Improving Selection to the Foundation Programme

Final Report of the Parallel Recruitment Exercise

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

May 2012

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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 Options 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 Group[1]. For the PRE, all medical schools were asked to consult with their students to agree a 'basket of assessments' to determine an EPM Decile Points score, 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) answersheets.

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 answersheet 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 Decile Points score 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 Decile Points scores more efficiently going forward.

1.5.8.3 All medical schools are confident that they can produce EPM Decile Points scores, aligned with the agreed common principles, for selection to FP 2013 onwards.

1.5.8.4 The provision of the EPM Decile Points score to the FP Application System (FPAS) is managed by foundation schools, however this should be kept under review.

2. Background

2.1 Summary of Options 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 Options Appraisal[2] (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 Doctor[3] 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 undertaken[4].

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 schools[5]. Rules for the production of EPM Decile Points scores – 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 schools[6].

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 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 Points score, 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 2010-11. The video was hosted on YouTube 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 2013[7]. 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 alterative 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

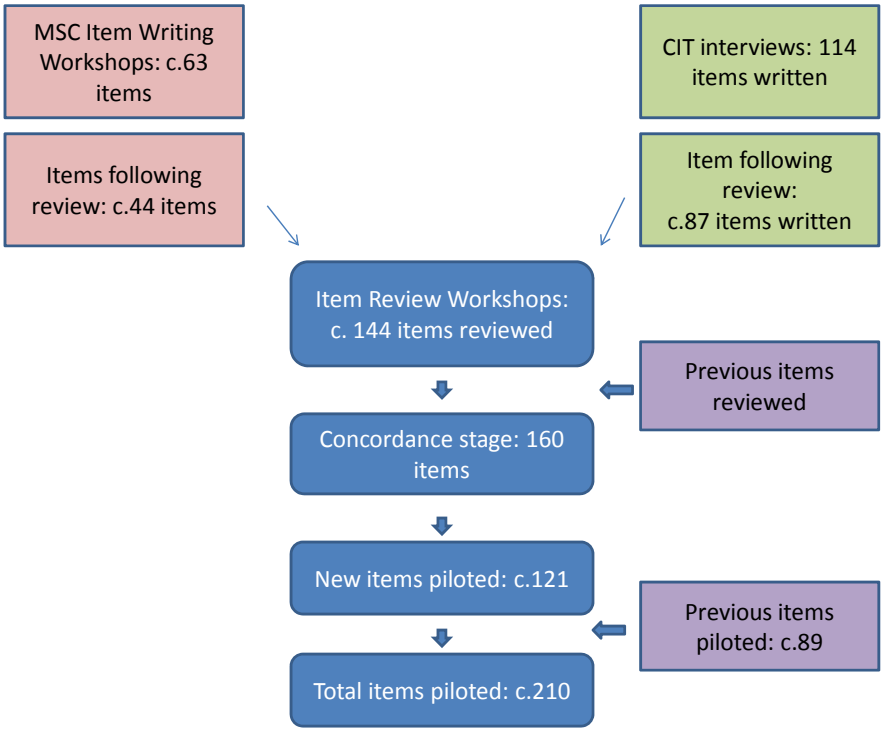

Figure 2: Summary of item development processes for the PRE SJT

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 Doctor[8] 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 the177 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 schools[9] 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 answersheet, the applicant evaluation form and the glossary.

5.5.1.5 The creation of the OMR answersheet 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 answersheet.

5.5.1.6 SJT Leads were provided with a template answersheet to write the answers to the SJT items, for an invigilator to then transcribe to the answersheet, if this was deemed to be an appropriate adjustment for the disability. Four applicants used the template answersheet 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 answersheet will not be printed onto coloured paper. OMR answersheets 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 preference[10].

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 answersheet (OMR form), to scan the completed OMR answersheets, 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.

	Number of venues					STANDARD PAPER	Modified printing (single-sided, double spaced, Arial font size 14 pt)								
Paper number	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 made[11]; 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 individual[12], most frequently being delivered to the university or NHS postrooms (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 answersheets. 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 login[13]. 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 answersheet, 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**
• **No number provided**	388
• **Number provided but no lozenges filled in**	50
• **Lozenges did not match number provided**	33
• **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 answersheets – 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-pads[14]; 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 α=0.80 and above; sufficient for the use of an operational SJT, and in one case (Paper 3) is α=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.

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

[16]Corrected 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 Group[18]. 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 Decile Points score 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 Decile Points scores. 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 or 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	✓	✓			✓	✓		✓				• 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	✓	✓		✓								• Sent to Senior Staff-Student Liaison Committee • Existing quartiles method aligns with principles
Belfast	✓		✓		✓		✓					• 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	✓		✓			✓		✓				• 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			✓		✓			✓				• 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	✓		✓		✓							• 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		✓			✓	✓	✓					• 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		✓	✓		✓				✓			• 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	✓				✓			✓				• Met with year group reps and Medical Students Committee • Opinion poll sent to all students
Edinburgh	✓			✓								• 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	✓				✓				✓			• 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	✓								✓			• Proposals agreed at Staff Student Committees
Imperial	✓										✓	• Students are routinely consulted each year on the basket of assessments. No new consultation for the PRE.
King's College London	✓				✓			✓				• 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		✓			✓				✓			• Proposal at Assessment Committee (inc student reps) • Ratified at Undergraduate Course Committee (inc student reps)
Lancaster	✓				✓							• Currently ranked together with Liverpool students and therefore follows their agreed basket of assessments • Discussed by Lancaster Student Parliament
Leeds	✓										✓	• Students had been previously consulted on the quartiles method, which is to be continued for deciles
Leicester	✓	✓			✓				✓			• 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	✓										✓	• Students had been previously consulted on the quartiles method, which is to be continued for deciles. No new consultation for the PRE.
Manchester	✓									✓		• 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	✓		✓		✓	✓		✓	✓			• 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)	✓								✓			• Students involved via the Student Staff Liaison Committee
Nottingham	✓		✓		✓				✓			• 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		✓			✓							• Some discussion with Joint Consultative Committee – but methodology almost identical to what was in place for quartiles
Peninsula	✓				✓		✓		✓			• 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 pyschometricians • 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	✓				✓		✓					• 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	✓		✓			✓		✓				• 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	✓		✓		✓							• 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	✓				✓		✓		✓			• 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	✓							✓	✓			• 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 Points score 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 Points score, using the agreed EPM principles, for FP 2013 applicants.

6.3.3 Following consultation and/or review, 22 of the 30 medical schools [19] 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 schools[20] 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	**10th**	**9th**	**8th**	**7th**	**6th**	**5th**	**4th**	**3rd**	**2nd**	**1st**
Quartile	4th			3rd		2nd			1st	

Figure 11: Mapping of quartiles and deciles

6.3.7 An EPM Decile Points score 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

[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

Newcastle), and so there is some inevitable movement as all students are ranked together for deciles.

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 Points score 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 Points score 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 Decile Points scores more efficiently going forward.

