With this in mind we undertook a pilot project exploring the feedback we have provided to dissertation students in the previous academic year.

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References


Contact
Dr Derek Jones, Centre for Medical Education, University of Edinburgh, derek.jones@ed.ac.uk
Background & Aim

Medication errors are a significant cause of mortality and morbidity in hospitalized patients. Research shows that the death rate from medication errors is increasing globally. Professional communication is known to be a major contributor to medication error. However, studies looking at medication errors in the Middle Eastern (Gulf) countries are relatively few in number, and of poor quality. Additionally, those studies which have been carried out in this context focus either on scrutinizing poor systems or lack of knowledge as the main factors underpinning error, and/or pilot interventions to decrease error. In contrast, and drawing on the wider literature, the purpose of our study was to examine the role of communication among clinical disciplines in relation to medical error.

Methods

We report preliminary data from an exploratory case study carried out in the adult oncology department at King Fahd Medical City (KFMC). Initial data collection involved reviewing incident reports and, after receipt of research approval, inviting all staff (physicians, nurses and pharmacists) in the oncology department to complete the Hospital Survey on Patient Safety Culture (HSOPSC) during the first week of February 2017. The HSOPSC is designed specifically for hospital staff and asks for their opinions about the culture of patient safety at their hospitals. There are 42 items grouped into 12 dimensions, including communication openness, management support for patient safety, teamwork across and within units. The survey also includes two questions that ask respondents to provide an overall grade on patient safety for their work area/unit and to indicate the number of events they reported over the past 12 months. The HSOPSC is psychometrically robust and has been validated in Gulf settings.

Results

Analysis of the incident reports indicated that the most common reasons for medication error were: human factors, communication issue between physicians, pharmacists, and nurses. On the basis of this information, we then approached staff in the department to complete the HSOPSC to examine safety culture and communication more closely.

We report our preliminary survey findings here. We collected 127 completed surveys. The proportions of those responding from different professional groups are presented in Table 1.

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<th>Table 1</th>
<th>Profession</th>
<th>Frequency</th>
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Of 127 responses, 67.7% were from nurses, 13.8% from pharmacists and 16.2% from doctors. Three respondents did not state their professional group. 23.1% of respondents were male, 74.6% female. The majority of staff were from groups other than (Saudi or GCC/Other).

Analysis of the HSOPSC identified eight of the 12 safety dimensions with low positivity (less than 50%); supervisor/manager expectation & actions promoting patient safety, management support for patient safety, overall perception of patient safety, communication openness, teamwork across units, staffing, handoffs, and non-punitive response to error (with the following proportion of positivity 27.7%, 27.8%, 49.02%, 17.3%, 6.1%, 27.6%, 14.15% and 11.3% respectively).

HSOPSC dimensions with highest positivity were teamwork within unit (69.3%), organizational learning-continues improvement (65.3%), feedback & communication about error (56.1%) and frequency of events reported (62.4%).

Conclusion

This study is the first empirical study of patient safety culture in an oncology setting in Saudi Arabia. The primary data helps our understanding of how communication relates to medication error in a complex, multi-professional clinical setting. It highlights specific issues, most obviously, in communication openness, staffing, handoffs, and non-punitive response to error. On a positive note, quality improvement and reporting systems were rated highly. Based on these findings, our tentative recommendations for practice include:

• A more distributed model for taking responsibility for patient safety may help staff “buy in”.
• Increase the transparency of systems, reducing “blame” and creating a culture of questioning
• To establish a well developed policy for handoffs & transition.

These issues may stem from the specific milieu prevailing in Saudi Arabia, but this requires further investigation, and comparison with similar studies from different contexts.

This study is part of a programme of work which will use the MRC framework for the development and evaluation of complex interventions as the basis for education and training.

References

3. Audit Commission, A Spoonful of Sugar—Medicines Management in NHS Hospitals , 2001LondonAudit Commission
Interprofessional Communication and Medical Error: analysing the trends presented in Table 1. The proportions of those responding from different professional groups are purpose of our study was to examine the role of communication among clinical interventions to decrease error. In contrast, and drawing on the wider literature, the systems or lack of knowledge as the main factors underpinning error, and/or pilot Medication errors are a significant cause of mortality and morbidity in hospitalized. There are 42 items grouped into 12 Hospital Survey on Patient Safety Culture (physicians, nurses, pharmacists, and nurses).

