



Improving Selection to the Foundation Programme

Final Report of the Parallel Recruitment Exercise

Medical Schools Council
on behalf of the cross-stakeholder Project Group

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Improving Selection to the Foundation Programme (ISFP) Final Report of the Parallel Recruitment Exercise (PRE)

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Glossary

AoMRC	Academy of Medical Royal Colleges
BMA	British Medical Association (BMA) Medical Students Committee
BSMS	Brighton and Sussex Medical School
CIT	Critical Incident Technique
COPMeD	Conference of Postgraduate Medical Deans
CPD	Continuing Professional Development
DHL	courier service
EO	Eligibility Office
EPM	Educational Performance Measure
FP	Foundation Programme
FPAS	Foundation Programme Application System
FY1	Foundation Year One
GMC	General Medical Council
HYMS	Hull York Medical School
ISFP	Improving Selection to the Foundation Programme
KCL	King's College London
MSC	Medical Schools Council
NACT	National Association of Clinical Tutors
NIMDTA	Northern Ireland Medical and Dental Training Agency
NHSE	NHS Employers
OMR	Optical Mark Recognition (machine markable)
PRE	Parallel Recruitment Exercise
RA	FPAS reference number
RCP	Royal College of Physicians
SJT	Situational Judgement Test
SME	Subject Matter Expert
UCL	University College London
UKFPO	UK Foundation Programme Office
VLE	Virtual Learning Environment (university intranet site)
WPG	Work Psychology Group

1. Executive Summary

1.1 Overview

- 1.1.1 In October 2009, the Department of Health (England on behalf of the four administrations) commissioned the Medical Schools Council to lead a cross-stakeholder Steering Group to complete an Option Appraisal to determine the most valid, reliable, robust and effective methods for selection of medical students into the Foundation Programme.
- 1.1.2 Following the design, development, piloting and evaluation of the recommended methods of selection in 2010-11, the Department of Health supported the recommendations of the Improving Selection the Foundation Programme (ISFP) Project Group that Selection to the Foundation Programme from FP 2013 onwards should be based upon:
 - 1.1.2.1 An invigilated Situational Judgement Test (SJT) to assess aptitude for the Foundation Programme (to replace 'white space' questions); and
 - 1.1.2.2 An Educational Performance Measure (EPM) to reflect educational performance at medical school up to the point of application to the Foundation Programme (to replace quartiles).
- 1.1.3 The Department of Health supported the recommendations of the ISFP Project Group that there should be a full-scale Parallel Recruitment Exercise (PRE) prior to live implementation in FP 2013, with the aim of piloting logistics, but with the added benefit of piloting new SJT content for the item bank, and raising awareness amongst potential applicants and other stakeholders of the forthcoming changes.
- 1.1.4 Results of the PRE confirmed previous work, as the recommended selection methods were found to be reliable, robust and cost-effective. Therefore, it is recommended that the planned live implementation of the SJT and EPM for selection to FP 2013 is continued as originally planned, taking on board the learning points that have been identified during the PRE.

1.2 Parallel Recruitment Exercise - SJT

- 1.2.1 Participation in the PRE SJT was voluntary and open to all applicants to FP 2012. All final year UK medical students were expected to take part unless they had good reason. The ISFP Project Group agreed that as the primary purpose of the PRE was to determine logistics, the SJT used should be a shortened one hour 30 item paper, in place of the 70-item, 2h20 paper to be used live from FP 2013. Other incentives were used, including the provision of feedback to all participants via FPAS and a prize draw. Medical schools were also asked to timetable the SJT to enable full participation, and were provided with a set of communications tools which could be tailored to generate awareness locally. Eligible overseas applicants were encouraged to participate.
- 1.2.2 The Work Psychology Group (WPG) was contracted to develop new SJT content according to the same standards of best practice that received positive peer review for the 2010-11 pilots. Two item-writing methods were used in parallel: item-writing workshops to train clinicians in item-writing, and Critical Incident Technique (CIT) interviews with clinicians to generate the scenarios which were written by psychologists. Items written through these methodologies, as well as previously piloted items which had been subsequently amended and reviewed, were then subject to further clinician review and focus groups with clinical tutors and foundation doctors to ensure that the items had face validity, were non-ambiguous and were reasonable, realistic and fair.
- 1.2.3 Seven SJT papers of 30 items were created for the PRE, including 121 new items and 89 previously piloted items that had been refined.
- 1.2.4 Medical schools were provided with administration guidance and standards for the delivery of a national selection process. The costs of administration and venue hire were reimbursed centrally.
- 1.2.5 The PRE SJT was delivered by 30 UK medical schools and by 2 centres for Eligibility Office (EO) applicants to 6,842 participants in 72 venues across three national dates (and two exceptional dates) in November, December and January. This was equivalent to an overall participation of 90%.

- 1.2.6 The PRE SJT was delivered according to the national standards for delivery as far as possible. There was a breach of security at one medical school, with seven of the applicants removing the SJT paper from the venue. Given that the items used in this paper are no longer secure, the ISFP Project will publish these items in the form of a worked practice paper, with an accompanying answer key, as guidance for future applicants.
- 1.2.7 A number of administrative and logistical lessons have been learnt, taking on board suggestions, comments and feedback from participants and from the medical school staff involved in delivering the PRE SJT. Efficiencies have been identified to improve the process, and early communication is already in place for FP 2013.
- 1.2.8 Two schools commented that they would make changes to ensure that they would be better placed to resource and administer the SJT for live implementation. Indeed many schools have commented that things will be run differently – timetabling the SJT rather than taking time out of placements; booking venues many months in advance so as to secure an appropriate venue; a greater understanding of whom would assume which role within the medical school – for example one school had thought that the SJT would be managed by the central university examinations team.
- 1.2.9 All medical schools have confirmed that they are confident that they will be able to deliver the SJT for applicants to FP 2013 in line with the national standards for delivery.
- 1.2.10 All participants in the PRE SJT were asked to complete an evaluation; 6,788 did so (99.2%). Their feedback has been analysed, and shows widespread support for the introduction of the SJT.
- 1.2.11 Full analysis and evaluation of the SJT as a measurement for selection to the Foundation Programme was undertaken, and the findings are consistent with earlier research. The evaluation of the PRE SJT confirmed that an operational SJT of 60 items is a reliable measurement methodology for selection to the Foundation Programme.

1.3 Parallel Recruitment Exercise - EPM

- 1.3.1 The EPM includes a standardised framework for use by UK medical schools to calculate decile points, which was agreed by students, employers and all medical schools in spring 2011 following consultation, piloting and the advice of a Task and Finish Group¹. For the PRE, all medical schools were asked to consult with their students to agree a 'basket of assessments' to determine an EPM decile, and to align their method of calculating medical school performance with the agreed common principles.
- 1.3.2 All schools completed the consultation phase (Sept – Dec 2011), with 27 of the 30 schools undertaking a new stage of consultation involving student representatives, staff-student review meetings, online surveys and online forums.
- 1.3.3 Eight medical schools have made substantial changes to the methods of calculating medical school performance, with changes to the years of assessment for inclusion and the weightings of different assessments. All decisions have been taken in view of student feedback. All frameworks have been made available to the student population locally, usually via the intranet.
- 1.3.4 Feedback from medical schools highlights that this has been a very useful exercise, commenting that the consultation aspect of the EPM for example generated awareness and ownership. However, for some schools with significant changes to the frameworks, there is some sense of 'moving the goalposts'.
- 1.3.5 Analysis of the PRE EPM deciles confirmed that all medical schools have a method in place for ranking students according to their medical school performance into roughly even size deciles.

¹ Non-UK applicants will continue to submit a Dean's statement confirming their class rank in relation to graduating cohort.

1.4 PRE Communications

- 1.4.1 PRE Teams, including an overall PRE Champion, an SJT Lead, an EPM Lead and a Student Champion, were appointed to manage the local delivery and local communications. Medical school feedback confirmed that the direct channels of communication have been extremely helpful.
- 1.4.2 Medical schools were provided with a standard slide-set and other communications tools to convey the rationale for the forthcoming changes, and the implications for students and staff.
- 1.4.3 The ISFP Team managed central communications, including the ISFP website, forum, FAQs, facebook group and e-bulletin. Members of the team also met with key stakeholder groups over the course of the year.
- 1.4.4 The ISFP Team has been a first point of contact for applicant, potential applicant, and staff queries about the EPM and SJT tools. The UKFPO remains the first point of contact for applicant, potential applicant and staff queries regarding the application process and eligibility of applications. When the ISFP Project was in its infancy, the nature of queries highlighted misconceptions about the SJT and/or EPM – but more recent queries are about specific aspects for example reasonable adjustments. This reflects the enhanced understanding amongst prospective applicants.

1.5 Summary of lessons learnt from the PRE

- 1.5.1 Planned live implementation in 2013 should be continued as originally planned, taking on board the learning points that have been identified during the PRE.
- 1.5.2 **Communications**
 - 1.5.2.1 The ISFP website and resources were designed to aid applicants in understanding the SJT and EPM (SJT worked examples and scoring convention, EPM framework) and the impact they had on the Foundation Programme application system (FAQs) and to justify the changes (video podcast, various pages on www.isfp.org.uk). Evidence indicates that communications worked well in this respect.
 - 1.5.2.2 Central communication tools should be made available, but with sufficient flexibility to allow medical schools to adapt these for local use. These should include a briefing slide-set on the new selection method and example emails to applicants. The ISFP website will be archived and kept as a historical resource for parties interested in the development of the new selection methods.
 - 1.5.2.3 Maintaining direct communications with the relevant leads should continue, in a form resembling that of the 'PRE Team'. There should be flexibility with how these roles are managed locally. The role of the Student Lead should be explored.
 - 1.5.2.4 Amendments will be made to administrative documents to make guidance as clear and comprehensive as possible. The briefing to applicants at the start of the SJT should be shortened.
 - 1.5.2.5 All paperwork, policies, procedures and documentation to be available to medical schools via an online document repository, with documents clearly labelled to highlight version control.
 - 1.5.2.6 Regular meetings were helpful in coordinating the PRE and sharing best practice. However, as the new process becomes embedded the need for these decreases.
 - 1.5.2.7 Information management should be in a timely manner to confirm the timeline, requirements and expectations.
 - 1.5.2.8 Applicant-facing communications will include an SJT research monograph, video guides, FAQs, and an SJT practice paper. There will be close alignment with the UKFPO to ensure consistency of communications.
- 1.5.3 **SJT management of applicant information**
 - 1.5.3.1 Develop an SJT database for use by the Medical Schools Council and medical schools in managing details for printing requirements and addresses for delivery, rather than Excel and email.

Information will be needed at applicant level, to enable the right number of papers to be sent in the event of extenuating circumstances, and to record which version of the paper the applicant has taken on which dates.

1.5.3.2 Record information around reasonable adjustments, extenuating circumstances and appeals on the SJT database.

1.5.3.3 Additional quality checks to be introduced to check the completed FPAS Reference Number and paper number detail is in the appropriate format, and no duplicates are recorded.

1.5.4 SJT item writing and review

1.5.4.1 A 60 item SJT is a reliable measurement methodology for selection to the Foundation Programme, to assess the breadth of SJT domains and to provide discrimination between applicants.

1.5.4.2 Continue item development and review in line with best practice, involving clinicians from a range of specialties.

1.5.4.3 Continue review of items displaying group differences including gender or ethnicity to identify whether there appears to be any bias in the item content.

1.5.4.4 Review SJT items used for selection papers for current clinical relevance.

1.5.4.5 Seek applicant feedback to inform the ongoing review and evaluation of the SJT.

1.5.5 SJT production of papers

1.5.5.1 The date for schools to confirm the number and range of modified papers must be sufficiently early to determine the common modifications to be provided, and those to be accommodated on a case by case basis.

1.5.5.2 Confirm with SJT Leads the number of papers (standard and modified) that they have requested, with the option for them to amend, prior to the print specification being finalised.

1.5.5.3 Provide an additional 5% spare papers for contingency.

1.5.5.4 Explore options of personalisation of Optical Mark Recognition (OMR) answer sheets.

1.5.5.5 Provide placecards sorted into alphabetical order by venue by date, which includes applicant name and FPAS Reference Number.

1.5.5.6 The SJT paper and OMR answer sheet will not be printed onto coloured paper. Applicants may use coloured acetates, without requiring evidence of a disability as this is deemed not to give advantage or disadvantage to an applicant.

1.5.5.7 If an applicant cannot complete a red OMR on a white background, then they must arrange in advance with their SJT venue for completion of the OMR on their behalf by an invigilator.

1.5.6 SJT delivery of papers

1.5.6.1 There should be a single despatch of papers to the named SJT Lead, rather than to the venue. Schools running the SJT across multiple venues will need to agree in advance with the ISFP Team the secure arrangements for onwards transportation of papers.

1.5.6.2 Maintain flexibility for the delivery of papers more than three working days in advance.

1.5.6.3 Explore courier delivery options, for example whether the courier could telephone the recipient to confirm that they are in the building and where the delivery has been signed for and by whom.

1.5.6.4 Boxes to be delivered and returned should be labelled Medical Schools Council c/o Stephen Austin & Sons Ltd, to avoid confusion.

1.5.6.5 Clarify the instructions for return to specify that papers should be returned in alphabetical order, the right way up, and in separate envelopes for each venue.