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

Improving Selection to the Foundation Programme

Final Report of the Parallel Recruitment Exercise

Appendix A

High level timeline of the PRE

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Appendix A: High Level timeline for the Parallel Recruitment Exercise

	Month	Activity
2011	15 June	Confirmation of PRE Team contacts
	1 September	Circulation of supporting communications materials (slideset)
	15 September	UKFPO MSB meeting (PRE Student Champions)
	5 October	PRE Workshop
	9 November	Circulate EPM Deciles form for completion (foundation schools & medical schools)
	1-3 November	SJT for Eligibility Office applicants completing clinical assessments in Manchester
	11 November	SJT for Imperial and Birmingham
	28 November	SJT for Aberdeen, Barts and The London, Brighton & Sussex, Dundee, Keele, Lancaster, Leeds, Liverpool, Manchester, Sheffield, Southampton, St George's, UCL, Warwick, Eligibility Office applicants (London)
	9 December	SJT for Belfast, Cardiff, Hull York, King's College London, Leicester, Newcastle, Norwich, Nottingham, Peninsula, Warwick, Eligibility Office applicants (London)
2012	9 January	SJT for Aberdeen, Belfast, Bristol, Cambridge, Dundee, Edinburgh, Glasgow, Hull York, Manchester, Norwich, Oxford, Southampton, St George's, UCL, Eligibility Office applicants (London)
	27 January	Return of PRE Team Reports & EPM frameworks
	3 February	Upload of EPM decile information to FPAS
	3 March	Upload of SJT decile information to FPAS
	15 March	Feedback to applicants via FPAS on i) SJT deciles and ii) EPM deciles Feedback to medical schools
	16 March	PRE Recruitment Review, London
	30 March	ISFP Project Group meeting
	9 May	Release of final report of PRE

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Improving Selection to the Foundation Programme

Final Report of the Parallel Recruitment Exercise

Appendix B

PRE Communications Strategy

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ISFP Communications Strategy

Parallel Recruitment Exercise (PRE) 2011/2012

Issue

1. The purpose of this document is to identify the objectives, approach, and key messages to be used for disseminating information about the Parallel Recruitment Exercise (PRE) for FP 2012 recruitment.

2. The following documents are attached as annexes:

- Annex A Stakeholder analysis
- Annex B Communication action plan
- Annex C Key messages and press lines to take
- Annex D Rationale for using Situational Judgement Tests and Educational Performance Measures
- Annex E Case for change, including evidence and anecdotes

Objective

3. The objective of the communications strategy is to ensure that all stakeholders involved in the recruitment of medical students into the Foundation Programme are fully informed about the PRE, including both Situational Judgement Tests (SJT) and Educational Performance Measures (EPM).

Approach

4. The ISFP project will seek feedback on its communications strategy, action plan and communication documents from key stakeholders to ensure a common understanding is engendered by the communications.
5. Stakeholders are divided into primary, secondary and tertiary audiences to ensure each group is receiving the correct level of information.
6. Regular, relevant communication will be relayed to each key audience, ensuring they are informed about each stage of the PRE process.
7. The ISFP Team will have weekly communications meetings in order to ensure that the communication action plan is on track, and to update as necessary.
8. All communication produced from any member of the ISFP Team will be sent to the Communications Officer prior to dissemination to ensure that it has a clear message appropriate to the audience, is in keeping with the plan and that all there is a consistent "voice" for all communication.

Strategy for delivery

9. The communication timeline (Annex B) sets out the communication activity planned for each stakeholder group. This plan is a live document that is updated regularly as new opportunities present themselves. The majority of the communications activity will centre around four delivery mechanisms:

    - Face-to-face meetings and presentations. Much of the communication will be presented face to face at meetings to stakeholders. Presentations will be given by PRE leads and careers advisors to final year and penultimate year students. The presentation will contain the rationale for using SJTs with an explanation of what is being assessed and why academic achievement is not all it takes to be a good doctor. The presentations will be trialled with medical student advisors prior to roll-out to ensure they are pitched at the right level and answer the questions medical students will have.

    - Development of local PRE teams. Each medical school will be asked to name a PRE lead (usually a senior clinician), an EPM administrator and an SJT administrator to be

responsible for the PRE. The UKFPO medical student rep will also be asked to become a champion as part of the PRE team. The Dean will have ultimate responsibility and will be accountable to Medical Schools Council.

- Electronic media and publications Stakeholders will receive regular emails and information about the PRE will be published in the relevant UKFPO publications, via BMA communication mechanisms and on medical school websites. An "Administrators' Guide to the PRE" will be produced. The main source of up-to-date information will remain the website, which will contain an ever-renewed set of FAQs, the case for change and the rationale behind SJTs.

- Press and PR. One feature article has been commissioned specifically about SJTs. It will be written by Fiona Patterson and will appear in BMJ Careers at the end of October. Press releases will be sent to the medical press with the results of the 2010/2011 pilots, and will announce the three main dates for the SJTs (plus Birmingham and Imperial). The ISFP comms team will be working closely with the UKFPO and the DH media centre in all media work and clearance will be sought from the DH media centre where necessary.

Risks and considerations

10. There is a risk that the EPM, which was advertised as using a common framework, does not deliver the degree of consistency which was promised in previous communication. If the make-up of the EPM is determined by each school separately, new key messages must be developed, along with an explanation of the change in policy.

11. If medical school Deans do not drive the parallel recruitment process, it may fail. Buy-in is crucial and the Medical Schools Council must develop a way to ensure the accountability of its members for the success of the pilots.

12. It is recommended that a weekly communications meeting is held within the ISFP Team to ensure that the plan is regularly updated, any potential issues are flagged up early and new developments and decisions are discussed. Failure to do this may result in incorrect information being disseminated, or in important new information not being distributed.

Annex A– Stakeholder Analysis

Method:

An analysis of key stakeholders was carried out through the development of a stakeholder matrix. Each stakeholder was listed, along with their current understanding of the PRE stage of the project, the level of understanding that they will need to have and their level of importance to the success of the PRE. This level indicates whether they are primary, secondary or tertiary stakeholders for the purposes of the PRE.

The communication action plan was developed from the stakeholder matrix. The stakeholders are listed below.

Primary stakeholders:

1. UK medical students in their final year
2. Medical school deans
3. Medical school administrative staff/PRE leads
4. UK Foundation Programme Office
5. Four UK health departments (through the UK Scrutiny Group)
6. BMA Medical Students Committee
7. ISFP Project Group and Project Board
8. UKFPO Recruitment Rules Group
9. Applicants to FP 2012 from medical schools outside the UK

Primary stakeholders have high involvement in the project and must have an in-depth understanding of the PRE. These stakeholders need a high level of communication and engagement to ensure the pilots are a success.

Secondary stakeholders*:

1. Penultimate year medical students
2. Careers advisors (MCAN / NEAF)
3. Postgraduate deans (COPMeD)
4. General Medical Council (GMC)
5. Medical Education England (MEE)
6. Medical Programme Board

Secondary stakeholders have some involvement with the project and should be kept up-to-date with major developments and should have a basic understanding of the ISFP project and the PRE.

Tertiary stakeholders*:

1. Foundation school directors
2. Foundation school managers
3. NHS Employers
4. National Association of Clinical Tutors (NACT)

Tertiary stakeholders will have very limited involvement at this stage, but should be kept up to date with major developments through updates at meetings twice yearly.

ANNEX B – Communication Action Plan

Date	Stakeholder Group	Activity	Key steps
2011			
23 May	Medical students	Email announcing SJT dates	AS/CM to formulate email, get feedback from med students, and approval by PON. AS to send to PRE leads for dissemination.
24 May	ISFP	Draft communications strategy for PREs to ISFP	CM to send strategy to AS for review, and forwarding to ISFP handover group.
24 May	Medical students	Set up Facebook fan page.	AS to transfer info on current Facebook group to new page to increase the usability of Facebook.
26 May	ISFP	Communications strategy presented at the ISFP handover meeting	AS to present strategy, take comments and work with CM to revise and circulate to wider ISFP group.
27 May	UK medical students / clinical assessment candidates	PRE text to UKFPO for: • Foundation Applicants' Handbook • UKFPO FP 2012 Recruitment Presentation • Clinical Assessment website text • Clinical Assessment Guidance for Applicants	CM to draft text and send to AS for approval.
2 Jun	All	EPM rationale info sheet	SF to draft and send to comms.
6 Jun	PRE teams	Email from PON and TW to med school deans requesting appt of PRE teams	CM to draft email for consideration. Once approved, SF to send out to med school deans.
8 Jun	Medical students	UKFPO publishes all documents/ presentations for FP 2012 (including info on SJT pilots)	
9 Jun	ISFP comms	Review pilot feedback	VA to provide a summary of the pilot feedback. AS/CM to review to ensure any communication issues are addressed; and key messages developed.
10 Jun	All	Announcement about SJT dates to be sent for publication in: • UKFPO E-update • UKFPO Med Student Board Bulletin • BMA updates	Announcement about SJT dates to be circulated for publication by AS.
10 Jun	Medical students	Conduct an audit of the UKFPO's Medical Student Board to see which schools passed on the email sent 2 wks ago.	AS to discuss with Lucy/Sharon at UKFPO to ask whether regular audits can be conducted; and to develop an email to students.
15 Jun	All	SJT rationale info sheet	AS will edit copy from WPG and publish it on the ISFP website. It will form part of the key messages and any presentations given.