Results

In the first week of February, 100% of respondents, 97.7% nurses, 13.8% pharmacists, and 5% physicians completed the survey. However, studies looking at medication errors in the Middle Eastern nurses and, after receipt of research approval, the culture and communication issues may stem from the specific milieu prevailing in Saudi Arabia, but this

Conclusion

A genuine interest in the career built on realistic expectations and gritty determination were seen to be necessary for pupils to cope in a ‘hard’ profession and through the tough admissions process. Although teachers reported the requirement for high academic achievement, interpersonal skills, and confidence, many expressed dissatisfaction that their pupils could not reach their full potential in these areas because of the additional challenges they faced in their home and school lives.

Teachers appeared to choose, or to feel compelled, to take a relatively ‘hands off’ approach to advising pupils, in which the self-determination of the pupil was communicated as crucial to success. However, teachers noted how other factors (such as home environment or local attitudes) also played a significant role in pupils’ motivation and success.

Teachers reported that they never deterred pupils from applying to medicine. However, they urged pupils to make realistic choices and carefully assess the risk involved in applying to medicine.

Conclusions

Teachers appeared to take a risk-adverse stance towards medicine. This seemed to influence both teachers’ perceptions of suitability for medicine and their perceived role in advising students for/against the profession. This risk-adverse approach may reinforce inequalities and discourage applications to medicine.

Anecdotally it is thought that this risk-adverse approach is very different from that taken by teachers in independent schools. Further research is therefore needed to explore the differences across school types.

These findings may be used to inform and tailor outreach activities and increase their effectiveness. Outreach could target teachers’ perceptions of medicine as a ‘high-risk’ choice, and support them to actively foster pupils’ early aspirations rather than fear these aspirations are unrealistic.
Peer Assisted Learning in a Medical Curriculum: Perpetuating a Win-Win Situation

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INTRODUCTION
Near peer teaching (tutors typically two to five years ahead in their studies) is known to benefit both peer tutor (teacher)\(^1\) and tutee (learner)\(^2\). At the University of Aberdeen Medical School we introduced near peer teaching through a student-co-ordinated Peer Assisted Learning Scheme (PALS) in 2013 and here describe our experiences in developing and running a sustainable peer teaching scheme.

METHODS
PALS was set up in 2013 to deliver co-curricular Anatomy/ Clinical Skills tutorials. Tutors (Medical students in Years 3-5 of the programme) undertook a generic teaching skills training session and a second subject-specific one, both delivered by staff. In 2014 we introduced intra-curricular PALS within Practical Anatomy (Fig 1). Tutor and tutee perceptions in Practical Anatomy classes were analysed using a 5 point Likert scale questionnaire.

RESULTS
1. **Interest in PALS** amongst students and the number of PALS schemes has steadily risen: In 2013, 8 tutors taught 50 tutees; by 2015-16, 76 PALS tutors taught 600 tutees. In 2016/17 new initiatives such as PALS in Simulation Teaching (See also Poster: “Real Ward Simulation-A Non-threatening Environment for Junior Students”) and PALS-facilitated co-curricular Case Based Learning began and were well received (Fig 2).

2. **Amongst Tutees**: PALS improved tutees’ engagement with Anatomy (90.6% of 117 tutees agree/strongly agree); 88.9% agreed that they liked being taught by PALS tutors; though 28.2% felt that PALS tutors may provide incorrect information, though 28.2% were ambivalent (Fig 3).

3. **Amongst Tutors**: 80% (21/25) surveyed felt that preparing for PALS teaching gave them a deeper understanding of anatomical concepts (Fig 4).

DISCUSSION
Our experience shows that PALS improves student engagement and facilitating tutees’ transition into Higher Education. Tutees like being taught by peer tutors despite many acknowledging that peer tutors may provide incorrect information, because tutees take ownership of their learning as they transition into adult learners.

Our study with tutors also supports the view that “by teaching we are learning” and PALS gives tutors the opportunity to redress a perceived lack of knowledge in the subject taught. As a measure of success, PALS has expanded into Physiology, Simulation and Clinical Skills, at lecturers’ request but led by the PALS Student Committee.