- 1.5.6.6 ISFP Team to manage courier deliveries and receipt of SJT papers actively.
 - 1.5.6.7 Ensure all SJT Leads are aware of the required dates for return of SJT papers: non-negotiable and accepted through the Memorandum of Understanding with each medical school.
 - 1.5.6.8 To put in place a contingency plan for a) the non-receipt of hard copy of SJT papers, and b) extreme weather conditions disrupting deliveries or applicant attendance.
- 1.5.7 SJT delivery on the day (venues)**
- 1.5.7.1 Maintain early and consistent communications with medical schools of the dates and quality criteria to be used for the SJT, to facilitate timetabling and venue bookings
 - 1.5.7.2 Clarify in the SJT administration guidance the minimum quality criteria required to meet national standards for delivery; and the areas where local interpretation of the guidance is permitted
 - 1.5.7.3 Applicants to remain seated in silence until the end of the time allowed for the SJT, and until all paperwork has been collected by invigilators. Early exit not permitted.
- 1.5.8 EPM**
- 1.5.8.1 Local flexibility in the 'basket of assessments' is key
 - 1.5.8.2 Producing the EPM deciles where there was substantial change in the methodology used for quartiles was time consuming. However the processes are now in place to be able to produce EPM deciles more efficiently going forward.
 - 1.5.8.3 All medical schools are confident that they can produce EPM deciles, aligned with the agreed common principles, for selection to FP 2013 onwards.
 - 1.5.8.4 The provision of the EPM deciles to the FP Application System (FPAS) is managed by foundation schools, however this should be kept under review.

2. Background

2.1 Summary of Option Appraisal (2009 - 10) and piloting (2010 - 11)

- 2.1.1 There is national selection to the Foundation Programme (FP), with all eligible applicants being allocated to a foundation school by a matching algorithm according to their application score and foundation school preferences. There are around 8,000 applicants each year.
- 2.1.2 Since 2005, applications to the FP have been based around points for an academic quartile score (medical school performance) and additional academic achievements, and answers to five-six 'white space' questions which are mapped against the FP national person specification.
- 2.1.3 In 2009, the Department of Health commissioned a review of selection to the FP, with the aim of recommending a more reliable, robust, valid, feasible and sustainable method for selection which would minimise the risk of successful legal challenge. The ensuing work has been a collaborative venture led by the Medical Schools Council (MSC), involving the Academy of Medical Royal Colleges (AoMRC), the British Medical Association (BMA) Medical Students Committee, the Conference of Postgraduate Medical Deans (COPMeD), the General Medical Council (GMC), The National Association of Clinical Tutors (NACT), the Northern Ireland Medical and Dental Training Agency (NIMDTA), NHS Employers, the Scottish Board for Academic Medicine, the Scottish Foundation Board, the UK Foundation Programme Office (UKFPO) and the four UK Health Departments.
- 2.1.4 The Option Appraisal² (2009-10) involved a thorough and detailed appraisal of the methods that might be used for selecting applicants to the Foundation Programme, encompassing extensive stakeholder consultation, three academic literature reviews, advice from an International Expert Panel, and an independent Cost Benefit Analysis.
- 2.1.5 The final recommendations of the Steering Group, in the light of all evidence, stakeholder views and parameters for selection to the FP, included the recommendation to pilot a Situational Judgement Test (SJT) as a measure of meeting the FP national person specification. The Department of Health supported the recommendations.
- 2.1.6 The design, development and piloting (2010 - 11) of the SJT and EPM were overseen by the ISFP Project Group (previously the Steering Group). The key achievements can be summarised as follows:
- 2.1.6.1 The design specification for the SJT for selection to Foundation Programme was informed by a comprehensive Job Analysis of the Foundation Year One Doctor³ which identified the key positive attributes, and the domains to be assessed by the SJT: Commitment to Professionalism, Coping with Pressure, Effective Communication, Patient Focus and Working Effectively as Part of a Team. An academic literature review of the approaches to an SJT was undertaken⁴.
- 2.1.6.2 More than 150 clinicians were trained in SJT assessment writing and good principles, and were involved in either the writing or review of SJT items, along with more than 60 FY1 doctors themselves. A further 60 clinicians formed Concordance Panels.
- 2.1.6.3 Three 2-hour SJT papers of 60-65 items were piloted with more than 1,100 final year medical applicants in 15 UK and 2 non-UK medical schools. The SJT was piloted online and in paper form, and administrative guidance and paperwork was developed to support the venues in delivering the SJT. Standards for the delivery were developed and tested. Secure SJT item banking software was developed and tested.
- 2.1.6.4 There were two consultations with all UK medical schools around the number and type of assessments within the undergraduate medical degree programme, and a draft EPM framework

² Medical Schools Council (2010) [Selection into the Foundation Programme: An Option Appraisal](#)

³ Work Psychology Group (2011) [Appendix D: FY1 Job Analysis](#)

⁴ Work Psychology Group (2011) [Appendix F: Final Report of SJT Pilots](#)

was piloted by 25 medical schools⁵. Rules for the production of EPM deciles – based on performance at medical school up to the point of application, according to a standardised framework, and additional points for degrees, prizes, publications and presentations – have been defined and agreed by students, employers and all medical schools⁶.

2.1.6.5 Rules were agreed for combining the EPM and SJT results to give an overall score for applications to the FP. Out of a maximum of 100 points there would be: 34-50 points for the EPM and the next 50-100 points for the SJT (reported to 1 decimal place).

2.1.7 The Department of Health England, on behalf of the four Departments of Health, agreed with the recommendations of the ISFP Project Group that selection to the Foundation Programme should reflect the skills, knowledge and professional behaviours of the applicant, reflecting the integrated nature of the Foundation Programme as both education and employment. Selection to the Foundation Programme from FP 2013 onwards should be based upon:

2.1.7.1 An invigilated Situational Judgement Test (SJT) to assess aptitude for the Foundation Programme (to replace 'white space' questions); and

2.1.7.2 An Educational Performance Measure (EPM) to reflect educational performance at medical school up to the point of application to the Foundation Programme (to replace quartiles).

2.2 Rationale for a Parallel Recruitment Exercise (PRE)

2.2.1.1 The primary aim of the PRE was to ensure that the logistics of delivering the SJT to 8,000 applicants on agreed national dates are in place ahead of applications to FP 2013, and that all UK medical schools have in place a transparent approach to deciles in line with the agreed EPM principles.

2.2.1.2 A second aim of the PRE from an analysis and evaluation approach was to pilot a large number of new SJT items to maximise the size of the item bank. The purpose of the PRE was not to evaluate the use of the EPM and SJT for selection to the Foundation Programme, which had been reviewed and agreed by the Department of Health following the August 2011 evaluation, although a full evaluation of the tests was carried out.

2.2.1.3 A third aim was to raise awareness and understanding of the forthcoming changes.

⁵ Medical Schools Council (2011) [Appendix H: EPM Pilot Report](#)

⁶ Medical Schools Council (2011) [Appendix I: EPM Task and Finish Group report](#)

3. Approach

3.1 Funding

- 3.1.1 The Department of Health agreed with the recommendation of the ISFP Project Group that there should be a full-scale shadow Parallel Recruitment Exercise (PRE) SJT and EPM run concurrently with the current application process for FP 2012.
- 3.1.2 Some contingency funding had been included in the original budget for the 2010-11 pilots, and so this was ring fenced. Funding was also trimmed from the communications budget and other expenditure restricted wherever possible in order to provide the funds necessary to run the PRE.

3.2 Project Management

- 3.2.1 The Medical Schools Council managed the PRE SJT and EPM on behalf of the cross-stakeholder ISFP Project Group. The ISFP Project Group set the parameters for the delivery of the PRE at its meeting in July 2011, and monitored progress electronically. In March 2012, the Project Group met to review the findings of the PRE and how the lessons learnt would be reflected in planning for FP 2013.
- 3.2.2 The Medical Schools Council, on behalf of the ISFP Project Group, set the standards for the delivery of the SJT, provided central communications and support, and coordinated the printing, delivery and collection of SJT paperwork, liaising closely with stakeholders throughout the PRE. The Medical Schools Council also liaised with and managed contractors for the development, production, analysis and evaluation of the SJT test papers.
- 3.2.3 Medical schools were asked to appoint a PRE Team to manage communication and administration locally. The team comprised a PRE Champion, an SJT Lead, an EPM Lead and a Student Champion.
- 3.2.4 Medical schools (and the UKFPO for Eligibility Office applicants) were tasked with delivering the PRE SJT to applicants from their school, in line with the national standards for delivery.
- 3.2.5 UK medical schools were asked to consult with their students to agree a 'basket of assessments' to determine an EPM decile, and to align their method of calculating medical school performance with the agreed common principles.

4. Communications

4.1 Overview

- 4.1.1 A comprehensive Communications Strategy was established in order to identify the objectives, approach and key messages to be used for distributing information about the PRE. The Communications Strategy, approved by the ISFP Project Group, is available as Appendix B.
- 4.1.2 The objective of the Communications Strategy was to ensure that all stakeholders were fully informed about the PRE, including both the SJT and EPM. The strategy for delivering communications revolved around four delivery mechanisms: development of local PRE teams; face-to-face meetings and presentations; electronic media and publications; and press and PR. The document also outlined communications risks and considerations and the financial resources required to fulfil the Communications Strategy.
- 4.1.3 For Eligibility Office applicants, the UKFPO acted as a medical school and booked venues, handled papers and managed applicant information.
- 4.1.4 All supporting information, with the exception of the standard slide-sets and template emails, was made publically available on www.isfp.org.uk for the benefit of all applicants. Work has been closely aligned with the UKFPO to ensure consistency of communications within the application documentation.

4.2 Development of local PRE teams

- 4.2.1 Medical schools were requested to nominate leads for three areas – an overall PRE Champion, an SJT Lead and an EPM Lead. Members of the UKFPO Medical Students Board were asked to assume the role of PRE Student Champion. The PRE Team was collectively responsible for coordinating work to ensure that the timeline and standards for the PRE SJT and EPM were met, with ultimate responsibility lying with the PRE Lead. Please see Appendix C for roles and responsibilities of the PRE Team.
- 4.2.2 The PRE Team was implemented in accordance with the need for local flexibility. Eleven schools nominated an individual lead for each of the PRE, SJT and EPM roles; seventeen schools nominated several leads for each area, including some overlapping responsibilities; two schools nominated two leads to cover all areas; and one school nominated a single lead. This flexibility was important to ensure that the right information was sent to the right people, who could then coordinate implementation locally.
- 4.2.3 A PRE Administrators' Guide was provided to the PRE Champion, SJT Lead and EPM Lead, setting out key information, dates, and suggestions for communications to engage students. Please see Appendix D for further details.
- 4.2.4 A standard slide-set was provided for schools to use when briefing applicants about the SJT and EPM for FP 2013 and their involvement in the PRE, and all schools were asked to deliver the slide-set at a mandatory lecture.
- 4.2.5 Additionally, each school was provided with posters publicising the SJT, which they could customise according to local arrangements. One school requested, and was provided, with an electronic version of the poster.
- 4.2.6 PRE Teams were sent a template PRE Evaluation Report in November 2011, maintaining direct communications between the ISFP and PRE Teams, and were asked to reflect on their experiences in running the SJT and EPM. Their suggestions, reflections and local experiences will inform the lessons learned throughout the process of the PRE.
- 4.2.7 All schools have reported that the PRE Team set up was helpful; either to keep everyone informed directly, or for a single person to receive information, to then be cascaded locally, according to the local management of the SJT and EPM.

- 4.2.8 Some schools expressed reservations about the usefulness of the Student Champion, noting that some were not as engaged as other PRE leads. However, where the Champion was involved schools reported that the role acted as a useful interface between the school and the student body.
- 4.2.9 At the request of PRE Teams in October 2011, there was a 24 hour contact telephone provided to the SJT Leads for the three month window covering all SJT dates, in the event of an unexpected difficulty in running the SJT. There were two phone calls to the number (both on the morning on the day of the SJT); and one email enquiry on a weekend which could have been answered immediately with a phone call (misplaced password to open list of applicant ID numbers). Whilst the number was not greatly used, PRE Teams reported that the availability of 24 hour support provided reassurance, and would have been an early warning system to enact contingency plans if needed.
- 4.2.10 The PRE Evaluation Reports reveal widespread satisfaction from both students and medical school staff on the level of communications received.
- 4.2.11 Medical schools commented that central communications had been helpful. Brighton and Sussex commented that 'support provided by the team was invaluable, Warwick said that '[the] guidance provided was really helpful to the PRE Team', and St George's thanked the ISFP Team for being 'thorough' in their communications. The template slide-set and draft emails in particular were praised as useful. Staff at Barts and The London commented that 'the students seemed to appreciate the briefings', whilst Cambridge noted that the 'briefing lecture was very useful'. Some schools altered the content of the draft emails provided to them by the ISFP team, or distributed them in accordance with their own timeline. Imperial noted that this was so as not to 'bombard' their students.
- 4.2.12 Warwick's Student Champion commented that 'speaking to students regarding the PRE I find that nearly all were satisfied with the level of communication from the medical school'.

- 4.2.13 **LESSON:** Central communications should continue, but to contain sufficient flexibility to allow schools to use them as and when is necessary.
- 4.2.14 **LESSON:** The role of the Student Champion should be re-examined and the name for the role should be changed to reflect the need to be a main point of contact as opposed to a 'champion' for FP 2013.
- 4.2.15 **LESSON:** UKFPO Medical Students Board to continue to act as 'Student Leads'.

4.3 Administrative Guidance for the SJT

- 4.3.1 Administrative guidance was provided for the setup and booking of suitable SJT venues through the PRE Administrators' Guidance (see Appendix D). There was a separate eight page invigilator's guidance, and a one page quick checklist invigilator's guidance. The guidance included requirements around the setup of the room, registration of applicants, distribution and collection of papers, handling incidents, and a briefing to be read to applicants. Whilst all medical schools routinely run university assessments on this scale, as the SJT is a national process for selection to employment, it is essential that the same standards of delivery are applied in all venues.
- 4.3.2 Guidance was designed to be comprehensive, to enable any venue tasked with running the SJT to be able to do so in accordance with the national standards, whether or not they had previously run any assessment. At least three schools delivered the SJT in venues and with staff who had not previously been involved in running examinations.
- 4.3.3 The administrative guidance had been developed and used for the 2010-11 pilots with 17 medical schools. The guidance was subsequently updated, and is in line with good practice standard examination procedures used by universities and by national assessment bodies.