16 Jun	Careers advisors	First draft of presentation to MCAN to be completed	AS to draft presentation and send to CM for collaboration before circulating to PON, K PS, SF and DS for final agreement
17 Jun	All	Publish updated FAQs on ISFP website	AS to update FAQs for website based on SJT and EPM rationale sheets.
17 Jun	All	Case for change drafted	CM to draft the case for change and request comments from the ISFP transition group before sending it to the ISFP steering group
21 Jun	Medical school admin/ PRE leads	Send "save the date" to nominated PRE teams for a workshop to take place on 7 September.	SF to compile a list of administrators and PRE leads that will be responsible for the pilots. AS to send out an email announcing the workshop. (Recommend 3-4 per school attend).
24 Jun	All	Key messages finalised	CM to draft a part of comms strategy, AS to circulate to ISFP transition group for comment before sending to ISFP Steering Group
24 Jun	MSC Exec	Add PRE to the agenda	Discuss accountability, questions and progress on appointing PRE leads/admin.
30 Jun	Undergrad careers advisors (MCAN)	Presentation at MCAN's conference	AS will give a presentation on the upcoming PRE.
30 Jun	UKFPO Rules Group	Rules Group Meeting – Update	KPS/SF to give AS's presentation on PRE plus an update including what it is hoped the pilots show; progress on PREs and agreement about accountability of members.
1 July	ISFP steering group	Meeting - • Agree strategy for holding medical schools accountable for success of pilots. • Agree whether each school will be asked to name a PRE lead and an administrator to work on SJTs and EPM.	• SF - Add these items to the agenda and ask for agreement. • PON to write to MSC to let them know the outcome and ask for contact details for each school's PRE Team. Note: Medical students from UKFPO's MSB will be added to this team in Aug/Sept.
4 July	All	Redevelop ISFP website	Newly updated and restructured ISFP website goes live. AS to project manage web designers and lead the restructuring exercise.
6 July	Foundation School Managers	Presentation on PRE to be given	AS to present generic powerpoint slides to the group
Jul – Nov	Medical students	Med schools to give PRE presentation to final and penultimate year students	PRE leads/careers advisors to give a mandatory talk on selection prior to first SJT (presentation prepared by AS).
18 Jul	All stakeholders	Press release re: Parallel Recruitment Exercise	Press release sent to BMJ Careers, BMA News, Student BMA News to announce PRE dates
7 Jul	Medical school PRE leads /	Invitation sent for the workshop on 5 Oct	AS to develop and send invitation to named individuals. Limit of 2 reps attending per

	admin		medical school.
28 Jul	Rules Group	Rules Group Meeting - Update	KPS /SF to provide an update on ISFP progress.
15 Aug	Med school PRE leads/admin	Publish "Administrator's Guide to the Parallel Recruitment Exercise"	CM to draft, with input from SF and AS. To include good practice examples from 2010/2011 pilots.
7 Sep	Foundation School Managers	FSM meeting - Update FSMs on progress of the PRE	AS to write a short paper updating FSMs on the ISFP project to be circulated with papers and presented at the meeting by Sharon Witts. Paper to be written by 26 August.
7 Sep	Medical students	10 x posters for each medical school	Posters to be disseminated at the workshop on 5 Oct. These will announce the SJTs and allow space for the school to write in date, time and venue. Posters to be put up 2 weeks prior to each SJT pilot.
8 Sep	Foundation school directors	FSD meeting - Update FSDs on progress of pilots	SF to write a short paper updating FSMs on the ISFP project to be circulated with papers and presented at the meeting by Kim Walker or Janet Brown. Paper to be written by 26 August.
9 Sep	Non-UK applicants	Email non-UK applicants to ask them to book an SJT sitting through the UKFPO	CM to formulate email and SW to send to successful Eligibility Office applicants.
12 Sep	Careers advisors	UKFPO Careers Conference	SF to present at the UKFPO careers conference on info about the ISFP to careers leads.
12 Sep	Medical students	Email to students from medical schools with details of their SJT pilots	AS to ensure the draft wording for these emails appears in the Administrator's Guide; and send a reminder email to all administrators on 15 Sept.
14 Sep	GMC	Written update at GMC Undergraduate Board meeting	AS to write update on ISFP progress to be presented by Martin Hart. Update to be sent to Martin by 5 Sept.
15 Sep	Final year and penultimate year medical students	UKFPO Medical Students Board Meeting	SF to present. One hour slot scheduled. ISFP give PRE presentation to med student reps from all schools. Ask them to become champions within their schools – connect them to the pilot lead and administrator.
22 Sep	All stakeholders	ISFP Final Report published on ISFP website	Report published with covering note as agreed with Dept of Health, England.
22 Sep	Med school staff, FSDs, FSMs, ISFP Project Group & DH	Email announcing publication of ISFP Final Report	Email to include link to report on ISFP website.
22 Sep	PRE Workshop attendees	Send full PRE Workshop agenda	Include agenda, directions, delegate list, PRE admin guidance
22 Sep	Medical press / all	Press release re: release of ISFP Final Report	Press release sent to BMJ Careers and BMA News re: publication of Final ISFP report on the ISFP website.

23 Sep	PRE teams	Email from ISFP to PRE leads, admin and student leads	SF to send email to members of all PRE teams providing contact details and introducing student leads; also providing info on resources available for more info.
29 Sep	Rules Group	Rules Group Meeting – Update	KPS/SF to provide a progress report on PRE..
5 Oct	Medical school PRE leads / admin	Workshop for medical school PRE leads and administrators	WR to send out agenda and map prior to event, organise registration desk, catering, etc.
27 Oct	Medical press / all	Feature article in BMJ Careers about SJTs	Fiona Patterson is writing this article – it is about how SJTs are becoming the future of medical recruitment. FP pilots will be mentioned.
26 Oct	Foundation schools/ med schools	National Q1 verification day	At the end of the session, review with attendees whether this would be the best way to continue reviewing educational achievements in future when this becomes part of the EPM.
27 Oct	Med students	Email from FPAS promoting PRE	UKFPO to send email to all UK applicants reminding them to participate in the PRE (including AFP applicants).
4 Nov	Med students	Email to students taking SJTs on 11 Nov at B'ham and Imperial, reminding them about SJTs and encouraging them to take part	• Email to be sent to all applicants through FPAS. • Students will be told what they need to take with them to the assessment, and that if they have any questions, they can speak to the pilot lead at their school.
11 Nov	Med students and Staff	SJT sitting #1	• SF to contact schools one week prior to the SJTs to ensure everything is set and to solve any final problems. • Ensure that enough support is in the ISFP office to respond to questions on the day.
21 Nov	Med students	Email to students taking SJTs on 28 Nov, reminding them about SJTs and encouraging them to take part	• Email to be sent to all applicants through FPAS. • Students will be told what they need to take with them to the assessment, and that if they have any questions, they can speak to the pilot lead at their school.
24 Nov	Rules Group	Rules Group meeting - update	KPS/SF to give a short update on how the first SJT sitting went, prior to reviewing low scoring applications.
25 Nov	PRE Workshop attendees	Send follow-up email	Include slides, summary of RTDs, guide for PRE SJT invigilators
28 Nov	Med students and staff	SJT sitting #2	• SF to contact schools one week prior to the SJTs to ensure everything is set and to solve any final problems. • Ensure that enough support is in the ISFP office to respond to questions on the day.