CONCLUSION
PALS is student run, requiring minimal staff involvement, provides: tutors opportunities to “Function effectively as a mentor and teacher” (GMC’s Outcomes for Graduates: 21f); tutor opportunities to work more closely with staff; tutees with additional support; and perpetuates a win-win situation for university, tutors and tutees.

References

Acknowledgements: Our thanks to all the PALS tutors and tutees for participating in this evaluation and for the University of Aberdeen’s Centre for Academic Development’s Learning and Teaching Enhancement Programme (LTEP) who funded a part of this project.

CONCLUSION
PALS is student run, requiring minimal staff involvement, provides: tutors opportunities to “Function effectively as a mentor and teacher” (GMC’s Outcomes for Graduates: 21f); tutor opportunities to work more closely with staff; tutees with additional support; and perpetuates a win-win situation for university, tutors and tutees.

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Introduction:

Key Information Summaries (KIS) are pdf documents featuring anticipatory care information produced & updated by General Practitioners (GPs) in Scotland. They were introduced in 2012 as an initiative by the Scottish Government to encourage doctors to discuss patients’ wishes for their future care.

Recent research has highlighted the success of KIS, demonstrating that 65% of patients with KIS died outside the hospital compared with 27% of patients who did not (Tapsfield et al. 2016)

Our audit aimed to assess whether doctors in secondary care were accessing the KIS documents, and to improve Anticipatory Care Planning (ACP) documentation on discharge letters to GPs.

Methods:

Electronic records from patients discharged from ward 202 (Medicine of the Elderly) at the Royal Infirmary of Edinburgh were assessed to find if their KIS was accessed during their admission.

Discharge letters were checked to see if anticipatory care information was being documented.

Electronic notes / discharge letters were re-audited:

a) after an education session
b) after the doctors had changed over
c) following a second education session / admission sticker prompts

Discussion:

Education sessions delivered to doctors provides an essential tool in the success of implementing the KIS initiative.

Education also result in the increased rate of resuscitation status documentation in discharge letters.

Regular sessions now have been added to the teaching program in the Unit.

Currently, only general practitioners can update KIS records. This needs to be addressed to ensure accurate real time communication to ACPs.

Results:

- 0% KIS access rates and 35% of doctors documenting resuscitation status on discharge letters on the initial baseline data collected (n=20)
- 60% KIS access rates and 80% resuscitation documentation following education session delivered to doctors (n=25)
- 16% KIS access rates and 63% resuscitation documentation rates following the doctors change over period (n=19)
- 78% KIS access rates and 56% resuscitation documentation rates following repeat education session and KIS admission sticker prompts (n=16)

Reference:

Using online versus paper-based surveys to gain feedback from medical students: which is more effective for achieving high response rates?

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Introduction
Student feedback is integral to improving the content and delivery of medical education programmes (1). Key considerations include maximising student response rates, to reflect the whole cohort; and optimising the process of analysis and interpretation, to enable the rapid design and implementation of improvements.

We are dedicated to improving the student experience and routinely collect feedback from undergraduate medical students attached to our hospitals. We have extensive experience using both paper and web-based feedback mechanisms, with their requisite advantages and disadvantages. In this study we compare paper and web-based feedback forms for their response rate.

Methods
Sequential student cohorts were given paper or web-based feedback forms, asking for equivalent information. Both cohorts included students from a range of universities and specialties.

Results
• 42/44 (95%) students from 10 groups completed the paper feedback. 20/46 (43%) students from 14 groups completed online feedback. A technical failure was reported to have potentially prevented three responses the online form.

• Although online communication is successful in aspects of medical education (3), in our study, paper feedback achieved a much higher response rate, making the data easier to interpret. This reflects studies comparing paper-based and web-based surveys/feedback in other settings (2) (4).

Conclusion
Our data suggests online feedback receives a lower response rate, providing a dataset that is less constructive than an equivalent paper-based approach. The reasons underlying this require further exploration. When using online feedback, efforts should be made to encourage students to complete feedback and maximise response rate.

**Introduction**

The ability to engage in the clinical reasoning process is fundamental to clinical practice. However, this can be a difficult skill to teach to undergraduates at an early stage. Recent advances in cognitive psychology have led to a deeper understanding of how the process occurs and how to teach the process of clinical reasoning.