- 4.3.4 Generally, guidance from the ISFP team was deemed useful, although there was feedback from six schools that the administrative guidance was too detailed – and feedback from four others that it didn't provide enough detail on specific issues. Specific comments were:
- 4.3.4.1 The verbal instructions to applicants are too long.
- 4.3.4.2 There was disparity between instructions in the administrative guidance (write your ID number on both sides of the paper – when the revised OMR required only one).
- 4.3.4.3 There should be guidance on how to handle late arrivals – how late to be prevented from entering the room? Need to highlight that the names of late arrivals are recorded.
- 4.3.5 The administrative guidance, and accompanying forms, was this year provided electronically. It was suggested by several schools that all documentation should be provided electronically on a fileshare; this would have the advantage of maintaining version control.

- 4.3.6 **LESSON:** There should be improved clarity in administrative documents regarding what is 'guidance' and what is 'absolute requirement'. There should be additional guidance around late arrivals, extenuating circumstances, reasonable adjustments, incident reporting and ID checking. The verbal briefing to students should be reviewed, focusing on exam conditions, timing, and what to do in the event of a fire alarm etc, rather than how to approach the SJT.
- 4.3.7 **LESSON:** Develop a secure fileshare for administrators. Documents should include in the footer, on each page, the document name and a version number '01' in the footer on each page. Any subsequent updates to any document should then be highlighted at the top of the page, with a date of providing version '02', and a document history table.

4.4 Face-to-face meetings and presentations

4.4.1 PRE Workshop – October

- 4.4.1.1 All participating medical schools, with the addition of Swansea who will run the SJT and EPM for FP 2013, were represented at a PRE workshop in October 2011. PRE Team staff leads met to hear issues and good practice from other schools, and collectively to inform the detail and delivery of both the EPM and SJT.
- 4.4.1.2 There were presentations from members of the ISFP Project Team, the academic leads for the development of both the EPM and SJT, and from the UKFPO. Round table discussions were held to share expertise and inform development of the PRE.
- 4.4.1.3 Round table discussions invited ideas around generating participation in the PRE, as well as discussions, debates and clarifications around the national rules for delivery of the SJT and the content of the EPM deciles points framework. Decisions taken at the request of, and in collaboration with, PRE Teams in attendance were i) to provide all medical schools with anonymised feedback on how applicants from their school performed (see Appendix G), ii) the provision of the OMR form onto the ISFP website to aid with familiarisation, iii) papers to be delivered three working days in advance and iv) applicant ID may be checked whilst the SJT is underway rather than outside the venue.
- 4.4.1.4 Attendees were positive about the workshop. A large number of them commented on how useful it had been to hear how other medical schools were handling the PRE. Attendees noted that it had been 'an excellent day to network and focus on upcoming activities', that the workshop was 'well run and very informative' and that 'it was good to hear other schools' solutions/issues'.

4.4.2 UKFPO Medical Students Board meeting – October

- 4.4.2.1 The ISFP Team updated the UKFPO Medical Students Board on the PRE at its annual meeting. It was confirmed at the meeting that members would act as 'Student Champions' as part of the PRE Team at their medical schools.

4.4.3 PRE Review Workshop – March

- 4.4.3.1 Foundation schools, medical schools and members of the UKFPO Medical Students Board attended a PRE Review Workshop in March 2012. PRE team staff leads, foundation school managers and directors and Student Champions met to reflect on the challenges and successes of the PRE and the way ahead for FP 2013.
- 4.4.3.2 Presentations from members of the ISFP Project Team, UKFPO, medical schools and the UKFPO Medical Students Board shaped discussion of the PRE and highlighted changes for FP 2013. Round table discussions focused on guidance for SJT extenuating circumstances, educational achievements and developing information for FP 2013 applicants.
- 4.4.3.3 Round table discussions invited ideas around acceptable extenuating circumstances and developing communications materials for applicants to FP 2013. Feedback from attendees informed the final rules of Extenuating Circumstances, standards of evidence for additional academic achievements, and offered their advice about the functions of the FP 2013 medical school teams (replacing the PRE Teams).
- 4.4.3.4 Attendees were positive about the workshop noting that it had been timely and addressed a range of important and relevant issues. Attendees commented that it was 'an excellent opportunity to ask questions' with 'good opportunities for sharing experience and networking'.

4.4.3.5 **LESSON:** As this was a new process, regular meetings were helpful in coordinating the PRE and sharing best practice. As the process becomes more embedded, the need for these meetings will lessen.

4.5 Electronic media and publications

- 4.5.1 An applicant-facing website (www.isfp.org.uk) was established in order to inform applicants about the SJT, EPM and changes to the selection methods for the Foundation Programme.
- 4.5.2 For the SJT, the website provided the rationale behind the introduction of SJTs, information on the process of item development, and five illustrative examples of SJT questions, with answers, the OMR sheet and the SJT scoring convention also provided. For the EPM, applicants were provided with a pdf of the EPM framework, as well as a breakdown of the system for points awarded for previous degrees under the new system. Applicants were also able to view background information on the project, as well as past reports.
- 4.5.3 There was an open forum to raise any queries about the new selection methods. At the time of writing, there were 57 threads, with 178 posts in total. Frequent themes included the eligibility of various prizes/presentations/degrees for points under the EPM, the process for international applicants to sign up to participate in the PRE SJT and requests for practice questions. Relevant UKFPO information was clearly signposted where appropriate.
- 4.5.4 When the ISFP Project was in its infancy, the nature of queries highlighted misconceptions about the SJT or EPM, but recent queries are more concerned about specific aspects for example Reasonable Adjustments. This reflects the enhanced understanding of applicants of the introduction of the SJT and EPM – and indicates a need for clarity between the queries that should be directed to the UKFPO, and those which can be better answered by the ISFP Team.

- 4.5.5 Traffic statistics show that the website performed its function well. Visitor numbers rose in line with the Administrator's Guidance communications time line, beginning in September when applicants were first informed of the mandatory SJT lecture and peaking in November when schools began to consult around their 'basket of assessments' and the first SJTs were run.
- 4.5.6 The most visited pages were the SJT example questions and answers and the ISFP forum.
- 4.5.7 An e-bulletin was set up, which interested parties could sign up for via www.isfp.org.uk. Those that signed up were sent updates on the PRE via an email directly to their inbox. 210 people have signed up to receive the e-bulletin.
- 4.5.8 Prior to the PRE, a video podcast was produced that featured an interview between Project Group Chair Paul O'Neill and Nick Deakin, Co-Chair of the BMA Medical Students Committee 2009-10. The video was hosted on [YouTube](https://www.youtube.com) and was linked to from the ISFP website. Applicants were able to access the video during the PRE.
- 4.5.9 The website was publicised in a number of ways. A link was embedded into the email signatures of the ISFP Team and was included in the communications materials distributed to schools. Consequently, 56% of traffic came from direct links to the site, with 22% through search engines. This shows that applicants used the site as intended; to learn more about the new selection methods and how it would affect their application to the Foundation Programme.

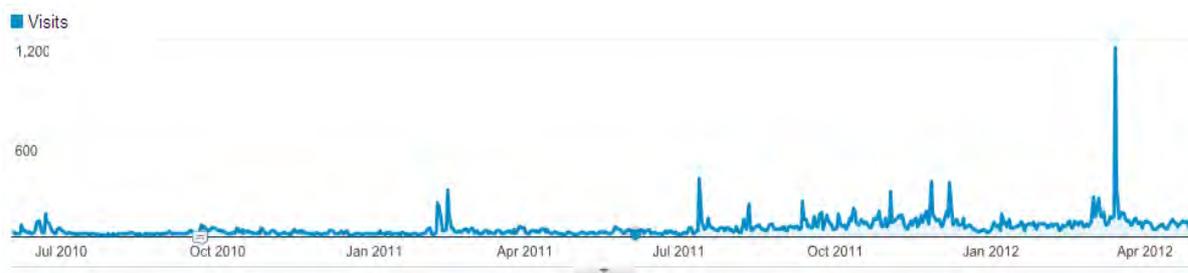


Figure 1: ISFP website traffic

- 4.5.10 A [Facebook group](#) was set up to allow applicants to ask questions and share experience about the PRE. At the time of publication, the page had 331 'likes', with two comments from medical students (one regarding the EPM, one regarding SJT deciles).
- 4.5.11 The PRE Team managed enquiries to admin@isfp.org.uk from applicants, prospective applicants, and PRE Teams. There were 420 enquiries, the majority of which (70%) were answered within one working day, and all enquiries (100%) within five working days.

4.5.12 **LESSON:** The ISFP website and resources worked well in informing students about the PRE; decision taken that UKFPO will lead on applicant-facing communications; MSC to lead on school-facing communications

4.5.13 **LESSON:** Publish a practice SJT paper.

4.6 Press and PR

- 4.6.1 Updates on the PRE were sent to journalists following major developments in the PRE (following each round of the SJT, publication of the Final Report of the Project Group).
- 4.6.2 The PRE secured coverage in a number of different publications, including *Mediscope* and *Student BMA News*.

4.7 Feedback to applicants

- 4.7.1 Applicants were given feedback on their performance in the PRE SJT in the form of a decile obtained through logging in to the FPAS system. The SJT decile indicated their performance with other applicants nationally who took the same paper (c.1000). Their feedback was accompanied by a short document containing more information on the SJT and EPM ([Appendix H](#)).

4.8 Feedback to schools

- 4.8.1 Each medical school was provided with feedback on the PRE SJT, which included a summary of SJT deciles by paper and of applicant evaluations of the SJT (the feedback paper can be seen in [Appendix G](#)).

5. PRE SJT

5.1 SJT item development

- 5.1.1 A secondary aim of the PRE SJT was to take the opportunity to pilot new SJT items for use in future selection years. The ISFP Project Group took the decision to run a shortened one hour 30 item paper, in place of the 70-item, 2h20 paper to be used live from FP 2013⁷. A minimum of 400 participants was needed to provide confidence in the psychometric analysis and evaluation of item performance. Given that participation was voluntary and could not be guaranteed, the decision was taken to create seven papers of 30 items.
- 5.1.2 The Work Psychology Group (WPG) was contracted to develop new SJT content according to the same standards of best practice that received positive peer review for the 2010-11 pilots.
- 5.1.3 The SJT item development process was conducted using two methodologies in parallel. Two item-writing methods were used in parallel: item-writing workshops to train clinicians in item-writing, and telephone interviews with clinicians to generate the scenarios which were written by psychologists. Further details of the item writing process can be found in Appendix F.
- 5.1.3.1 Three item writing workshops were held in August 2011. A total of 11 item writers attended workshops in London and Birmingham. All item writers were new item writers who had not been previously trained, who had knowledge and experience of the practice of an FY1 doctor. The one-day item-writing workshops were accredited by the Royal College of Physicians (RCP), and attendees were awarded 6 CPD points. The format of the day replicated the methodology used in previous item development for the ISFP pilots, involving the delivery of training and pair work to develop and review items. Over the three workshops, a total of 63 items were written. This equals an average of 5.7 items per item writer.
- 5.1.3.2 Item development telephone interviews using Critical Incident Technique (CIT) were held as an alternative methodology to write SJT items. CIT interviews involved subject matter experts (SMEs) working closely with foundation doctors, and aimed to elicit scenarios or incidents involving FY1 doctors that demonstrate particularly effective or ineffective behaviour. In total, 24 interviews were conducted by four trained interviewers. The telephone interviews lasted between 30 and 45 minutes. During the interview a trained interviewer asked the interviewee to describe a number of scenarios, providing as much information as possible, including the pre-cursor to the incident, who was involved, what the outcome was and other possible ways that the scenario could have been dealt with (to enable alternative responses to be developed). The trained interviewer then used this information to develop the SJT items. A total of 114 items were written. This equals an average of 4.6 items per 45 minute interview.
- 5.1.4 Figure 2 summarises the development and review process undertaken, and the number of items written, reviewed, review rejected and review refined at each stage.