2 Dec	Med students	Email to students taking SJTs on 9 Dec, reminding them about SJTs and encouraging them to take part	• Email to be sent to all applicants through FPAS. • Students will be told what they need to take with them to the assessment and that if they have any questions, they can speak to the pilot lead at their school.
9 Dec	Med students and staff	SJT sitting #3	• SF to contact schools one week prior to the SJTs to ensure everything is set and to solve any final problems. • Ensure that enough cover is in the ISFP office to respond questions on the day.
15 Dec	Medical students	• Medical schools publish what EPM comprises on their websites. • ISFP updates their website and Facebook and sends an e-update to say that this information is published.	SF to write to medical schools in November giving them a specific deadline for publishing the information and letting them know that the ISFP will be publishing the fact that this info is now available.
19 Dec	PRE Teams	Send thank you email for running SJT	Include participation %, arrangements for feedback, reminder of PRE Review workshop
2012			
9 Jan	Medical students and staff	SJT sitting #4	• SF to contact schools one week prior to the SJTs to ensure everything is set and to solve any final problems. • Ensure that enough cover is in the ISFP office to respond questions on the day.
18 Jan	All	Invitation to PRE Review Workshop	Invite - UKFPO, MS deans, pilot leads and administrators, ISFP group and med student representatives to be invited to discuss what went well and what should be improved for FP 2013. Include topics for discussion, full agenda to be forthcoming
27 Jan	Deans, PRE Team	Deadline for return of PRE Evaluation reports	Send reminder to outstanding replies one week earlier
27 Jan	All stakeholders	Press release – PRE participation	Content needs to be approved by KPS, PON, DG prior to sending
10 Feb	Medical Schools	MSC Council meeting	Summary of PRE Team evaluation reports
20 Feb	PRE Review Workshop attendees	Send full agenda	To be agreed with UKFPO
1 Mar	Med students	Provide UKFPO with additional text explanation for SJT/EPM scores for FPAS, and cover email	Form of words displayed in the help text link in FPAS and contained in email to applications informing them score is available.
3 Mar	Med students	National Undergraduate General Surgery Conference	PON to speak on ISFP process
7 Mar	Med students	Email i-pad winners	Need to confirm they are happy to have details publicised on website
15 Mar	FP applicants	SJT results available through FPAS	SF, OW, WR to be available to field applicant enquiries
15 Mar	Medical schools	Anonymised summary report	Copy to PRE Teams and Deans

		on SJT sent to individual schools	
16 Mar	Med students, FSDs	PRE Review Workshop	Joint with UKFPO. UKFPO, MS deans, pilot leads and administrators, ISFP group and med student representatives to be invited to discuss what went well and what should be improved for FP 2013.
23 Mar	Project Group	Send ISFP Project Group papers	Include draft final report of PRE
27 Mar	Med students	Announce i-pad prize winners on ISFP site	By medical school
30 Mar	ISFP Project Group	ISFP Project Group meeting	
13 Apr	PRE Review Workshop attendees	Send RTD discussions and outcomes	
13 Apr	Medical students	PON at BMA-MSC conference	Provide briefing and slide set in advance
2 May	PON, KPS, DG	Circulate PRE Final Report press release	Ask for comments ahead of publication
9 May	Attendees to PRE Review Workshop	Provide slidesets from PRE Review Workshop	
9 May	All stakeholders	Upload PRE Final Report on ISFP website	
9 May	Journalists	Send PRE Final Report press release	
9 May	All stakeholders	Update MSC, ISFP Facebook on PRE Final Report	Highlights – participation, analysis and evaluation of SJT
01 June	All stakeholders	Archive ISFP website	UKFPO to lead applicant-facing communications, ISFP website archived for further information

Annex C – DRAFT Key messages and press lines to take

Key messages and press lines to take

1. A full Parallel Recruitment Exercise (PRE) will be run alongside the national FP 2012 recruitment round, allowing medical schools to conduct a "dry run" before implementing the new selection methods in earnest for FP 2013 recruitment.
2. The aim is for an invigilated Situational Judgement Test (SJT) to replace the "white-space" application questions and for an Educational Performance Measure (EPM) to replace the current academic quartile ranking for students in the FP 2013 recruitment round.
3. All medical students applying to the Foundation Programme 2012 will be asked to take an SJT in addition to completing their FPAS application.
4. Medical school administrators will be asked to calculate a decile score for each student's EPM in addition to providing an academic quartile ranking.
5. The results from the parallel recruitment exercise will only be used for purposes of analysis and will not have any bearing on the Foundation Programme allocation process.
6. Extensive piloting of both new selection methods has been successfully undertaken over the past year. SJTs are already being used for selection into GP training and are increasingly being piloted and used for other specialty selection.
7. Medical Schools Council is working closely with the UKFPO, BMA and the four UK departments of health to ensure that the new selection methods are fully piloted and fit for purpose before implementation.

DRAFT Press Lines to Take

Why change the recruitment process? It seems to be working quite well.

The current process has worked well for a number of years, but it was felt that the recruitment and selection process should continue to improve and evolve as new selection methods are developed and proven. There have also been some concerns about whether the white space questions currently used could be sustained in the long term as we know the model answers are developed and sold on the internet. As applicants have quite a long period of time to answer the questions, students have raised the issue that some applicants have had outside help in completing their answers. The Situational Judgement Test (SJT) addresses these concerns as applicants will sit a two-hour invigilated test.

We also wanted to ensure that the academic component of the application score was calculated in a clear, consistent and fair way by each medical school, and wanted to increase the level of granularity in the academic scores. Medical schools will calculate the Educational Performance Measure (EPM) using a range of assessments. As types of assessments differ at each medical school, schools will decide for themselves which assessments to use within the agreed framework provided by the ISFP project group. Students will be ranked and divided into deciles rather than quartiles. The assessments used in the decile ranking calculations will be published by each medical school in advance so students will know exactly which assessments will be used to rank them.

Does that mean the old system was unfair?

Not at all. The recruitment and selection process currently in use has been a successful way of recruiting foundation doctors since recruitment to FP 2006. However, selection processes are improving all the time and it is now time to build on the best parts of the current system to include new selection methods. SJTs are now being used for selection into training programmes in some specialties and are being piloted in others.

How will the new system work when it is implemented?

The proposed new recruitment process will continue to run in a similar way to the current process. Applicants will have to complete an online application form and rank their foundation schools.

Will recruitment to Academic Foundation Programmes change with the new system?

The process for recruiting to Academic Foundation Programmes will undergo changes. These are currently under discussion and the new process will be published early in 2012. It is likely that applicants to AFPs will have to take an SJT along with their peers.

If the Parallel Recruitment Exercise shows that this method of recruitment is not robust, what will happen next year?

We expect that the proposed system will be robust and do not have any concerns that it won't be implemented as planned. A lot of work has already been undertaken and has showed that this is a good way forward. We are running a Parallel Recruitment Exercise to obtain more data on the validity/robustness of this method. Research evidence has shown SJTs to be a valid way of selecting applicants and this has been reinforced by the pilot data. The EPM component is an improvement on the current system and is therefore likely to be a much fairer method for applicants. We do expect some correlation between the current and proposed methods and although they are different, ultimately they are still trying to recruit the best applicants.

How is the EPM different from academic quartiles?

There will be three parts to the EPM which will each be scored: performance at medical school, additional degrees and academic achievements (publications, presentations and prizes). Performance at medical school will be used to rank students; and then divide them into deciles. Each applicant receives a score according to their decile group which is then added to any points they receive for additional degrees and other academic achievements to form the EPM score.