Models such as ‘dual-process theory’ (Croskerry, 2009) and ‘script theory’ (Shank and Abelson, 1977) offer a lens through which we can understand the clinical reasoning process. Script theory implies that the medical knowledge of a ‘novice’ clinician is decontextualized and can be organized inefficiently, in comparison to an ‘expert’ who has a broad bank of highly organized ‘illness scripts’. As a result, students often resort to a much wider range of diagnostic possibilities and take much longer to select approaches to discriminate between them. They have to use slow, analytical or ‘Type 2’ thinking (Croskerry, 2009). The theories imply that novice learners – in our case, medical students – need to build up large banks of common presentations or ‘illness scripts’ and develop efficient methods of thinking critically before they can ultimately arrive at the correct diagnosis. Over time they will become better at pattern recognition and fast, efficient ‘Type 1’ thinking.

Inspired by the concept of the ‘zone of proximal development’ (Vygotsky, 1986), the regular discussion of portfolio cases between student and supervisor was highlighted as an opportunity for supervisors to foster skills in clinical reasoning through use of an educational scaffold which promotes analytical ‘Type 2’ thinking.

**Aims**

- We sought to design an educational scaffold or proforma with the aim of:
  - Fostering clinical reasoning skills
  - Developing prescribing skills
  - Facilitating the process of feedback between students and supervisors.
  - Highlighting strengths or deficiencies in data gathering, analysis or how students regulate their thinking and identify uncertainty.

**Method**

Dual process theory and script theory were used as a conceptual framework to develop the educational scaffold. A variety of clinical reasoning tools were integrated into a 12 page case portfolio proforma, designed to reflect a clerking document commonly seen in clinical practice. Tools utilized included hypothetico-deduction reasoning grids, ‘problem lists’ and SNAPPS (Wolpaw, Wolpaw and Papp, 2003) to promote analytical thinking. The form was designed to allow supervisors insight into each student’s ability to gather data, interpret data and regulate thinking. Prescribing tools were also integrated to foster students’ ability to create and execute their management plans. Lastly, reflective tools were integrated to foster metacognitive skills and facilitate the feedback process.

The form was piloted in an undergraduate medical attachment in place of existing case portfolio assignments. 16 undergraduate students took part in the project. The students were in their 3rd year of medical school embarking on their first clinical attachment. Over the course of the block they completed two portfolio cases using the proforma which they then submitted to their supervisor for review.

Students were surveyed for their feedback on the project using a mixed-methods questionnaire.

**Results**

10 of 16 students responded to the evaluation questionnaire. Students were satisfied with the layout of the proforma and found it easy to use. Students strongly agreed it was a useful method of teaching clinical reasoning. Students also agreed it was a useful tool for structuring feedback. In terms of prescribing, students agreed the proforma was a useful method of developing prescribing skills. Interestingly, on average students reported that they did not otherwise routinely have the opportunity to practice prescribing whilst on clinical attachments. Perhaps understandably given the level of students, they did not feel more confident in prescribing after the attachment on average. On average students agreed it was a useful tool for structuring the feedback process.

**Qualitative Feedback**

Students felt there was a benefit from simulation of a real-life clinical assessment and reported having a structured approach to reasoning out clinical problems to be beneficial.

*“Very helpful. It allowed me to think more objectively about every case and I think it is easier to summarise the information and use a differential diagnosis and management plan.”*

*“By working through the steps it becomes more obvious if there are areas you haven’t considered”*

*“Really useful as very similar to the form actually used to clerk patients in”*

*“A really good idea. Made it more realistic to engage with [cases] in a real hospital setting because it looked the same as the clerking sheets”*

**Conclusion**

From the student perspective the integration of clinical reasoning, prescribing and reflection tools into a case portfolio proforma resulted in a tool that was easy to understand with enough points to document findings and analysis. Students agreed it was a useful method of teaching clinical reasoning and helped identify strengths and deficiencies. Students also felt it was a useful method of teaching prescribing, but disagreed that they felt more confident in prescribing after the attachment. Students also valued the similarities to documentation used by clinicians in hospital and some felt this had an impact on their engagement with cases.