⁷ The FP 2013 SJT paper will consist of 60 'live' items and 10 'pilot' items

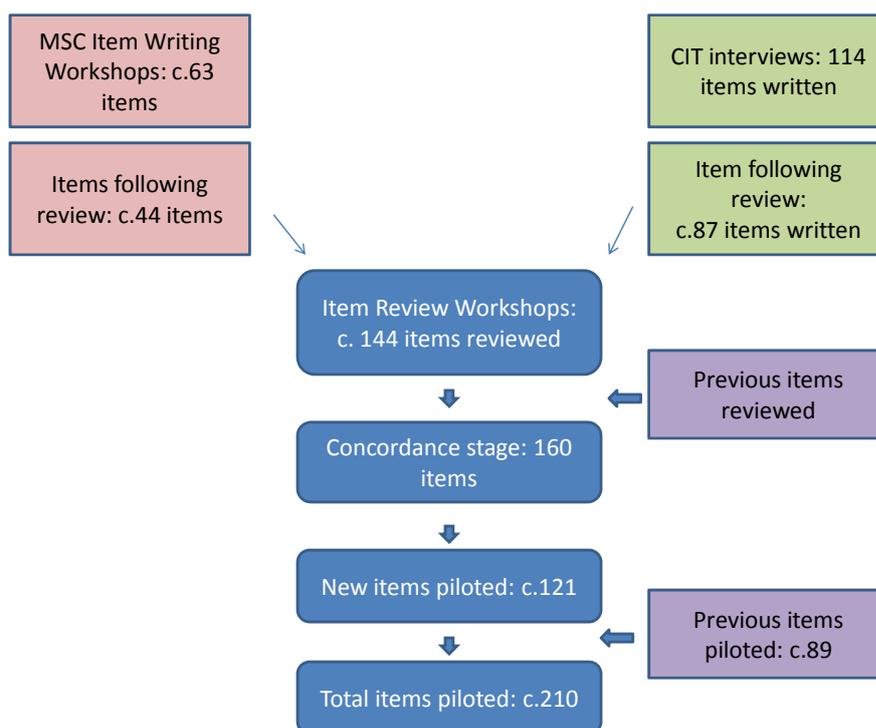


Figure 2: Summary of item development processes for the PRE SJT

- 5.1.4.1 The design specification for the SJT for selection to Foundation Programme had been defined, informed by an academic literature review and a comprehensive Job Analysis of the Foundation Year One Doctor⁸ to identify the key positive attributes, and the domains to be assessed by the SJT: Commitment to Professionalism, Coping with Pressure, Effective Communication, Patient Focus and Working Effectively as Part of a Team. Around 100 items had been piloted in 2010-11 and were found to have the necessary psychometric properties for inclusion in the item bank.
- 5.1.4.2 SJT items written during the PRE focused on the attributes of the domains least represented in the existing SJT item bank, to ensure that items written achieved a close to even spread of items across the five domains. The breakdown of the 177 items domains written linked to SJT item domain is summarised in Figure 3.

Target Domain	Number of items written
Commitment to Professionalism	28
Coping with Pressure	49
Effective Communication	17
Patient Focus	50
Working Effectively as Part of a Team	33

Figure 3: Summary of items written for the PRE SJT mapped by target domain

- 5.1.5 The SJT includes items of two formats, rank five response items (two thirds) and select three from eight (one third). For the PRE SJT, 114 Ranking items were written and 63 Multiple Choice.

⁸ Work Psychology Group (2011) [Appendix D: FY1 Job Analysis](#)

5.2 Item review

5.2.1 Clinician review

- 5.2.1.1 Items written at workshops and using CIT interviews were then subject to further clinician review and focus groups with clinical tutors and foundation doctors to ensure that the items had face validity, were non-ambiguous and were reasonable, realistic and fair.
- 5.2.1.2 All items from the item writing workshops were reviewed by the core team of item reviewers from Work Psychology Group. Where necessary, items were passed to a Lead Clinician for further review, in particular where there were clinical based queries. The Lead Clinician is an individual expert in SJT design and review who has previously worked on SJTs for entry to speciality training.
- 5.2.1.3 Of the 63 items written in the item writing workshops, 44 aligned with item writing principles but 19 were rejected. This is a 70% success rate. A Lead Clinician reviewed 17 (27%) of the items. Of the 114 items written from the CIT interviews, 87 items aligned with item writing principles but 27 were rejected. This is a 76% success rate. A Lead Clinician reviewed 21 (24%) of the items.
- 5.2.1.4 In addition to new items written, a number of items that did not demonstrate the required psychometric properties during previous pilots (2010-11), and also some items that were rejected following analysis of previous concordance panels, were reviewed with the intention of including them for the PRE pilot. Some items had minor changes and were deemed suitable to be piloted without further review. Items with more substantial changes were either reviewed by clinicians at workshops, or were included in the PRE concordance panel papers.

5.2.2 Review workshops

- 5.2.2.1 The aim of the review workshops was for SJT trained clinicians to review SJT items for relevance and fairness, as well as agreeing a scoring key. FY1s were also involved. Four review workshops were held; two in East Midlands and two in Peninsula. A total of 19 individuals attended the four workshops, including 4 FY2s.
- 5.2.2.2 During the workshops, attendees were split into two groups. As a group, with the aid of a facilitator, delegates reviewed no more than 20 items. Attendees were asked to consider the scenario content and the response. They were also asked to provide a possible answer key, which was compared with the answer key proposed by the item writers. Their comments and suggestions were recorded by the facilitator and updates were made to items.
- 5.2.2.3 A total of 144 items were reviewed during the focus groups. Following the review workshops, 5 items were rejected due to issues with relevance or fairness.

5.2.3 Concordance

- 5.2.3.1 In order to validate the SJT items further, concordance panels were conducted. Concordance panels involve SMEs, in this case clinicians working closely with FY1s, completing an SJT consisting of trial items. Following best practice in SJT design, the aim of the concordance stage was to identify a high level of consensus between experts on the item keys. Items that exhibited high levels of consensus were selected for piloting. Items exhibiting low levels of consensus were removed for further review, with changes made if necessary.
- 5.2.3.2 Two concordance panels were held with one paper reviewed at each panel; both papers consisted of 80 items. A total of 160 items therefore went to concordance; 126 of these were new items written for the PRE, and 54 items had been reviewed and refined since the previous pilots. At this stage, the tests were not constructed as final tests i.e. no consideration was given as to spread of item topics or domains, as the aim of the concordance panels was to analyse individual items.
- 5.2.3.3 A total of 23 individuals attended the concordance stage. One panel consisted of 11 individuals and one panel consisted of 12 individuals. This met good practice for concordance analysis, as a minimum of 10 individuals should be involved to ensure robust results.

- 5.2.3.4 Feedback on the item content was provided by the panel, and this resulted in some minor alterations to a small number of items to provide clarification. No item was altered sufficiently to affect the interpretation of the question or the answer key. Following the concordance panel meeting, a concordance analysis was undertaken to analyse the experts' level of agreement over the keyed response for each trial item. Using established criteria of acceptance levels, items were deemed either to have acceptable levels of concordance (149) or unacceptable levels of concordance (11).

5.3 Development of SJT papers

- 5.3.1 The PRE SJT comprised a shortened paper of 30 items in 1 hour, in place of the live SJT which will consist of 70 items in 2 hours 20 minutes, including 10 pilot items. The decision to run a shortened paper was taken by the ISFP Project Group in order to generate a high participation amongst applicants, which would be necessary to pilot in full the logistics of the delivery on this scale.
- 5.3.2 Seven papers of 30 items were used for the PRE SJT. This included 121 new items, and 89 items previously piloted and refined in light of pilot performance data.
- 5.3.3 Each paper consisted of 19 ranking and 11 multiple choice items. All items were unique to each paper i.e. there were no anchor items for test-equating. This was to assist with maximising the size of the item bank. As far as possible, an equal spread of the five target domains was selected for each paper, although the proportion for each paper was also a reflection of the number of items written within each domain.

- 5.3.4 **LESSON:** Continue item development and review in line with best practice, and involving clinicians from a range of specialties.
- 5.3.5 **LESSON:** Using item development interviews had benefits in that a broad range of individuals can be involved in the design process from across the country, without the need for a significant commitment in terms of time and effort. Item development workshops also had benefits in that they provided the opportunity for exchange of opinions between subject matter experts and training for item writers. Both methods produced the anticipated number of items per author. Therefore, to maximise benefits, future item development is likely to consist of both item writing workshops and item development interviews.
- 5.3.6 **LESSON:** SJT items used for selection (the 60 core items of the live 70 item paper) have been written and piloted more than twelve months previously. It would be prudent to include a clinical review of the items selected for use in a given application year, at the point of inclusion, to ensure that the item scenarios and responses are of current clinical relevance.

5.4 Schools, dates and venues

- 5.4.1 All UK medical schools were asked to run the SJT on at least one of three national dates for the PRE: 28 November 2011, 9 December 2011 and 9 January 2012. 28 of the 30 medical schools confirmed that they could do so. A fourth date was agreed, for the PRE only, for two medical schools whose applicants were dispersed on elective on the three national dates. In addition, the SJT was offered to Eligibility Office applicants undertaking clinical assessments as part of their application to the Foundation Programme, on 1-3 November 2011, and to all Eligibility Office applicants in a central London venue on one of the three national dates.
- 5.4.2 In total, the SJT was delivered in 72 venues by 30 UK medical schools⁹ and 2 centres for Eligibility Office applicants. Figure 4 summarises the dates used by medical schools to deliver the SJT.

⁹ The UKFPO acted as a medical school for Eligibility Office applicants. There was an additional session for applicants undergoing clinical assessments in Manchester on 1-3 November as part of their Eligibility Office application.

Date	Medical schools (multiple venues indicated in brackets)
1-3 November 2011	Eligibility Office (Manchester)
11 November 2011	Birmingham, Imperial
28 November 2011	Aberdeen (x5), Barts and The London, Brighton & Sussex, Dundee, Keele, Lancaster, Leeds, Liverpool, Manchester, Sheffield, Southampton (x14), St George's, UCL, Warwick, Eligibility Office applicants (London)
9 December 2011	Belfast, Cardiff (x2), Hull York (x2), King's College London, Leicester, Newcastle, Norwich, Nottingham, Peninsula (x5), Warwick, Eligibility Office applicants (London)
9 January 2012	Aberdeen (x6), Belfast, Bristol, Cambridge, Dundee, Edinburgh, Glasgow, Hull York, Manchester, Norwich, Oxford, Southampton, St George's, UCL, Eligibility Office applicants (London)

Figure 4: Summary of medical schools running the SJT by date

- 5.4.3 The dates of the SJT were challenging for some schools, for a number of reasons:
- 5.4.3.1 Students were geographically dispersed on clinical placements or electives and were not based full time at the medical school site. Taking the time out was a disruption to learning, particularly where the placements were short.
- 5.4.3.2 For some schools, the dates were outside of the usual examination period, and suitable venues were in use for other purposes.
- 5.4.3.3 The dates coincided with the examination period, and the venues usually used for exam halls were in use – or the decision was taken by that school not to timetable the SJT for the same week.
- 5.4.4 Most medical schools ran the SJT on a single site (for example Oxford, Sheffield) on a single date, but many schools did run more than one date in order to provide a catch-up for those students with extenuating circumstances on the first date. At least two schools ran the SJT across multiple sites with papers delivered to a single address, for onward transportation (Hull York - 2 sites on one date; Peninsula – 5 sites on one date). Three schools ran the SJT across multiple sites with papers delivered directly to the venue (Aberdeen – 6 sites in November plus 6 sites in January = 12 venues; Southampton – 14 sites in November plus 1 site in January = 15 venues; Cardiff – 2 sites in November).
- 5.4.5 Some schools running the SJT across multiple sites found that this had been challenging, although one SJT Lead did comment that this was routine.
- 5.4.6 All schools were asked to book venues that would usually be used for university exams, and quality criteria were specified, for example space for invigilators to walk between desks. Within each venue typically two rooms were used, with the second room designated for applicants with a disability and eligible for extra time.
- 5.4.7 Some schools chose to run the SJT across several rooms on one site; others hired an outside venue; others used the best available room, for example a lecture theatre, seating applicants at alternate row ends to keep to exam conditions as best possible.
- 5.4.8 There was a security breach at one school leading to the loss of the SJT paper used. This was in part as a result of the use of a lecture theatre, with applicants asked to pass their papers to the end of the row. Please refer to section 5.10 for the detailed security report.

5.4.9 LESSON: Early confirmation to medical schools of the dates and quality criteria to be used for the SJT, to facilitate timetabling and venue bookings.

5.4.10 LESSON: It is an absolute requirement that a venue is used which meets all of the quality criteria, namely a venue that is flat, light, quiet, airy and with space for invigilators to walk between desks. Where a suitable venue is not available within the university, schools are encouraged to source external venue hire. The requirements for the venue and layout have been circulated for FP 2013.

5.5 Secure printing, delivery and collection

5.5.1 Modified papers for applicants with a disability

5.5.1.1 SJT Leads were asked to confirm to the ISFP Team two months in advance of the first SJT date the maximum number of applicants intending to take the SJT on each date, any requirements for modified papers to support applicants with a disability, and the named contact and full address for the delivery of papers.

5.5.1.2 Modified papers were requested for applicants from 13 of the 30 medical schools, for use at 21 of the 72 venues. There were requests for coloured papers (six different pastel shades), single-sided, double spaced, font size (14, 16 or 20 point), and A3 enlargements, font type (Arial), and different combinations of these.

5.5.1.3 Each modification of the paper equated to a different print job, with different formatting (ie by enlarging the spacing or font, this limited the capacity to one not two items on a page) and in some cases a different number of pages. Efforts were made to minimise the number of print jobs, and all applicants who requested modified papers were provided with an enlarged font, double-spaced and single sided paper on the colour requested.

5.5.1.4 As far as possible, applicants requiring modified papers were provided with the modification for each of the SJT papers, the OMR answer sheet, the applicant evaluation form and the glossary.

5.5.1.5 The creation of the OMR answer sheet is limited by the coloured inks that scan. The OMR form used red ink on a white background – some pastel coloured papers (ie pink) did not scan correctly, and required manual transcription, with quality checks, of the answers onto a scannable answer sheet.

5.5.1.6 SJT Leads were provided with a template answer sheet to write the answers to the SJT items, for an invigilator to then transcribe to the answer sheet, if this was deemed to be an appropriate adjustment for the disability. Four applicants used the template answer sheet and a scribe.

5.5.1.7 One individual had a late approval of disability and required an A3 enlargement of the SJT paper. As an exception, the medical school was permitted to remove one SJT paper from the SJT venue in order to photocopy an enlargement. Both the original and the enlarged paper were returned.

5.5.1.8 LESSON: The range of requests for modified papers should be gauged before determining the common modifications to be provided and those to be accommodated on a case by case basis.

5.5.1.9 LESSON: The SJT paper and answer sheet will not be printed onto coloured paper. OMR answer sheets on coloured backgrounds do not scan. Applicants may use coloured acetates, without requiring evidence of a disability as this is deemed not to give advantage or disadvantage to an applicant, it is a personal preference¹⁰.