How is "performance at medical school" determined?

There is a common EPM framework which lists the agreed principles that medical schools adhere to when determining which assessments to use in ranking students. Each medical school will publish how it will calculate the decile component of the EPM on its website by the end of December 2011.

Initially, you said a standard template would be used for all medical students so that the EPM would be calculated consistently and fairly. Why is this no longer the case?

There are three parts to the EPM. Two parts, additional degrees and academic achievements, will be scored using the standard scoring framework to be published on the ISFP website as part of the agreed EPM Framework. This framework also sets out the principles that all medical schools must adhere to when calculating the third part of the EPM, medical school performance, which provides the decile score. A list of specific assessments would not have been appropriate as medical school curricula vary widely across schools and different assessments are used at different stages. Therefore, a set of principles was developed which will ensure that the decile score for the EPM is calculated consistently and fairly. The principles are as follows: all assessments must be summative (and hence subject to formal controls); cover clinical knowledge, skills and performance; cover non-clinical performance; cover all aspects of the curriculum assessed up to the end of the penultimate year at medical school; represent the average performance of the applicants over time, rather than being limited to a snap-shot and include both written and practical forms of assessment.

What makes SJTs better than white space questions?

The test can be invigilated, meaning that students will all have a fair chance to do well without the possibility that some are receiving coaching. Research evidence suggests that SJTs have good levels of predictive validity (i.e. they are able to predict performance in the role) as well as demonstrating good reliability. There has not been enough research published about white space questions to draw the same conclusions.

How do you know that SJTs will pick the best doctors?

The way a medical student responds to a SJT question is a good indicator of how they will behave as an F1 doctor when encountering a similar situation. This part of the selection process is not meant to measure a student's academic ability, but their ability to be a good F1 doctor. Being a doctor is not only about making a diagnosis and treating patients, but is also about prioritisation, organisation, professionalism, team working and giving the ability to communicate well with patients and staff. Although academic ability and medical knowledge are very important, these skills are also crucial to the success of the applicant.

Recently, there was the case of a graduate who was academically very gifted and was in the top quartile of his graduating class. He struggled with his F1 assessments. He was rated poorly on teamworking and his patients had complained about his communication skills. He didn't prioritise well and often made poor judgement calls. However, his ability to diagnose patients was second to none. Unfortunately, without the rest of these skills, he could not progress. This doctor had to repeat his F1 year and receive remedial training in the skills he lacked. The best doctor is not always the one with the best academic record. It is likely that the SJT would have shown that this doctor would have difficulty performing at the level expected of an F1 doctor.

Why do I have to travel to my medical school, 60 miles away from my hospital placement, to take the Situational Judgement Test? Students from another medical school working in this hospital are taking the test here. Can't I just take the test with them?

Each medical school determine the location of their SJT sites. Your medical school has decided that all SJTs will be undertaken at the medical school. It may be that the other medical school you mentioned has determined that the hospital is a test site for their students.

You cannot sit the SJT with students from other medical schools, even if they are working at the same hospital. Each medical school will have different SJT test sheets and they would not be able to administer or process a test for a student from another school.

Will my medical school reimburse my expenses if I have to travel to my medical school to take the SJT?

Your medical school is your normal place of study, even if you are currently in a hospital placement some distance away. It is expected that you will attend your normal place of study for all the required tests and exams, such as the SJT, without reimbursement.

Why are there are there only two national dates to take the SJT for FP 2013 rather than three dates?

Two national dates are offered to allow for electives and unavoidable absence from the SJT. If an applicant is unavoidably absent from the SJT on the first date, they will be permitted to take the SJT on the second date. Applicants who are unavoidably absent on the second national date will be permitted to take the SJT on a third date.

Why is the SJT going to be 2 hours 20 minutes and have 70 questions, rather than 2 hrs, 60 questions, which was originally proposed?

The SJT paper will consist of 60 questions which 'count' towards the final score, and 10 pilot questions which do not count, but are being piloted for use in future years. The pilot questions will be distributed throughout the paper. The SJT is considered to be a power test, not a test of speed, and evaluation of the SJT pilots with applicants to FP 2011 and FP 2012 indicates that around two minutes per question is appropriate.

Annex D – Rationale for Situational Judgement Tests and Educational Performance Measures

Situational Judgement Tests

Why were Situational Judgement Tests chosen?

In order to ensure that medical students are selected in to the Foundation Programme in the fairest possible way, a number of different selection methods were considered as part of an option appraisal. When comparing the different options, it became clear that Situational Judgement Tests (SJTs) are the fairest, most reliable and practical way forward. This is because students will take the SJT in exam conditions and so everyone will have an equal chance to do well. There is also research evidence to support the use of SJTs and it is expected that a sufficient number of questions can be developed in order to use SJTs in the long term.

What do SJTs assess?

SJTs are a test of aptitude and are designed to assess the professional attributes expected of a Foundation doctor. There are two question formats:

1. Rank five possible responses in the most appropriate order
2. Select the three most appropriate responses for the situation

Different scenarios lend themselves to different response formats so using two different formats allows a range of situations to be tested.

Students must answer what they 'should' do in the scenario described, not what they 'would' do. This is because research into SJT shows that questions asking a candidate what they 'would' do are more susceptible to coaching.

How are the SJT questions written?

The SJT tests a number of different attributes, which were identified during a job analysis of the F1 role, including team working and professionalism. The attributes form the basis of the SJT items, which are written by subject matter experts who work closely with Foundation doctors. This ensures that the scenarios presented are an accurate reflection of what F1s encounter in their role. The items are then reviewed by other subject experts including F1 and F2 doctors, to ensure they are both realistic and fair.

How fair are SJTs?

The SJT will be invigilated, meaning that students will have a fair chance to do well without the possibility that some are receiving outside help. The items have also been designed to reduce the ability for coaching. In order to ensure students feel prepared for the SJT, prior to taking the 'live' exam, they will have access to example questions and answers to help familiarise themselves with the format.

The answer keys allow for the elements of subjectivity in the ranking scenarios, with points awarded for near misses. This means it is possible to score highly, without getting all of the answers in exactly the right order. However, if students put the best answer as the least appropriate or vice-versa, they would not get points for this.

In addition, research has shown that generally, scores are less influenced by ethnicity than tests of cognitive ability (ref 2). Tests into the effects of group differences on performance in this SJT will be carried out at all stages.

Have SJTs been tried and tested?

Research evidence suggests that SJTs are able to predict performance in the role (ref 3 & 4), as well as showing higher validity over other methods (ref 5). They have also been shown to be reliable (ref 6).

They are currently used for selection into GP training and are increasingly being piloted and used in other specialty selection processes. Evidence suggests that within medical selection, SJTs are a reliable and valid method of selection (ref 5 & 7).

SJT items were initially piloted at four medical schools, involving over 450 medical students, in autumn 2010. Fifteen further pilots involving over 1,000 medical students took place at both UK and non-UK medical schools in spring 2011. The results show good levels of reliability and the SJT was able to differentiate between candidates.

How will you ensure the SJTs remains the fairest method possible?

Creating a system that can be used into the future is a really important consideration. 'White space' questions cannot continue to be used as there are limited ways to ask these types of questions. SJTs allow for a range of scenarios to be presented and a vast amount of questions can be created.

The SJT can be refreshed every year with new items to help increase the longevity of the test and in order to ensure the SJT remains valid, ongoing work with take place – for example, studies which assess whether performance on the test is related to future performance as a doctor.

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Educational Performance Measure

What is an Educational Performance Measure?

An Educational Performance Measure (EPM) refers to a score produced by the applicant's medical school to reflect the applicant's achievements or performance on a range of assessments compared to their cohort. The EPM framework outlines a number of rules that each school is required to follow when calculating the EPM. All UK and non-UK medical schools will be required to submit their students' decile scores to the UKFPO using the EPM framework.