**References**


**Acknowledgements**

Glasgow Royal Infirmary – Dept of Medicine

**Contact Details**

Dr Kevin Garrity - kevin.garrity@nhs.net

Dr James Boyle – James.Boyle@glasgow.ac.uk
Recruitment of Trainee Associates: Quality Management & Quality Improvement of Medical Education & Training

Objectives
Trainees offer valuable insight into the Quality Management (QM) and Quality Improvement (QI) of Education and Training. The QM & QI Team set out to recruit and appoint trainees to newly created Trainee Associate posts.

Background
Trainees are able to deliver a trainee focus to Quality Management/Quality Improvement of Medical Education and Training. They can provide feedback to fellow trainees on the benefits to training of the QM/QI process. The QM/QI team with support of STC Chairs and TPDs, agreed that trainees could use study leave to attend QM visits and QM/QI meetings.

Method
A model similar to that used by the GMC for employing GMC associates was identified and adapted with permission. Associate numbers were based on an estimated 80 QM visits per annum assuming that trainees could attend between 3 & 4 visits each year. Twenty posts were advertised on the SHOW website in August 2016. Applicants were shortlisted and interviews held in all four Deanery regions during September 2016, using standardised questions. Candidates' scores were then calibrated and posts offered.

Results/Analysis
The advert attracted 70 applicants from across Scotland ranging from F2 to ST8 trainees across a wide range of specialties. The 20 candidates with highest scores at interview were offered trainee associate posts. With additional QM review meetings requiring trainee participation, an additional 9 trainees were subsequently appointed. In November 2016, 9 trainees attended their first QM visit panel training day. Of the 9 associates, 2 have already attended QM visits. A further QM visit training day was held on 18 April 2017 and all trainee associates should now be able to participate as members of the NES QM/QI Team.

Summary
High quality enthusiastic trainees applied and were appointed. The Associates will add value to the NES QM/QI processes including QM Visits, sQMG and DQMG meetings (see diagrams) and at the annual Quality Review Panels (QRPs). It is anticipated that there will be an ongoing requirement for Trainee Associates within NES QM/QI. Although candidates were generally well informed of what was required prior to interview, there were a small number who did not understand QM/QI for training and we have included links to more detail on NES QM/QI below.

Additional Information

Dr Alan McKenzie, APGD for Quality; Dr Fiona Ewing, APGD for Quality; Dr Satinder Bal, APGD for Quality; Kelly More, Quality Improvement Manager; Dr Kerry Haddow, APGD for Quality; Dr Claire Vincent, APGD for Quality. NHS Education for Scotland.

Contact email: alan.mckenzie@nhs.net
Evaluation of the physician associate role in the clinical working environment

Lynn Stout, Dr James Mclay, Sarah Gray and Linda Watson
Institute of Education in Medical and Dental Sciences, University of Aberdeen

Introduction
A Physician Associate (PA) has been described as ‘a new healthcare professional who, while not a doctor, works to the medical model, with the attitudes, skills and knowledge base to deliver holistic care and treatment within the general medical and /or general practice team under defined levels of supervision’ (PAMVR, 2012). The Royal College of Physicians in support of the PA profession, has established a Physician Associate Faculty and this development would suggest a step towards acceptance of the role. The increasing drive to develop courses educating PAs within UK Higher Education establishments, also supports the growing recognition of a potential supplementary profession to complement the workforce.

The University of Aberdeen (UoA) has the second longest running PA Studies course in the UK. This became an MSc in 2016. Aberdeen is the only university in Scotland currently providing this course. Embedded in the UoA’s long established School of Medicine and Dentistry these generalists have the potential to provide continuity and stability in the workplace, supplementing the medical workforce and alleviating some of the challenges the NHS encounters both today and in the future. The aim of the survey was to evaluate perceptions of the PA role within Primary and Secondary Care.

Methods
A mixed-methods evaluation was conducted incorporating (1) a survey of qualified PAs, trained at UoA and currently employed within Scotland (2) A survey of multi-disciplinary clinical staff who work with a PA. The questionnaires were analysed using Nvivo.

Results
The questionnaire was completed by 13 PAs and 54 clinical staff from various clinical areas.

![Graph showing PA Evaluation 2016: Clinical Area Comparison and Prepared for Role Comparison](Image)

Both groups surveyed indicated PAs had been prepared for the role.