5.5.1.10 LESSON: If applicants cannot complete a red OMR on a white background, they should arrange in advance with their SJT venue for completion of the OMR on their behalf by an invigilator.

¹⁰ The British Dyslexia Association recommends the use of coloured paper. There are several thousand shades that could be requested, and should be accommodated under legislation.

5.5.2 Management of centralised printing

- 5.5.2.1 SJT Leads confirmed to the ISFP Team two months in advance of the first SJT date the number of papers required for that school, and the named contact and full address for the delivery of papers, for each venue receiving papers.
- 5.5.2.2 A minimum of 500 participants was required to take each of the seven different SJT papers, in order to provide confidence in the psychometric analysis. The ISFP Team reviewed the number of potential participants at each venue on each date, and allocated which version of the paper would be delivered. Efforts were made to ensure that only one version of the paper was taken by applicants at a given school (to minimise security risk and to enhance the value of feedback to participants); to ensure the split of numbers between each paper would be close to equal; to accommodate adapted print requests on the same date (to minimise print jobs); and to ensure that papers were taken in data order (to enable analysis of the SJT data to begin early on).
- 5.5.2.3 Stephen Austin & Sons Ltd were contracted by the Medical Schools Council to develop a machine markable answer sheet (OMR form), to scan the completed OMR answer sheets, and to manage the secure printing, collation and delivery/collection of paperwork to venues.
- 5.5.2.4 The final print specification (Figure 5) was confirmed with Stephen Austin & Sons Ltd one month in advance of the first SJT date. All PDFs were provided (12 SJT papers [7 standard versions plus 5 adapted versions]; Applicant Evaluation form; Glossary; Cover letter for each despatch). The number of papers distributed to each venue reflected the number of papers requested plus an additional c.5% contingency. All papers were printed in one go, collated into boxes by venue by date, and stored securely until the date for despatch.

Paper number	Number of venues					STANDARD PAPER	Modified printing (single-sided, double spaced, Arial font size 14 pt)								
	01/11/2011	11/11/2011	28/11/2011	09/12/2011	09/01/2012	No papers to be delivered cohort+5%	Cream	Pale Yellow	Pale Green	Pale Blue	Pale Beige	Pale Pink	Single sided	A3 pale yellow	A3 - white
One		1	18			1495	57	11							
Two		1	2			1040								1	
Three	1		12			1150							12		
Four				6		1390	4	6		9	20	1			1
Five			1	9		1095									
Six				1	7	1090									
Seven					10	1305	3		15						
Total	1	2	33	16	17	8565	64	17	15	9	20	1	12	1	1

Figure 5: Summary of SJT print specification for the PRE SJT

- 5.5.2.5 Ten days in advance of the PRE SJT pilot for a school, the ISFP Team emailed the SJT Lead with the RA numbers (please see Section 5.6 for full detail) and with a summary of the SJT papers requested (number of standard papers, number of adapted papers, and name, address and date for delivery).
- 5.5.2.6 After the printing had been completed and boxed up but before the date of the SJT - frequently in response to the confirmation email - there were 27 requests to amend the quantities of papers to be

delivered to a venue, or the delivery details. 23 of these requests were received prior to collection of boxes by the courier and these changes were made¹¹; as follows:

- 5.5.2.6.1 Incorrect/ incomplete address details provided – no reason given (x11) and office relocated (x2)
- 5.5.2.6.2 Contact name changed owing to maternity leave (x1) and role change (x4). 3 of these changes were made. However two changes were requested at late notice (after courier collection of boxes). In both cases the named recipient was a colleague in the department, albeit in a different part of the building, and local arrangements were put in place for the recipient to telephone the SJT lead on receipt of the boxes.
- 5.5.2.6.3 Additional venues added (x1) – the school had intended to run across 3 venues, but had subsequently decided to run across 5 venues. As such the boxed up papers contained the right total number of papers, but not divided appropriately. It was agreed that all 3 boxes should be delivered to a single address, for sorting and onward transportation.
- 5.5.2.6.4 Additional venues added (x6) - There was an agreement with Aberdeen to run the SJT in the Scottish islands. MSC agreed to deliver directly to these sites – this required earlier despatch of papers and handover of delivery from DHL to a local delivery company. The agreement was made around 3 weeks in advance of the SJT date to be used, but after the papers had been boxed and packaged.
- 5.5.2.6.5 Change in number of papers for delivery (x2) – deemed unnecessary to change. In one instance, the school had estimated the travel time between different venues incorrectly and so more applicants than expected were due to take the SJT at one location, with fewer applicants than expected at the other. An additional 5% of papers were sent to each venue, which fortunately, in both cases, was sufficient to accommodate the additional headcount

- 5.5.2.7 **LESSON:** Information management in a timely manner, including early liaison with SJT Leads to confirm the timeline information (two way).
- 5.5.2.8 **LESSON:** For FP 2013, information will be needed at applicant level, to enable the right number of papers to be sent in the event of extenuating circumstances, and to record which version of the paper on which dates the applicant has taken. SJT database to manage details for printing requirements and addresses for delivery, rather than Excel and email.
- 5.5.2.9 **LESSON:** Confirm with SJT Leads the number of papers (standard and modified) that they have requested, with the option for them to amend, prior to the print specification being finalised.
- 5.5.2.10 **LESSON:** There should be a single despatch of papers to the named SJT Lead, rather than to the venue. Schools running the SJT across multiple venues will need to agree in advance with the ISFP Team the secure arrangements for onwards transportation of papers.

5.5.3 Courier delivery and collection

- 5.5.3.1 DHL was used for secure courier delivery and collection of the SJT for all venues, with the exception of Lerwick, Stornoway and Wick, when DHL worked with a local partner.
- 5.5.3.2 All paperwork was delivered to the specified address (whether direct to the venue or the medical school) three working days in advance of the SJT, as agreed with the PRE Teams at the October workshop, except by prior agreement (seven working days for Scottish islands). The ISFP Team wrote to the SJT Lead 10 days in advance to confirm the date and delivery details.
- 5.5.3.3 The deliveries were managed by exception, in that medical schools were not required to confirm receipt of the papers. A number of schools voluntarily got in touch to confirm receipt of papers. The

¹¹ With one exception, as agreed with the medical school. A change to the name and room number was requested. However, the deliveries were already with DHL, and the named recipient was made aware to alert the SJT Lead on receipt of papers.

ISFP Team was only alerted to the non-receipt when contacted by the SJT Lead. In most cases this was on the day, or the next day; in two cases this was two days later (one day before the SJT).

- 5.5.3.4 There were around fifteen deliveries of papers that were not delivered directly to the named individual¹², most frequently being delivered to the university or NHS post rooms (x10) and sometimes signed for by colleagues at the same delivery address (x5). In one case the delivery had been received, but the recipient had not associated the delivery from 'Stephen Austin & Sons Ltd' with the SJT. For one delivery to the Scottish islands, the box was not received by the named recipient; this coincided with a hurricane force 11 storm. Papers were subsequently located.
- 5.5.3.5 Stephen Austin & Sons Ltd managed the courier collection and delivery of papers. When contacted by the ISFP Team, DHL provided the name and time that the delivery had been signed for. In all cases, the delivery was located and collected, with no breach of security, before the date of the SJT.
- 5.5.3.6 To reduce the issues with receipt of boxes by named recipient, boxes for the 2nd and 3rd date had red tape highlighting 'confidential – call recipient immediately'.
- 5.5.3.7 One school reported a discrepancy with the number in their cover letter and the number received (UCL, 200 instead of 220). This was reported to MSC before the SJT took place, and reflected a typing error on the cover letter rather than a delivery in the wrong number of papers.

- 5.5.3.8 **LESSON:** Explore courier delivery options, for example whether the courier could telephone the recipient to confirm that they are in the building and where the box has been signed for.
- 5.5.3.9 **LESSON:** SJT papers to be delivered, pre-boxed according to date and venue, three working days in advance, with some flexibility if papers are required earlier.
- 5.5.3.10 **LESSON:** ISFP Team to manage courier deliveries and receipt of SJT papers actively. SJT Lead to confirm receipt of papers, possibly via the proposed SJT database. ISFP Team to update SJT Lead with the named signatory and time of receipt. ISFP Team to telephone all SJT Leads who have not confirmed receipt of SJT papers as expected.
- 5.5.3.11 **LESSON:** To put in place a contingency plan for a) the non-receipt of hard copy of SJT papers (in advance of the SJT date), and b) extreme weather conditions disrupting deliveries or applicant attendance.

- 5.5.3.12 The instructions for return were provided in the delivery of papers to the venue, including the account details to arrange for courier return. Two schools reported that they had misplaced the covering letter (with instructions for return). Both schools were provided with this information by phone/email.
- 5.5.3.13 The lead invigilator for each venue was asked to ensure that all papers were counted back in, and sealed in tamper proof envelopes (provided, labelled), whilst in the venue. All paperwork was to be returned, except the glossaries, which were not confidential, including any unused papers. An address label was provided for return, and leads were asked to re-use the box that the papers had been despatched in.
- 5.5.3.14 SJT venues were asked to telephone for courier collection on the day of the SJT, for pick up the next working day.
- 5.5.3.15 Many SJT venues did return the SJT papers as instructed within one working day, and the majority of SJT venues returned SJT papers within three working days. However there were delays of

¹² N.B. it was not practical to specify that the courier delivered only to the named individual, as this would be prohibitively expensive, recognising that some individuals are unexpectedly absent or may be in meetings. Therefore it was permissible for another colleague to sign for the delivery. The boxes were labelled 'Confidential – please telephone recipient immediately on receipt'.

between five and twelve working days in the return of SJT papers from five SJT venues, despite regular communication from the ISFP Team. Reasons included DHL courier collection from an incorrect address; SJT Lead staff sickness leading to delay in arranging the courier collection; competing staff priorities (did not have the resource to count up and separate papers into separate envelopes – N.B. this was also a security risk). This added significant time delay before the scanning could be completed.

- 5.5.3.16 Two boxes of papers received by Stephen Austin & Son Ltd had not been sorted into separate envelopes for the SJT papers, OMR forms and evaluation forms, with some papers tucked inside each other, and placed upside down/ back to front. N.B. there was no instruction asking for papers to be returned in a particular order.
- 5.5.3.17 Some surplus paperwork (for example registers) was returned, which was subsequently discarded.
- 5.5.3.18 There appeared to be some confusion with returning to Stephen Austin & Sons Ltd rather than MSC or ISFP. One SJT venue crossed out the address label provided, and wrote the address for the MSC in its place. The box was delivered whilst there was no one to sign for it, and left in a corridor over the weekend. There was no breach of security, and the box was immediately set on to Stephen Austin & Sons Ltd. See section 5.10.3.3 for full detail.

- 5.5.3.19 **LESSON:** The timeframe for the return of papers is a requirement and is non-negotiable. For FP 2013, the timeframe is extremely tight, particularly following the third date. All SJT Leads to be made aware of the importance of the turnaround of papers.
- 5.5.3.20 **LESSON:** Boxes to be delivered and returned should be labelled Medical Schools Council c/o Stephen Austin & Sons Ltd, to avoid confusion.
- 5.5.3.21 **LESSON:** Clarify the instructions for return to specify that papers should be returned in alphabetical order, the right way up, and in separate envelopes by venue.
- 5.5.3.22 **LESSON:** The instructions for the return of paperwork and courier collection should be made available electronically, possibly via the SJT database (fileshare).

5.5.4 Consideration of online delivery

- 5.5.4.1 The PRE SJT was a paper-based assessment, and this is the basis for the Cost Benefit Analysis. The challenges and benefits of online delivery differ – for example this would enable item randomisation, automated marking, and removes some security risks around handling of papers and answer sheets. However, it is associated with technical challenges and the infrastructure to deliver an assessment in the requisite volume is not in place for all medical schools, and nor is the item bank yet sufficiently large to accommodate multiple sittings.
- 5.5.4.2 Three medical schools noted that they would be concerned about running the assessment online. Two medical schools felt that it would be better to run the SJT online, and a third medical school asked whether if electronic delivery was pursued, additional resource would be provided.

- 5.5.4.3 **LESSON:** Communicate that for FP 2013, the SJT will be paper-based only. However there is ongoing work to explore the options for electronic delivery of the SJT.
- 5.5.4.4 **LESSON:** Explore the costs and logistics for online delivery of the SJT.

5.6 Use of FPAS Reference Numbers (RA) and paper numbers

- 5.6.1 All final year students were asked to take part in the PRE, and the invitation to participate was extended to all FP 2012 applicants.