How many points will be awarded?

The EPM is worth a maximum of 50 points and is comprised of three parts:

1. Medical school achievements (calculated in deciles): 34 - 43 points
2. Previous degrees: maximum of 5 points
3. Educational achievements (prizes, publications and presentations): maximum of 2 points

Which assessments will be taken into account?

Each medical school will decide which assessments they want to include as part of the EPM. However, the EPM framework outlines a number of rules that must apply to any assessments chosen. All assessments used in the determination of a student's performance must:

- Be summative (and therefore subject to more formal controls)
- Cover clinical knowledge, skills and performance
- Cover non-clinical performance
- Cover all aspects of the curriculum assessed up to the end of the penultimate year at medical school
- Represent the average performance of applicants over time
- Include written and practical assessments

Each medical school will choose their 'basket of assessments' and then consult with students about which ones will be taken into account. Once the formal consultation period has finished and any amendments have been made, each medical school must publish their method for calculating the EPM to ensure transparency across all schools.

How many points will be awarded for the different degrees?

Applicants can earn up to 5 points for additional degrees that have been awarded by the time of application to the Foundation Programme. The points awarded for each degree will be as follows:

Previous degree	Number of points
• Doctoral degree (PhD, DPhil, etc)	5
• Masters degree • 1st class honours degree • Bachelor of Dental Science (BDS) • B Vet Med	4
• 2.1 class honours degree • 1st class intercalated degree which does not extend the degree programme	3
• 2.2 class honours degree • 2.1 class intercalated degree which does not extend the degree programme	2
• 3rd class honours degree • Unclassified or ordinary degree • 2.2 class intercalated degree which does not extend the degree programme	1
• Primary medical qualification only • 3rd class intercalated degree which does not extend the degree programme	0

What educational achievements will count?

Students can earn a maximum of 2 points for educational achievements. These can be earned in a number of ways:

Educational achievements	Number of points
Prizes • 1st prize – National/international educational prize	1
Presentations • Oral presentation at a national or international conference • 1st named author in a poster or presentation at a national or international conference	1
Publications • Educational research paper published in a peer-reviewed journal	1
Maximum number of points available	2

Why is EPM a better way forward than quartiles?

Students will be divided into deciles, rather than quartiles, which will produce a wider spread of marks making it more granular and fairer for students at the margins. The EPM will also address concerns about comparability between applicants in the same quartile from different schools and will make greater use of the information accumulated during medical school. In addition, students will be consulted with about which assessments are used, making it more transparent. There will be minimal disruption to students and medical school curricula by implementing the EPM.

Annex E – Case for change

Improving Selection into the Foundation Programme

Why change?

. . . because selection methods are always evolving

New selection methods are being developed and research on their effectiveness is being published all the time. The Department of Health wants to ensure that new doctors starting work in the NHS are selected using the latest proven valid, reliable and feasible methods. Situational Judgement Tests (SJTs) are an aptitude test which has been proven to predict future performance in GP training in the UK. It is expected to do the same for Foundation trainees. The Educational Performance Measure (EPM) was deemed by the expert panel reviewing selection methods as the best way to take an applicant's academic performance into account during the selection process. It provides an excellent way to measure a student's cognitive ability over a number of years and assessments, rather than relying on the performance of an applicant on a single exam.

. . . because there are concerns with the current tool being used to measure aptitude (white-space questions)

Currently, applicants are asked to answer a series of questions where they are expected to demonstrate through their short-essay answers that they meet aptitude criteria set out in the person specification. The question-writers have said that there is a limited number of ways they can ask these questions, which ask applicants to base the majority of their answers on their experience.

A better way of measuring aptitude is to give an applicant a situation they are likely to encounter as an F1 doctor and ask how they would react in that situation. This is a better indicator of future performance and is the basis of SJTs.

As applicants have quite a long period of time to answer the questions, students have raised the issue that some applicants have had outside help of some sort. Each year, applicants are removed from the process for cheating, collusion and plagiarism. Model answers are easily bought on the internet as are detailed guides to what makes a good answer.

The SJT addresses these concerns as applicants will sit a two-hour invigilated test under exam conditions. Question-writers have said that there are an infinite number of scenarios that could be used to measure an

applicant's aptitude. A bank of questions from which 60 will be drawn has been developed and is continually renewed with new questions.

. . . because research has shown us a better way

Research evidence suggests that SJTs have good levels of predictive validity (i.e. they are able to predict a person's performance in the job) as well as demonstrating good reliability. There has not been enough research published about white space questions to draw the same conclusions.

The way a medical student responds to a SJT question is a good indicator of how they will behave as an F1 doctor when encountering a similar situation. This part of the selection process is not meant to measure a student's academic ability, but their ability to be a good F1 doctor. The majority of the work of a foundation doctor is about prioritisation, organisation, professionalism, team working and having the ability to communicate well with patients and other staff, rather than making a diagnosis. Although academic ability and medical knowledge are very important, these skills have been proven to be crucial to the success of the applicant.

. . . because the pilots were successful

SJT items were initially piloted at four medical schools, involving over 450 medical students, in autumn 2010. Fifteen further pilots involving over 1,000 medical students took place at both UK and non-UK medical schools in spring 2011. The results show good levels of reliability.

. . . because there are concerns with the current academic performance measure

Part of the measure of academic performance is currently entangled with the "white-space" questions as Question 1 requests students list their educational achievements, including additional degrees and posters, prizes and presentations. These do not sit comfortably in here as application questions should all relate specifically to the attributes in the person specification.

Academic quartiles scores are a very rough measure which do not allow for much score differentiation between candidates. In addition to this, evidence suggests that not all medical schools calculate their academic scores in a way which is transparent to students.

The EPM integrates all three aspects of academic performance – medical school performance (calculated in deciles), additional degrees and other academic achievements. These are calculated in a clear, consistent and fair way by each medical school using a range of assessments. As types of assessments differ at each medical school they will decide, in consultation with students, which assessments to use. These will be published by each medical school in advance so students will know exactly which

assessments will be used to rank them. All assessments used in the determination of a student's performance must:

- Be summative (and therefore subject to more formal controls)
- Cover clinical knowledge, skills and performance
- Cover non-clinical performance
- Cover all aspects of the curriculum assessed up to the end of the penultimate year at medical school
- Represent the average performance of applicants over time
- Include written and practical assessments

Why not just use academic performance as a selection method?

While there is some evidence that academic performance is a good indicator of future performance, there is more evidence to say that it is only a good predictor of future academic performance. This means if a student does well at medical school, they are highly likely to pass their royal college exams, but this does not necessarily mean that the most academically gifted make the best doctors. Therefore, academic performance alone cannot be used to choose doctors. See the case study below.

CASE STUDY

John* graduated from an elite medical school in 2009. He was academically very gifted and scored in the top quartile of his graduating class. John's academic ranking score was very high, but his FPAS application score was only average.

John struggled through his F1 year with his assessments. Although his ability to diagnose patient's illnesses was second to none, he was rated poorly on teamworking and his patients had complained about his communication skills. According to his peers, he didn't prioritise well and often made poor judgement calls. Without these skills, he could not progress even though his knowledge of medicine was excellent. John had to repeat his F1 year and receive remedial training in the skills he lacked.

It is likely that the SJT would have shown that John did not have a natural aptitude for working with others, prioritising or communicating with patients. In a competitive job market, others who scored more highly in these areas are likely to have gotten the job ahead of John. Even though John's academic performance was better, he was not best suited to the job of an F1. The aim of the selection tools is to ensure the best candidates are chosen.