Benefits to Service Delivery
- Both groups surveyed perceived there had been benefits to service delivery.

![Bar chart showing PA Evaluation 2016: Benefits to Service Delivery (%)](Image)

Benefits to Nurses
- Responses highlighted the effectiveness of communication between medical staff and the nursing team and praised the enhanced sharing of information which has occurred especially in relation to treatment plans.
- The excellent rapport and the practice of ‘mucking in’ to support all members of the team was mentioned, with the additional comment that the PA is able to perform several procedural skills shared by their nursing colleagues, which assists in the nursing workload.
- Having a well-informed accessible individual present was viewed as being beneficial, as was the ability of the PA to support and orientate junior medical staff to the clinical area.

Benefits to Patients
- PA is familiar with ward procedures and protocols; providing continuity of care.
- More rapid referrals to specialists.
- Faster tracking of investigations and associated actions from these.
- Enhanced organization noticeable in clinical area, especially when junior doctors change over.

Conclusions
This evaluation indicated that PAs, trained in the medical model, are effective, efficient and complement both Primary and Secondary care. PAs provide a flexible addition to the workforce, providing continuity for the clinical departments and are an effective method for managing gaps in the workforce. However, in order to maximise the contribution of PAs, consideration needs to be given to their authorisation to prescribe medicines and order X-rays. Although incorporated in their training, current legislation prevents application of these skills. Regulation is the next logical step to enhance this professions potential.

References:

Acknowledgements:
The authors would like to thank all who completed the survey for this service evaluation.
Which factors predict performance in the MRCS?

DSG Scrimgeour¹,², J Cleland¹, AP Lee¹, PA Brennan²
University of Aberdeen¹, Intercollegiate Committee for Basic Surgical Examinations²

Background & Aim
• The Intercollegiate Membership of the Royal College of Surgeons (MRCS) examination is one of the largest postgraduate surgical exams in the world, with up to 6000 doctors in the UK and overseas sitting it each year.
• It is a mandatory examination for all aspiring surgeons and a means for overseas candidates to improve their opportunities in their home country.
• As with all high-stakes examinations, the MRCS should be reliable, valid and not discriminate against certain groups.
• The Intercollegiate Committee for Basic Surgical Examinations publish an annual report highlighting the reliability, but unlike other post-graduate medical examinations, MRCS is yet to be validated or sub-group performance compared.

• We investigated which factors predict MRCS Part A and B scores and hope that this information will help trainees plan their early surgical careers more efficiently.

Methods
• All UK medical graduates who had attempted Part B MRCS since its origin in October 2008 to February 2016 were included.
• Data were extracted from the prospectively collected intercollegiate MRCS electronic database held by the English College.
• Each candidate’s Part A score was merged with their Part B score to create a complete MRCS history including self-declared socio-demographics.

• We used Pearson correlation coefficients to examine the linear relationship between each part of the MRCS and linear regression analyses to identify independent predictors of Part A and B scores.

• The following variables were investigated: gender, ethnicity, first language, maturity (>28 years old at graduation), stage of training, number of attempts at Part A and B, Part B exam date.

Flow of data through the study (Fig. 1)

![Flowchart](chart.png)

Results

![Graphs](graphs.png)

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<td>0.17-0.37</td>
<td></td>
</tr>
<tr>
<td>Ethnicity Reference – White British</td>
<td>0.42</td>
<td>0.00</td>
<td>0.24-0.59</td>
<td></td>
</tr>
<tr>
<td>Number of Part A attempts</td>
<td>0.13</td>
<td>0.00</td>
<td>0.01-0.26</td>
<td></td>
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<tr>
<td>Maturity at graduation</td>
<td>0.42</td>
<td>0.00</td>
<td>0.24-0.59</td>
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Conclusions
• To our knowledge, this is the first study to explore the validity of the mandatory MRCS.
• Candidates that do well at Part A MRCS are more likely to perform well at Part B. This correlation supports the notion of the predictive validity of the MRCS.
• Several independent predictors of MRCS score were found but the number of attempts required to pass MRCS Part A was one of the most important predictors of MRCS score.
• FY1’s do better at Part A MRCS than all other training grades.
• CST1’s do better than FY doctors at Part B MRCS.
• Like other postgraduate medical exams ethnicity was an independent predictor of both Part A and B score.