- 5.6.2 All applicants to FP 2012 had a unique nine digit FPAS Reference Number, called the RA number, which was used anonymously to correlate SJT and EPM performance with other information held on the FPAS system, and enabled all applicants to be provided with feedback on their performance in the PRE. Eligibility Office (EO) applicants were asked to complete their EO number, which was matched with their RA number for analysis and evaluation.
- 5.6.3 For students taking part in the PRE who had not completed an FPAS application – those who had applied to a Foundation programme through the Defence Deanery, or who were taking a year out after graduation – were asked to record 333- or 444- (respectively) followed by their Date of Birth. They were also asked to provide an email address if they wanted to receive feedback.
- 5.6.4 Participants in the PRE were asked to bring with them their RA number, as well as a pencil and rubber, to take part in the SJT. SJT Leads were also provided with a mastercopy of the names and RA numbers, in case anyone had forgotten to bring their RA number with them.
- 5.6.5 RA numbers were provided to the ISFP Team using a secure web-based login¹³. The ISFP Team then emailed the SJT Lead with a password protected document containing all RA numbers and the first and second names. SJT Leads were asked to handle the data sensitively and in confidence, as it contained personal information.
- 5.6.6 Many SJT Leads reported that applicants had brought their RA numbers with them on their phone or on scraps of paper – neither was permitted in the venue (security requirements).
- 5.6.7 The Administrators' Guidance had recommended that invigilators be provided with the mastercopy of RA numbers, and used post-it notes to provide these to participants once the SJT was underway; however this did introduce the risk of human error. A few schools had created registers using the RA numbers for use in different venues, and one school (Belfast) created RA placecards for the desks. Both methods were time consuming, but effective. A few schools made suggestions for improvement, namely the use of placecards, or the provision of FPAS Reference Numbers sorted by date.
- 5.6.8 **LESSON:** Provide placecards sorted into alphabetical order by venue by date, which includes applicant name and FPAS Reference Number. This would also facilitate the sorting of papers into alphabetical order ready for the return for scanning.
- 5.6.9 **LESSON:** Provide SJT Leads with access to FPAS Reference Numbers and applicant names via the SJT database. This would have the advantage of managing all information at applicant level, including 'no shows', requests for modified papers, and so on.
- 5.6.10 It is essential to identify the individual applicant and the version of the paper completed, particularly with seven different papers in use during the PRE. Applicants were asked to write their RA number and paper number on the top of their OMR answer sheet, and fill in the corresponding lozenges underneath.
- 5.6.11 There was confusion around completion of the paper number to be recorded as there were two different numbers on the front of each SJT paper. A quality check was in place, by scanning OMR forms in batches by medical school and by date. However it is likely for FP 2013 that more than one version of the paper will be taken, at random, by applicants at the same medical school.
- 5.6.12 There were 471 incorrectly completed applicant details or paper numbers on the OMR forms, summarised in Figure 6. As an additional quality check, applicants were also asked to write their name and the name of the medical school. Using this information, the correct RA numbers were identified and manually completed for 443 of the 471 incorrectly completed forms. 21 duplicate RA

¹³ There were some small differences between the nominee list provided to FPAS by the medical school, as RA numbers were only allocated to those students who had completed their FPAS application.

numbers were recorded. There were quality checks for duplicates by batch (venue and date); however this did not identify the duplicates. Additional quality checks will need to be introduced on the entire dataset to identify duplicates, and RA numbers not in the required format.

- 5.6.13 Of the 6,842 participants, 6,512 were provided with their feedback on FPAS and a further 108 participants were emailed directly (non-FPAS participants). There were 195 completed OMR forms which did not match any RA numbers on the system.
- 5.6.14 It is hoped that a proportion of the inaccurate completion of the OMR forms reflected applicant apprehension about the anonymity of the PRE SJT. When the SJT is live, non-completion of the FPAS Reference Number or paper number could result in a zero score for the applicant. Additional quality checks can be introduced at every stage with the use of applicant data, rather than headcount data.

Correctly completed OMR forms	6,371
Incorrectly completed OMR forms	471
<ul style="list-style-type: none"> No number provided 	388
<ul style="list-style-type: none"> Number provided but no lozenges filled in 	50
<ul style="list-style-type: none"> Lozenges did not match number provided 	33
<ul style="list-style-type: none"> Duplicate RA number (different scoring patterns) 	5

Figure 6: Summary of OMR scanned details

- 5.6.15 **LESSON:** Provide placecards sorted into alphabetical order by venue by date, which includes applicant name and FPAS Reference Number. This would also facilitate the sorting of papers into alphabetical order ready for the return for scanning.
- 5.6.16 **LESSONS:** Explore personalisation of OMR answer sheets – either paper number or FPAS Reference Number, as both will be needed to return an SJT score to the applicant. Update the administrative guidance to reflect any changes to applicant instructions.
- 5.6.17 **LESSON:** Additional quality checks to be introduced to check the completed FPAS Reference Number and paper number detail is in the appropriate format and no duplicate numbers recorded.

- 5.6.18 SJT Leads were asked to complete an 'attendance declaration' summarising the number of participants, details of late arrivals and the ID numbers allocated to participants who did not have an FPAS Reference Number.
- 5.6.19 As there was only one form per delivery, this did not allow for multiple forms to be completed if multiple venues were used (for example if using separate rooms for extra time). There were some discrepancies between the reported number of participants and the number of completed OMR forms returned. This was accorded to human error.

- 5.6.20 **LESSON:** SJT Lead to alert the ISFP Team to the individual 'no show's on the date of the SJT, so that appropriate papers can be despatched for the next SJT date to which the individual would, presumably, be registered.
- 5.6.21 **LESSON:** Continue quality checks on receipt of papers; spot check comparison of scanned OMR forms with the originals; number of rows of applicant data returned from the scanned OMR forms.

5.7 Participation

- 5.7.1 Participation in the PRE was voluntary but expected of all final year UK medical applicants. This included final year medical students who had not completed an FP 2012 application, for example academic Foundation Programme applicants or those applying through the Defence Deanery, as both groups would in future be required to take the SJT. Non-UK applicants to the Foundation Programme 2012 were also invited to attend an SJT in London.
- 5.7.2 Incentives were offered to encourage participation in the PRE, following a lower than hoped participation during the 2010-11 pilots (around 25%). Incentives included feedback on the SJT and EPM in the form of a decile (see Appendix H); entry into a prize draw to win one of five i-pads¹⁴; and suggestions that PRE Teams might implement locally for example certificates of participation or provision of catering. Our understanding is that the latter two suggestions were rarely used, if at all – and it would appear that the biggest drivers for the high participation rate achieved would be the efforts of PRE Teams in releasing students from timetabled activities, and the provision of feedback to both schools and participants (see Appendices G and H).
- 5.7.3 All applicants were advised that performance on the PRE SJT would not affect their FP 2012 application in any way, and only they would be provided with feedback on their performance. Following feedback from the PRE Team at the workshop in October 2011, it was agreed that anonymised feedback would also be given to medical schools regarding how many of their applicants were in each decile of SJT performance, but not identifying any individual.
- 5.7.4 There were 6,842 medical students and FPAS applicants who participated in the PRE SJT, equivalent to an overall 90% participation (N.B. some medical schools achieved 100% participation).
- 5.7.5 Reasons for non-participation reported by medical schools included:
- | | | | |
|---------|--|----------|---|
| 5.7.5.1 | On placement/elective | 5.7.5.2 | Travel disruption |
| 5.7.5.3 | Not applying to the foundation programme | 5.7.5.4 | Jury duty |
| 5.7.5.5 | Illness | 5.7.5.6 | Participating in an international sport event |
| 5.7.5.7 | Bereavement | 5.7.5.8 | Date in immediate run up to finals |
| 5.7.5.9 | Late arrival | 5.7.5.10 | Not wishing to participate (one school gave a professionalism warning to students giving this reason) |
- 5.7.6 Participant demographic data were collected from the FPAS application. Demographic data were not collected for participants in the PRE who did not complete an FPAS application. Figure 7 summarises the number of participants by gender, ethnicity and paper.
- 5.7.7 Overall, more females participated in the pilot (3,724, 54.4%) than males (2,657, 38.8%) (reflecting the male/ female split of medical students) and the proportion of males and females was roughly equal across all seven papers. The majority of the sample declared themselves to be White British (60.8%), whilst the minority declared themselves to be of Black and Minority Ethnic origin (BME) (30.3%).
- 5.7.8 The mean age of the entire sample was 24.7 years, with a range of 21 – 56 years.
- 5.7.9 The sample sizes for each paper are well above the requirements outlined in the test specification (minimum 400 participants per paper) and as such confidence can be placed in the outcomes of the psychometric analysis.

¹⁴ The prize winners were drawn at random using an Excel function and their RA number to identify them. The winners were from Southampton, Bristol, Belfast, St George's and Oxford and were announced on www.isfp.org.uk in March 2012.

	No. of participants	Percentage of sample	Gender			Ethnicity		
			Male	Female	Not declared	White	BME	Not declared
Paper One	1188	17.4%	38.0%	56.2%	5.8%	52.7%	38.8%	8.5%
Paper Two	881	12.9%	39.0%	54.4%	6.6%	55.7%	35.3%	9.0%
Paper Three	853	12.5%	38.7%	49.9%	11.4%	61.1%	25.6%	13.3%
Paper Four	1183	17.3%	38.4%	54.9%	6.7%	68.8%	22.3%	8.8%
Paper Five	889	13.0%	39.9%	55.0%	5.1%	67.8%	25.6%	6.5%
Paper Six	822	12.0%	38.7%	56.0%	5.4%	46.8%	44.8%	8.4%
Paper Seven	1026	15.0%	39.5%	53.8%	6.7%	70.1%	21.6%	8.2%

Figure 7: Participation by gender and ethnicity by paper

5.8 SJT performance data

- 5.8.1 As outlined in section 2.2, the PRE was undertaken for a number of reasons, principally to ensure that the logistics are in place ahead of implementation for FP 2013. The purpose was not to evaluate the use of the SJT for Selection to the Foundation Programme. However, full psychometric analysis of the tests was carried out. Key findings from this analysis are outlined below. Further details can be found in Appendix F.
- 5.8.2 SJT papers in the PRE contained 30 items and were only half the length of the full 'live' test. Where possible, corrections have been made to the data to make estimations based on a 60 item test, but this is not possible for all analyses, therefore results should be interpreted with caution. After initial review of the results, 60 participants were removed from the analysis for either high number of missing items or for erratic scoring patterns (e.g. tied ranks, only ranking best and worst). Test level analysis was carried out for all seven papers separately, as the tests have not been equated and the data would therefore be meaningless.
- 5.8.3 Overall, 96% of participants completed all 30 items within the paper. 3.2% of participants (216) did not finish the test (categorised by not completing item 30). 0.8% of participants missed more than 4 items. These results are comparable with previous pilots (97.2% completion rate in 2011 pilot) and confirm that the SJT is a power test, rather than a speeded test. This indicates that 120 minutes is an appropriate length of time to complete 60 questions.

5.8.4 **LESSON:** A 60 item SJT test is a reliable measurement methodology for selection to the Foundation Programme, to assess the breadth of SJT domains and to provide discrimination between applicants. The range of item scores for a 30 item test (half the length of a fully operational test) was as expected, and was able to differentiate sufficiently between applicants. The SJT for FP 2013 will include 60 'live' items and 10 pilot items to be taken in 140 minutes, with ongoing work to review and evaluate the SJT.

- 5.8.5 Figure 8 illustrates the test level statistics of reliability, mean score, skew, standard deviation and score ranges.

	N	Reliability (α) ¹⁵	Reliability (α) ¹⁶	Mean score	Mean score (%)	Skew ¹⁷	SD	Min Score	Max Score
Paper One	1176	0.69	0.84	399.2	78.0%	-0.63	20.0	317	452
Paper Two	867	0.65	0.85	399.5	78.0%	-0.44	18.5	322	444
Paper Three	847	0.71	0.87	414.3	80.1%	-1.14	18.9	305	454
Paper Four	1177	0.63	0.82	409.6	80.0%	-0.68	18.0	312	468
Paper Five	880	0.72	0.80	413.1	80.6%	-0.64	19.3	316	468
Paper Six	814	0.66	0.80	411.7	80.4%	-0.62	17.3	326.5	461
Paper Seven	1021	0.63	0.80	401.6	78.4%	-0.44	17.9	334	450

Figure 8: Test level statistics by paper

- 5.8.6** The reliability for all seven papers outlined in Figure 8, column 4 is $\alpha=0.80$ and above; sufficient for the use of an operational SJT, and in one case (Paper 3) is $\alpha=0.87$. The estimated internal reliability for a 60 item test (including those with poor psychometric properties) is provided in column 3. This is lower than may be expected, however this is likely to be due to the composition of the items within the test.
- 5.8.7** The mean scores for the seven papers are similar and range from 399.2 to 413.1. The mean scores represent between 78.0% and 80.6% (maximum possible score of 512); this is comparable with the mean score from the spring pilot (81.5%). The standard deviations range between 17.3 and 20.0. The standard deviation indicates how much variation there is from the mean. A low standard deviation indicates that the data points tend to be very close to the mean, whereas a higher standard deviation indicates that the data are spread out over a large range of values. As would be expected with a shorter test, the mean SD (18.6) is lower than in the previous spring pilot (mean SD=34.3).
- 5.8.8** Scores range from 305 to 468 (a range of 163 scores). Paper 7 has the lowest distribution of the seven papers, and paper 4 has the greatest distribution. The distributions of the seven papers are as expected for a shorter test with a lower available maximum score. Results show a close to normal distribution and therefore indicate that the SJT is capable of differentiating between applicants.

¹⁵This is based on a 60 item test, including poorly performing items

¹⁶Corrected using Spearman Brown formula for those items that were psychometrically robust to provide an estimation of the reliability of a 60 item test with similar quality items

¹⁷ A negative skew indicates that the majority of scores lie to the right of the mean

5.8.9 LESSON: Findings from the PRE give further evidence that the SJT is a reliable measurement methodology. Test level analysis was consistent with findings from previous reports and was as expected for a shortened test. Once all psychometric properties are known for SJT items, items with a range of difficulty will be used to assist with the distribution of scores in live SJTs.

5.8.10 Female participants scored slightly higher than male participants on all papers, though these differences were not significant. Across all papers 'white' participants scored higher than 'BME' participants. This difference was found to be statistically significant for all seven papers and particularly high in Paper Five. 27% of items were flagged for ethnicity differences, although proportions were roughly equal (white participants performed better on 31 items; BME participants performed better on 26 items).

5.8.11 LESSON: Items displaying group differences will be reviewed to identify whether there appears to be any bias in the item content. Once reviewed, if the items do appear to demonstrate bias, items will either be adjusted and re-piloted, or will be removed from the item bank.