**Not his real name*

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Improving Selection to the Foundation Programme

Final Report of the Parallel Recruitment Exercise

Appendix C

PRE Team roles and responsibilities

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Parallel Recruitment Exercise (PRE) Team
Roles, Responsibilities & Key Meetings

PRE Lead

The PRE Lead, or 'champion', will usually be a clinician, normally the Programme Director for final year students. This person will be responsible for the success of the PRE locally, and for reporting process and issues to the Dean. The person will encourage students to take part in the one-hour Situational Judgement Test (SJT) and ensure that the guidelines for the SJT and EPM are followed. The person will work with the EPM Administrator to ensure that students are consulted on the basket of assessments to be used in determining the EPM and to agree the final assessments to be used.

SJT Administrator

The PRE SJT Administrator will normally be an exam administrator or equivalent. This individual is responsible for all of the logistical arrangements for the PRE SJT, including ensuring that an exam hall and invigilators are booked on the date or dates chosen for students to sit the SJT and that emails, both from the medical school and from the ISFP Communications Officer, are sent to students providing information about the SJT.

EPM Administrator

This person is responsible, with the PRE Lead, for determining the final basket of assessments used to formulate the EPM deciles after consultation with students. Once this is determined, the EPM Administrator will publish the information on how deciles will be calculated online and will submit the EPM score to the ISFP Project Group. Please note this will only refer to the EPM Decile Score, and not the additional points for educational achievements. In some schools, this EPM and SJT Administrator may be the same person.

PRE Student Champion

The UK Foundation Programme Office (UKFPO) will ask members of their Medical Student Board to act as local student champions for the PRE at their meeting on 15 September. They will be able to help enthuse students about the pilot, and provide advice and feedback on communications to students. The PRE Leads will be put in touch with their local student champion.

Please note: A *Guide to the Parallel Recruitment Exercise* will be developed for the PRE team, which include a timeline and all the key actions that must be taken during the PRE.

Events / Meetings

- 7 September 2011, London – PRE Workshop for Leads and Administrators
  The PRE Lead and Administrators will be required to attend a workshop in London on 7 September which will ensure the PRE team has all the information, guidance and materials required to run a successful PRE.
- 26 October, 2011, London – National Verification Day for FP 2012 Educational Achievements
  Either the PRE Lead or Administrator will be asked to attend this meeting. Representatives from medical schools and foundation schools will work together to verify the educational achievement documents that applicants loaded onto their FP 2012 application form. It is likely that this verification day will run next year as well.
- 16 March 2012 – Full day PRE Review
  The PRE Team will be asked to attend to discuss what worked well and what didn't, and to help inform and determine improvements which need to be made prior to the FP 2013 recruitment round.

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Improving Selection to the Foundation Programme

Final Report of the Parallel Recruitment Exercise

Appendix D

Administrators' Guide for the PRE

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Administrators' Guide

Parallel Recruitment Exercise 2011/2012
Improving Selection to the Foundation Programme

Dear Parallel Recruitment Exercise Team,

Thank you for organising the Parallel Recruitment Exercise (PRE) at your medical school in order to pilot the Situational Judgement Test (SJT) and the Educational Performance Measure (EPM). These are being piloted as part of the Improving Selection to the Foundation Programme (ISFP) project which is looking at the best way of selecting medical students to the Foundation Programme. Your support is crucial in ensuring the success of this exercise.

You have been selected by the head of your medical school as the responsible officers leading on this important project. You will be the main contacts for the ISFP project, which is being co-ordinated by the Medical Schools Council. Siobhan Fitzpatrick, the ISFP Project Manager, will be your main contact. You can reach her on Siobhan.fitzpatrick@medschools.ac.uk if you need clarification on any of the information found in this guidance.

This guidance is meant to provide you with all the information you will need to run successful pilots of both the SJT and EPM. It includes:

- Overview of the Parallel Recruitment Exercise (PRE)
- Situational Judgement Tests (SJTs)
    - SJT Administrator responsibilities
- Educational Performance Measure (EPM)
    - EPM Administrator responsibilities
    - EPM Framework
- Appendix A – PRE Team roles and responsibilities
- Appendix B – PRE timeline and checklist
- Appendix C – Supporting communications materials

One aim of this exercise is to learn more about the practicalities of delivering the Situational Judgement Test and Educational Performance Measure so we can iron-out problems before full implementation next year. Your feedback is very important to us, so when all the pilots have taken place, we will be running a review session where we will ask for your feedback and look at ways to ensure that the implementation for the live recruitment round next year runs smoothly.

I really appreciate your work on this and I look forward to hearing how it goes.

Warm regards

Professor Paul O'Neill
Chair, ISFP Project Team

Overview of the Parallel Recruitment Exercise (PRE):

During the 2011/12 academic year, new Foundation Programme selection methods will be trialled alongside the Foundation Programme application process. This Parallel Recruitment Exercise (PRE) is a dry run for the FP 2013 recruitment round.

We are extremely lucky to be able to run this new recruitment process in full prior to implementation and we urge you to take full advantage of this opportunity. As you are aware, the aim is for the Situational Judgement Test (SJTs) and the Educational Performance Measure (EPM) to replace the 'white-space' application questions and the academic quartile score next year. You will be able to use the Parallel Recruitment Exercise to evaluate whether there are any logistical or operational issues which need to be addressed for next year.

The PRE is part of the Improving Selection into the Foundation Programme (ISFP) project which was commissioned by the Department of Health. More information about the project, including example SJT questions and answers can be found at: www.isfp.org.uk.

The aim is for at least 75% of your final year students to participate in the SJT. More information about this will be provided at the PRE Team workshop (see below).

Following the completion of the SJT pilots, a feedback report will need to be produced by each medical school about the outcome of the pilots locally. The reports will be collated and presented to the Department of Health at a Medical Schools Council meeting. Information on this will be sent to you at the end of the year.

Parallel Recruitment Exercise (PRE) Team Workshop

Members of PRE teams are asked to attend a Briefing Workshop on 5 October 2011, 10am – 4pm at Medical Schools Council, Woburn House, Tavistock Square, London. You can nominate up to 4 of your staff to attend, but a minimum of 2 staff are required. At the workshop you will be briefed on the process and timeline and you will have the opportunity to ask questions and share best practice between schools. You will also be provided with communication materials on the day including posters to advertise the date of your SJT(s).

ACTION: Arrange for 2 – 4 people to attend the workshop from your medical school. If you cannot personally attend, we request that you appoint an alternate.

Situational Judgement Tests (SJT)

The aim is for Situational Judgement Test to replace the 'white-space' application questions as part of a medical student's application to the Foundation Programme. From recruitment to FP 2013 and onwards, all applicants will be required to sit an SJT under invigilated conditions.

This year, the students will take a shortened version of the SJT. It will be one hour long with 30 questions, rather than the full test students will sit next year which will be two hours and 20 minutes long, with 70 questions.

UK medical schools are responsible for running the SJTs in accordance with national guidelines. The test documentation will be centrally printed and distributed to schools shortly before the test is to be run. You will then return the answer sheets to be marked centrally.

The SJTs will be held on at least one of four dates in medical schools across the UK, to enable all final year students to participate. These are:

- Friday 11 November 2011 (Imperial and Birmingham only)
- Monday 28 November 2011
- Monday 9 December 2011
- Monday 9 January 2012

Applicants to the Foundation Programme who have been out of medical school for two years or more are also expected to undertake the SJT pilot on the same date as their clinical skills assessment between 1 and 3 November 2011 in Manchester. This will be administered by the UK Foundation Programme Office.

SJT Administrator responsibilities

As the SJT Administrator, you are responsible for organising and running the SJT at your school. You will be the point of contact for liaison with the Improving Selection to the Foundation Programme (ISFP) project team who will be coordinating the tests nationally. You should arrange to have a nominated back-up person who can take over the management of the arrangements in case of illness, etc.