5.8.12 Following analysis of item performance 53% (111) of the items were deemed as good, 25% (42) were deemed moderate and 27% (57) require further review. This is in line with expectations of item redundancy, particularly as a number of items piloted had been found to have poor item performance in previous pilots.

5.8.13 Following the PRE, there will be more than a sufficient number of items in the item bank for live selection in 2013. Further, in depth review of items from the PRE will take place with the expectation that a significant proportionate will be added to the item bank.

5.8.14 SJT items were compared with current FP methods (quartiles and an application form with competency-based questions). Significant correlations were found between SJT scores and quartiles scores for all seven papers. Significant correlations were found between SJT scores and the application form for five papers. Correlations between SJT and application form scores for all the papers tended to be lower than those between SJT and quartiles scores. While there were significant correlations, showed a large amount of variance was present. Therefore, the SJT appears to be assessing somewhat different constructs to the other methods.

5.9 Participant evaluation of the SJT

5.9.1 All participants were asked to complete an evaluation questionnaire regarding their experience and perceptions of the SJT. A total of 6,788 (99.2%) participants completed the questionnaire. Participants were asked to indicate their level of agreement with several statements regarding the content of the SJT paper, the results of which are shown in Figure 9.



Figure 9: Summary of participant evaluation of the PRE SJT

- 5.9.2 84% of participants who completed an evaluation form felt that the test instructions were clear and easy to understand, 65% thought that the information given about the pilot was clear and helpful.
- 5.9.3 79% of participants agreed or strongly agreed that the content of the SJT seemed relevant to the FP.
- 5.9.4 77% felt that the scenario content was appropriate for their level of training and 66% considered that the difficulty level was appropriate. If they felt that the level of difficulty was not appropriate, participants were asked to indicate whether they felt that the test was too hard or too easy. 695 (19.4%) participants responded; 135 participants felt that the test was too easy and 560 felt that it was too difficult.
- 5.9.5 Overall, 41.6% of participants agreed or strongly agreed that the content of the test was fair, with 31.4% neither agreeing nor disagreeing with this statement.
- 5.9.6 When considering whether the results of the test would help differentiate between the strong and weak participants, 27.3% agreed or strongly agreed, whilst 42% neither agreed nor disagreed with this statement.
- 5.9.7 Participant perceptions of the PRE SJT were mixed about the fairness of the SJT, and its ability to differentiate between applicants, whilst the results demonstrate that the SJT does provide sufficient differentiation, and that the content is pitched for the FY1 role. Applicant feedback will continue to be sought, in order to inform ongoing work to better understand applicant perceptions of the SJT and how the feedback might be interpreted.
- 5.9.8 Medical schools, in their PRE Evaluation Reports, indicated the reactions of participants from their school. Generally, participants were reported as reacting positively to the assessment. Several schools praised their students for their professionalism, others reported that students had found it an enjoyable exercise and been very engaged in the process. Reports of negative reactions were not common, though one school noted that 'students seemed indifferent' and others noted that some students may not have taken it as seriously as they could have done. Reported student concerns included:
- 5.9.8.1 Feeling there was insufficient time to complete the SJT
- 5.9.8.2 Wanting more practice questions available
- 5.9.8.3 Being unsure why clinical knowledge was not part of the assessment
- 5.9.8.4 Not being convinced of the benefits of taking part in the PRE
- 5.9.9 However, schools also noted that students felt that scenarios were realistic and preferred the SJT over 'white space' questions. One school noted that the SJT helped students to reflect on whether they were prepared for the Foundation Programme.

5.9.10 **LESSON:** Feedback from applicants will continue to be sought to inform the ongoing review and evaluation of the SJT.

5.9.11 **LESSON:** Initiate ongoing research work into the evaluation of the SJT, including tracking to monitor the predictive validity of the SJT.

5.10 Security

- 5.10.1 The SJT items included in the SJT papers used for the PRE SJT were live content. Security was paramount throughout. Secure processes included:
- 5.10.1.1 Confidentiality agreements with individuals involved in item development and review
- 5.10.1.2 Confidentiality agreements with medical schools receiving and handling papers
- 5.10.1.3 Service Level Agreements with WPG and Stephen Austin & Sons Ltd
- 5.10.1.4 Secure document fileshare (password protected)

- 5.10.1.5 Secure printing processes: papers stored and transported in tamper proof bags; paperwork was stored in a remote, security-patrolled warehouse; papers were counted on arrival, and scanned in and out for courier despatch and collection.
- 5.10.1.6 Applicant data were handled and stored in accordance with the Data Protection Act 1998.
- 5.10.2 Security processes were followed strictly, and there was no breach of security in the document storage or fileshare. There were no breaches of security in the storage of papers either at medical schools or at the secure printers and distributors.
- 5.10.3 There were four potential security risks; and one actual breach of security, described in turn below:
- 5.10.3.1 One SJT paper was missing from the return from Leeds School of Medicine. This was reported to the ISFP Project Team before the DHL delivery had been received, and it was confirmed that the missing paper had been shredded. The paper had been removed from the SJT venue to show to a colleague, but not returned before the papers were counted and boxed for return.
- 5.10.3.2 There were ten papers thought to be missing from the return from Peninsula College of Medicine & Dentistry. These were located within minutes of alerting the SJT Lead, who confirmed that all ten were still inside the original tamper-proof bag, and stored in a safe. The papers were returned by DHL courier.
- 5.10.3.3 One of the Southampton NHS venues replaced the provided address label for the return of papers to Stephen Austin with the address for the Medical Schools Council. The package was not expected, and arrived whilst the office was closed for an away event – the package was not locked up over a weekend as a result. The package was intact; however this not only risked a breach of security, but also added a time delay to the receipt and scanning of papers.
- 5.10.3.4 As discussed in section 5.5.3.4 there were around ten instances where the DHL delivery was not received directly by the named recipient, and was either signed for by the central postroom, or by other staff members at the medical school. In one instance, the delivery was left in a pigeon hole for around 10 minutes – there was no breach of security.
- 5.10.3.5 There was a breach of security at Cambridge School of Clinical Medicine, with seven of the applicants leaving the assessment with copies of the SJT paper. A tiered lecture theatre had been used, as no flat venues were available; applicants were asked to pass their papers to the end of the row. As the lecture theatre was booked for use immediately after the PRE SJT, invigilators were only able to count the papers after applicants had left the room. Five of the applicants have returned the SJT paper. A sixth SJT paper was returned anonymously, the seventh is still missing. The 30 SJT items in the paper have therefore been lost for inclusion in the SJT item bank. The ISFP Project will publish the item paper with an accompanying answer key.

- 5.10.3.6 **LESSON:** Applicants must remain seated in silence until the end of the time allowed for the SJT, and until all paperwork has been collected by invigilators.
- 5.10.3.7 **LESSON:** So as to minimise disruption to other applicants, and to facilitate the collection of SJT paperwork in order, no applicant may leave the SJT venue early.
- 5.10.3.8 **LESSON:** Where an applicant paper is not returned, the SJT is invalid and they will be removed from the process of application.

6. PRE EPM

6.1 Approach

- 6.1.1 The EPM framework was agreed by students, employers and all medical schools in 2011 following consultation, piloting and the advice of a Task and Finish Group¹⁸. The EPM comprises:
 - 6.1.1.1 Medical school performance (calculated in deciles), worth between 34-43 points
 - 6.1.1.2 Additional degrees, worth between 0-5 points
 - 6.1.1.3 Other educational achievements, worth between 0-2 points
- 6.1.2 The agreed EPM framework set out the core principles to be used when calculating EPM decile points to reflect medical school performance. The principles enabled local flexibility to determine the weightings of different assessments to be used, but specified that assessments should be summative, represent the average performance rather than a snapshot, and should include written and practical forms of assessment.
- 6.1.3 As part of the PRE, medical schools were asked to consult with students to agree a 'basket of assessments' in autumn 2011, and to align their method of calculating medical school performance with the agreed common principles. Medical schools were then asked to calculate EPM deciles for the cohort applying to FP 2012, and to provide a copy of the agreed framework to the ISFP Team in January 2012. Feedback from medical schools regarding the construct of the 'basket of assessments', student engagement, and any contentious issues, was reported in the PRE Team reports returned to the ISFP Team in January 2012.
- 6.1.4 No piloting was necessary for the EPM components of additional degrees or other educational achievements, as the method of providing evidence for verification is unchanged.

6.2 Medical school consultation on the 'basket of assessments'

- 6.2.1 Of the 30 medical schools involved in the PRE EPM, 27 undertook specific consultation around the calculation of EPM deciles. The remaining three schools (Imperial, Leeds, Liverpool) confirmed that they routinely consult, or had very recently consulted, and that the existing method of calculating medical school performance aligns with the EPM principles.
- 6.2.2 All schools maintained communication with the wider student body electronically throughout, and following the consultation. The majority of medical schools convened a review meeting with student representatives as part of the consultation (x19), and/or reviewed proposals for change at a formal Staff Student committee (x11). Other approaches to the consultation included an online survey or forum (x8), consultation via the intranet, email or newsletter (x9), open meetings with students (x5), feedback from the wider student body via student reps (x5) or convening a working group (x1).
- 6.2.3 All 27 medical schools which undertook a new phase of consultation confirmed that the feedback through consultation did inform the final agreement, and in the majority of schools, that student representatives were part of the committee which ratified the construct of the 'basket of assessments'.
- 6.2.4 The majority of medical schools expressed satisfaction at student engagement, indeed several schools commenting that the involvement had been particularly positive and that students seemed to appreciate being consulted (eg Belfast, Birmingham, Dundee). In a minority of schools, student response was low (eg King's College London), although this could be interpreted to reflect satisfaction with the current system – or being less engaged with the selection process, as was the case for students in earlier years.
- 6.2.5 A small number of schools reported that the consultation process had brought a wider understanding of, and support for, forthcoming changes (eg Brighton and Sussex). Cambridge also

¹⁸ Medical Schools Council (2011) [Appendix H: EPM Pilot Report](#); Medical Schools Council (2011) [Appendix I: EPM Task and Finish Group report](#)

commented that it had been helpful to have the support of student representatives when presenting the local framework to the whole cohort in the PRE lecture.

- 6.2.6 All medical schools except two reported that students were either happy with or neutral about the evolution from quartiles to deciles. Indeed several schools reported that students felt the use of deciles is fairer 'because the current use of quartiles is too broad to demonstrate much difference between higher and lower scores' (eg Belfast, Edinburgh, Hull York, Manchester, Newcastle, UCL).
- 6.2.7 Southampton reported that more information was needed to reassure students that the use of deciles was fairer to those at the margins.
- 6.2.8 Oxford reported 'widespread dismay amongst the student body as a whole at the new decile system', although reflected that this was less about the use of deciles in place of quartiles, but the use of the score as a comparable measure between medical schools.
- 6.2.9 Several schools (Brighton and Sussex, King's College London, Liverpool, Southampton) reported that there was a feeling of dissatisfaction with the timing of the introduction of a new selection method, as the students felt that this was 'moving the goalposts'.
- 6.2.10 Other feedback from students concerned specific inclusions or exclusions of assessments, or the weightings that should be used locally. This feedback was resolved locally.
- 6.2.11 The approaches to consultation on the PRE EPM are summarised in Figure 10.

	Final framework		Consultation process									Further comments
	Online (intranet)	Email/ other method	Email/ VLE/ letter to all students	Email to elected student reps	Convened meeting of elected student reps	Meeting with whole year groups	Student reps consulted with cohort	Survey/ questionnaire (all students)	Review by Staff Student committee	Working party convened	No new consultation	
Aberdeen	✓	✓			✓	✓		✓				<ul style="list-style-type: none"> Met with class reps from every year of the course Staff addressed whole cohorts (Yrs 1&2); Q&A sessions Online opinion poll (447 respondents) Involved local BMA rep in discussions and reaching decision Voted overwhelmingly to retain existing method and rules
Barts, QMUL	✓	✓		✓								<ul style="list-style-type: none"> Sent to Senior Staff-Student Liaison Committee Existing quartiles method aligns with principles
Belfast	✓		✓		✓		✓					<ul style="list-style-type: none"> 13 of the 31 invited student reps attended consultation meeting All students emailed notes regarding how quartiles were calculated, the proposed basket of assessments, and the rationale for changes Student reps then consulted informally & feedback to staff
Birmingham	✓		✓			✓		✓				<ul style="list-style-type: none"> Email to all students to explain the process; voluntary Q&A session 36% response rate to online consultation Two areas where students were in equipoise – the decision was reached by the Dean and Vice Deans: 1. Not to include the SSA, 2. Use first attempt scores (not capped at the pass)
Bristol			✓		✓			✓				<ul style="list-style-type: none"> Regular briefing and dialogue by email; meeting with elected reps Choice of 2 options proposed via survey (to Years 1-4) Proposal to convert to z-scores explained in newsletter Final decision about contents remains with Senior Management
BSMS	✓		✓		✓							<ul style="list-style-type: none"> Draft ranking scheme discussed with Student Affairs Committee Draft scheme published on intranet; all students were invited to comment, 18 comments were received Some amendments made in light of student feedback

	Final framework		Consultation process									Further comments
	Online (intranet)	Email/ other method	Email/ VLE/ letter to all students	Email to elected student reps	Convened meeting of elected student reps	Meeting with whole year groups	Student reps consulted with cohort	Survey/ questionnaire (all students)	Review by Staff Student committee	Working party convened	No new consultation	
Cambridge		✓			✓	✓	✓					<ul style="list-style-type: none"> • Staff team met, and communicated via email, with student reps and PRE Student Champion, to discuss plans, changes & concerns • Representatives liaised with cohorts • Final framework proposal discussed at meeting of student reps & Clinical Dean • Was helpful to present this formally in PRE Lecture with student reps
Cardiff		✓	✓		✓				✓			<ul style="list-style-type: none"> • Discussed at the Staff-Student Group and Board of Medical Studies • All students in Years 3&4 were sent a letter about the framework • Separate discussions with reps of Swansea graduate entry • Issue not contentious as essentially continuing same methodology
Dundee	✓				✓			✓				<ul style="list-style-type: none"> • Met with year group reps and Medical Students Committee • Opinion poll sent to all students
Edinburgh	✓			✓								<ul style="list-style-type: none"> • Deciles framework is a straightforward continuation of quartiles, with minor adjustments ie students repeating final year • Student reps have been consulted to ensure they are happy with this
Glasgow	✓				✓				✓			<ul style="list-style-type: none"> • Staff/student meeting followed by discussion at the Assessment Working Group with student lead present for discussion • The same assessments and scoring used for quartiles, with the removal of a block of pass/fail assessments, were agreed for deciles
Hull York	✓								✓			<ul style="list-style-type: none"> • Proposals agreed at Staff Student Committees
Imperial	✓										✓	<ul style="list-style-type: none"> • Students are routinely consulted each year on the basket of assessments. No new consultation for the PRE.
King's College London	✓				✓			✓				<ul style="list-style-type: none"> • Executive meeting of the MBBS programme • Open consultation with students – 6 specific questions • EPM Lead considered all responses and free text comments (8% response) to assess the strength of student views and alternatives • Strong consensus in most cases; some misunderstandings addressed • Outcome very similar to quartiles method, but in taking on board student views, some adjustments to relative weighting of core curriculum and SSC

	Final framework		Consultation process									Further comments
	Online (intranet)	Email/ other method	Email/ VLE/ letter to all students	Email to elected student reps	Convened meeting of elected student reps	Meeting with whole year groups	Student reps consulted with cohort	Survey/ questionnaire (all students)	Review by Staff Student committee	Working party convened	No new consultation	
Keele		✓			✓				✓			<ul style="list-style-type: none"> • Proposal at Assessment Committee (inc student reps) • Ratified at Undergraduate Course Committee (inc student reps)
Lancaster	✓				✓							<ul style="list-style-type: none"> • Currently ranked together with Liverpool students and therefore follows their agreed basket of assessments • Discussed by Lancaster Student Parliament
Leeds	✓										✓	<ul style="list-style-type: none"> • Students had been previously consulted on the quartiles method, which is to be continued for deciles
Leicester	✓	✓			✓				✓			<ul style="list-style-type: none"> • Discussed at two consecutive staff-student committee meetings • Documentation explaining changes circulated when quartiles were published in July 2011 • Used the same ranking for deciles as for quartiles
Liverpool	✓										✓	<ul style="list-style-type: none"> • Students had been previously consulted on the quartiles method, which is to be continued for deciles. No new consultation for the PRE.
Manchester	✓									✓		<ul style="list-style-type: none"> • Working party convened in March-April 2011 to review the way that students would be ranked. Student rep involved. • Ranking was so fine, no students with tied scores
Newcastle	✓		✓		✓	✓		✓	✓			<ul style="list-style-type: none"> • Meeting of the Assessment Working Group (inc student reps) • Draft proposal posted on Virtual Learning Environment (VLE); open forum • Two open-house forums were arranged with students from all stages invited to attend to share their views • PRE Lead attended a number of staff/student committees to take further views • Following consultation, the proposal amended in light of student views • Revised proposal agreed by Assessment Working Group and ratified by the Board of Studies (inc student reps)
Norwich (UEA)	✓								✓			<ul style="list-style-type: none"> • Students involved via the Student Staff Liaison Committee
Nottingham	✓		✓		✓				✓			<ul style="list-style-type: none"> • Review by Curriculum Policy Group (inc student reps) • Student reps informed through Learning Community Forum • Use of VLE and individual email correspondence to all final year students

	Final framework		Consultation process									Further comments
	Online (intranet)	Email/ other method	Email/ VLE/ letter to all students	Email to elected student reps	Convened meeting of elected student reps	Meeting with whole year groups	Student reps consulted with cohort	Survey/ questionnaire (all students)	Review by Staff Student committee	Working party convened	No new consultation	
Oxford		✓			✓							<ul style="list-style-type: none"> Some discussion with Joint Consultative Committee – but methodology almost identical to what was in place for quartiles
Peninsula	✓				✓		✓		✓			<ul style="list-style-type: none"> Using the quartiles methodology as the basis for discussion, there was an initial meeting with the PRE Student Champion, Chair of the School's Student Parliament with the PRE Team, Director of assessment and psychometricians The PRE Student Champion and Chair of SP then consulted widely There was additional analysis to support the inclusion of ISCEs rather than individual clinical competencies Student cohort satisfied that analysis was robust
Sheffield	✓				✓		✓					<ul style="list-style-type: none"> Student reps met with School faculty and administration staff Students chose to keep existing method of calculating quartiles Student reps then managed open meetings with student body Student reps presented decision to the Curriculum Management Committee and Staff Student Liaison Committee One change – to normalise the data for non-typical routes
Southampton	✓		✓			✓		✓				<ul style="list-style-type: none"> Emailed the recommendations to all students 300 students attended an open meeting 640 of 1350 responses to an on-line survey Co-ordinated by Assessment Team Manager
St Georges	✓		✓		✓							<ul style="list-style-type: none"> Student reps were consulted for the introduction of quartiles, and agreed with the course director, Final Year academic lead, Registry EPM Lead emailed final year reps in Oct 2011 to continue the use of the same method unless objections were received – no objections.
UCL	✓				✓		✓		✓			<ul style="list-style-type: none"> Initial review by Sub Dean Careers and Director of Medical School Discussion at the Medical School Careers and Foundation School Transition Committee with academic staff and student reps Meetings with students reps from all year groups, and onward consultation Sub Dean Careers & administrative staff met to consider the feedback

	Final framework		Consultation process									Further comments
	Online (intranet)	Email/ other method	Email/ VLE/ letter to all students	Email to elected student reps	Convened meeting of elected student reps	Meeting with whole year groups	Student reps consulted with cohort	Survey/ questionnaire (all students)	Review by Staff Student committee	Working party convened	No new consultation	
Warwick	✓							✓	✓			<ul style="list-style-type: none"> • Students consulted via Student Staff Liaison Committee in Feb 2011, and a web forum set up to show how the ranking would be applied • Students encouraged to comment, ask questions & respond on forum • Final proposal endorsed by the SSLC in early summer

Figure 10: Summary of medical school approaches to consultation for the PRE EPM

6.3 Findings

- 6.3.1** All 30 medical schools provided an EPM decile for FP 2012 applicants, with approximately 10% in each decile. There was some variation in the size of deciles owing to closeness of marks at the boundaries (e.g. Barts, 1 decimal place) – whereas at other schools (e.g. Manchester) the ranking was so fine there were no applicants with tied scores.
- 6.3.2** All 31 medical schools involved in FP 2013 (including Swansea) have confirmed that they will be able to provide a decile, using the agreed EPM principles, for FP 2013 applicants.
- 6.3.3** Following consultation and/or review, 22 of the 30 medical schools¹⁹ confirmed that the existing method for calculating medical school performance in quartiles would be used, albeit with a few small adaptations.
- 6.3.4** The 8 medical schools²⁰ which have changed their method for calculating medical school performance more significantly have commented that for the PRE, the process has required significant academic and administrative time. Whereas Brighton and Sussex reported that the process had been relatively straightforward although time consuming, Bristol reported that some of the issues had been quite contentious. All medical schools reported that the EPM framework achieved the appropriate balance between standardisation and flexibility.
- 6.3.5** Some schools commented that they had created new database systems to calculate EPM rankings reliably (e.g. Brighton and Sussex, Manchester), and others (e.g. Leeds) reported that they would continue to use existing methods. UCL and Manchester reported that the initial gathering of data not previously used, and sourcing the data from multiple sources was time consuming and required accuracy - in some cases this involved going back into student records from 2005. It is anticipated that the work done during the PRE will streamline the process for future years.
- 6.3.6** Figure 11 illustrates the overlap of quartiles and deciles, assuming that applicants are ranked on exactly the same basis for both measures.

	LOW						HIGH			
Decile	10 th	9 th	8 th	7 th	6 th	5 th	4 th	3 rd	2 nd	1 st
Quartile	4th		3rd			2nd		1st		

Figure 11: Mapping of quartiles and deciles

- 6.3.7** An EPM decile and an academic quartile score was provided for 6,793 applicants to FP 2012. As expected, there is a strong alignment between the EPM decile and quartile scores, with a direct correlation for 95% of applicants (in that 4th quartile (8th-10th decile); 3rd quartile (6th-8th decile); 2nd quartile (3rd - 5th decile); 1st quartile (1st-3rd decile)), illustrated in Figure 12.
- 6.3.8** Around 5% of applicants scored quite differently using the revised EPM framework, for example three applicants in the top quartile ranked in the seventh decile.
- 6.3.9** It should be noted that that the quartile/decile rank is not directly comparing like with like, as the EPM clarifies the definition of the cohort as all students starting final year together, rather than all those completing the penultimate year together. For some medical schools, the number of students who intercalate between the penultimate and ultimate year is high (for example c70 in Newcastle), and so there is some inevitable movement as all students are ranked together for deciles.

¹⁹ Aberdeen, Barts and The London, Birmingham, Cambridge, Cardiff, Edinburgh, Glasgow, Hull York, Imperial, King's College London, Keele, Lancaster, Leeds, Leicester, Liverpool, Nottingham, Oxford, Peninsula, Sheffield, St George's, UCL, Warwick

²⁰ Belfast, Bristol, Brighton and Sussex, Dundee, Manchester, Newcastle, Norwich (UEA), Southampton

- 6.3.10 In addition, the EPM introduced a change in the score for those students who failed finals or who chose to apply to the Foundation Programme one year after graduation. For the EPM, the original EPM decile will carry forward, whereas previously, applicants were automatically placed into the fourth quartile if they had failed finals and reapplied to the Foundation Programme.

Decile/ Quartile	4th	3rd	2nd	1st
1st			2	604
2nd	1	3	18	646
3rd	1	5	341	334
4th	2	13	649	27
5th	10	52	606	8
6th	13	625	50	2
7th	37	629	19	3
8th	337	348	10	
9th	680	30	8	
10th	671	7	2	

Figure 12: Comparison of quartile and decile scores (FP 2012 applicants)

Range of decile points scores	Headcount	Percentage
4th quartile (8th-10th decile); 3rd quartile (6th-8th decile); 2nd quartile (3rd - 5th decile); 1st quartile (1st-3rd decile)	6470	95.2%
Within two deciles of the above	276	4.1%
More than two deciles outside of the above	47	0.7%

Figure 13: Summary comparison of quartile and decile scores (FP 2012 applicants)

- 6.3.11 For some specifics, for example the treatment of failed assessments as a first attempt mark, capped at the pass mark, or the mid-point, there was no requirement on schools to effect a change in their methodology, provided that the decisions were transparent with students.
- 6.3.12 The most commonly cited point of contention or uncertainty was around how to compare the overall performance of students who had completed their medical degree on non-typical pathways (e.g. students taking a year out to intercalate, transferring partway through a course, repeating a year). At the time of writing, Bristol had not yet reached agreement on how this would be handled. There appeared to be six approaches:
- 6.3.12.1 Use of a Common Assessment Scoring (Aberdeen)
 - 6.3.12.2 Use of z-scores (Bristol, Leicester, Newcastle)
 - 6.3.12.3 Formal standard setting for all years (Birmingham)
 - 6.3.12.4 Normalisation (Lancaster, Liverpool, Sheffield)
 - 6.3.12.5 Use only of assessments in common (King's College London)
 - 6.3.12.6 Short-term separate ranking until same curriculum followed by all students (Cardiff/ Swansea)
 - 6.3.12.7 Continued separate ranking (Dundee, Edinburgh)
- 6.3.13 In order to enhance transparency, medical schools were required to alert all students to the agreed 'basket of assessments'. All medical schools confirmed that the local 'basket of assessments' had either been added to the students' VLE (intranet) or circulated via email; and

in addition, two medical schools (Peninsula and Edinburgh) confirmed that their frameworks were accessible via the main school website.

- 6.3.14** Two schools welcomed the clarity that the use of the EPM framework provided, for example 'The decision ... that all students must be ranked with their graduating (or F1 application) cohort will help to streamline the process for us in future years. ... We welcome the clarity that this decision has brought to the decile process' (Newcastle) and 'From the beginning of the pilot PRE process, detailed and clear information about the EPM has been provided for us to work with developing our school's ranking scheme. The support provided by (the ISFP Team) was extremely helpful when we were in the development phase and beyond' (Brighton and Sussex).
- 6.3.15** EPM Leads have been circulated a copy of all of the agreed 'baskets of assessment' and underlying rules and rationale, for internal use only, and to inform any decisions or considerations of their own EPM framework going forward.
- 6.3.16** The UKFPO will continue to monitor the feedback from students and schools, and the division of EPM deciles into roughly 10% groupings.
- 6.3.17** There is no intention to ask schools to undertake any further new work on the EPM for FP 2013, except a reminder to schools to keep their own framework under review so that it continues to reflect medical school performance for its graduating cohort fairly.

6.3.18 LESSON: Local flexibility in the 'basket of assessments' is key.

6.3.19 LESSON: Producing the EPM decile where there was substantial change in the methodology used for quartiles was time consuming. However the processes are now in place to be able to produce EPM deciles more efficiently going forward.

6.3.20 LESSON: All medical schools are confident that they can produce EPM deciles, aligned with the agreed common principles, for selection to FP 2013 onwards.