Your responsibilities include:

1. Ensuring students know about the SJT and are encouraged to attend
2. Booking a two-hour timeslot (one hour test plus set up time) and a test venue
3. Arranging invigilators and administrators for the SJT date(s)
4. Taking delivery of the test documentation and ensuring the papers are kept secure
5. Ensuring relevant materials/documents are available on the day of the SJT
6. Registering and briefing students before the test
7. Counting in test sheets and feedback forms after the test and securely returning them

Further details and guidance about each of these tasks is below.

Informing students

The more information you can give medical students about the SJT, the better. The supporting communications material available is set out in Appendix C. Ideally, medical students would attend a mandatory lecture given by the PRE Lead (we will provide the PowerPoint presentation); receive at least three emails from the PRE Lead or SJT Administrator (examples are in Appendix C); and see the posters (which we will also provide at the workshop). All medical students are expected to participate in the SJT pilots, so attendance should be made as easy as possible. The test must not be held during school holidays or reading weeks.

You will need to provide your students with information about the date, time and venue for the test, plus a reminder that they will need to bring their RA number (FPAS application number), two pencils and an eraser to the test.

It is suggested that students who are not able to participating in the SJT should write a letter to the Dean/meet with the Dean to tell him their reasons for failing to participate. Students who are on elective will not need to inform the Dean why they are unable to attend. Although sitting the SJT is not mandatory, it is important that all medical students are expected to take part by their medical school to ensure the process is robust.

ACTION: Contact all students going into their final year in Sept 2011 to let them know which date/dates they will be expected to attend the SJT pilots and provide more information about the PRE. (See Appendix C for exemplar email). Inform students that they will need to contact the Dean if they are unable to participate.

Please note: A presentation called 'Improving Selection into the Foundation Programme' has been prepared by the ISFP project team which provides further information about the PRE, why it is being done and what students can expect during the SJT (including example questions and answers). This presentation will be sent to you to adapt and use for your own students. As mentioned above, we suggest that students attend a mandatory session where this presentation is used.

Booking date / time / venue

We have requested that you begin the Situational Judgement Test at 10.00am wherever possible in order to keep consistency across the country. Even though the test itself is only 60 minutes, you will need time to register students, brief them on the test, allow time for them to complete the feedback form and collect them. Therefore, we suggest that two hours are blocked out for this session.

The test venue should be the same type as is used for other formal assessments, for example finals exams. Normal requirements for test venues apply (there must be a clock visible, space for invigilators to walk between desks, good lighting, low background noise, etc).

The venue must:

- be large enough to hold all of the applicants in a single sitting. If you have to have multiple sittings, arrangements must be made for applicants to be quarantined so that those taking an early sitting cannot pass on information to the others
- have enough space outside the test room to register the applicants before they enter

Arrangements must also be made for students entitled to individual arrangements including extra time, separate rooms etc, as recognised by local rules. National rules will be agreed ahead of live recruitment next year, and will be discussed at the PRE workshop in October.

We confirm that the costs of venue hire and invigilation for running the Parallel Recruitment Exercise will be reimbursed.

ACTION: Contact ISFP Project Team on admin@isfp.org.uk by Monday 18th July to confirm:

1) the time, date and venue for the SJT at your medical school. Also, please let us know if you plan to run SJTs on more than one date, if there is more than one sitting on a date, or you are using more than one venue
2) the address and contact name for the delivery of the test documentation pack
3) the number of students expected to sit the SJT on each date / time. If you are running the SJT on more than one date / sitting, please confirm the expected number for each SJT, (eg whether the whole cohort is sitting the SJT on one date with a second date for extenuating circumstances, or if the cohort is split across multiple dates)
4) if there are any expected additional requirements that need to be taken into account when printing the SJT papers for your school e.g. coloured paper. If you are unable to provide this information now, please estimate any special requirements for printing. We need to agree the specification for the printing ASAP, and would rather over estimate

Invigilators and administrators

We recommend that there is at least one invigilator for every 60 applicants (minimum of two per room) and a further two administrators to register the students prior to the test.

Incentives

Although all final year medical students are expected to participate, prizes will be offered by the ISFP Project to encourage participation. Students who take the SJT will be entered into a draw to win one of five iPad prizes. Winners will be selected at random from all participants across the UK and they will be informed if they have won in January once all SJT pilots have taken place.

We would also like each school to give all participating students a certificate of attendance. A template for the certificate can be seen in Appendix C.

If possible, we suggest you should provide refreshments or a packed lunch following the SJT to encourage participation.

Test documentation

We will send you test documentation in a secure pack via courier two working days prior to your SJT date. You, or the PRE lead, must sign for them personally and be responsible for the secure storage of papers. The pack will include paper copies of the SJT question booklets and glossary, answer sheets and feedback forms. Please store the pack, unopened, in a secure place until the you are ready to distribute the papers immediately before the test.

Please note that if you have two SJT dates, a separate pack will be sent to you for the second date.

Two working days before your first SJT, we will send you a secure email containing the list of Foundation Programme applicants from your school and their RA numbers for those students who may have forgotten to bring their RA number with them on the day. If you have a second SJT date, you should keep this information in a secure location as it will not be re-sent. This information must be kept strictly confidential and should be deleted once your SJT pilot(s) have taken place.

SJT questions must be kept confidential and question papers stored securely at all times. Applicants must not have access to questions outside of the time of the test. All applicants taking the test on a given day must start it at the same time, or be subject to suitable 'quarantine' arrangements. There are two main reasons why the SJT test questions need to be kept secure. Firstly, if students were to access the questions before the test then the results of the pilot might be invalidated. Secondly, some of the questions being piloted are likely to appear in live SJTs in future, so we don't want them to be leaked.

You will also need to make arrangements to store the papers after the test until you are able to send them back by secure courier. Instructions for returning papers will come with your test documentation.

Checking the venue

There should be space outside the test hall for you to register applicants.

The SJT question booklet and glossary, answer sheet and feedback forms should be on desks before students enter the test room. No rough paper should be provided; students may write on the question booklet if necessary.

Registering and briefing students before the test

You should check each applicant's student ID, ensure they have their RA numbers (FPAS application number) and provide them with sharpened pencils and erasers if they did not bring their own. You must keep a count of the number of students going into the test room to ensure you count the correct number of question booklets and answer sheets back in, and ensure you know who has attended as you will need to know why the remaining students did not attend.

If a student does not have an RA number (i.e. they did not apply for a Foundation Programme) or their name cannot be found on the list of RA numbers provided by the ISFP team, students

should enter their RA number as 111 followed by their date of birth, e.g. 111 211 080 (for 21st October 1980).

As with other tests, students are not allowed to take personal belongings to their desks and mobile phones must be switched off. Students should not be allowed to enter the test room after the starting time, except in exceptional circumstances.

All students must receive a standard briefing immediately before the SJT begins. The text of the briefing will be sent to you prior to your SJT date. Once the briefing is completed the test may begin.

Counting test sheets in after the test and sending them to be marked

As the invigilators collect the answer sheets, they should check that applicants have completed their RA number on the answer sheet. It is important we know as many RA numbers as possible to help with the analysis of the SJT items. At the end of the test, collect all question booklets and answer sheets, ensuring that all documentation is collected and accounted for before students are allowed to leave their desks.

There will be instructions with your test documentation regarding the secure return of the papers.

Your medical school dean will have to report on the success of your SJT to the Department of Health, so you should record and retain:

- the list of students who undertook the SJT
- the list of students who did not take an SJT and their reasons for not taking it
- details of any actual or suspected breaches of security or procedures, and steps that will be taken to address this
- the names of the invigilators and administrators, identifying those who were responsible for checking that all papers were collected after the test
- details of any students who were allowed extra time or other individual arrangements, and the reasons
- details of any issues that arose which must be addressed before the live recruitment round next year (either locally or with the national administration of the test)

A report template will be developed and sent to SJT Administrators prior to the PRE. Since the purpose of the PRE is to gain insight into the effectiveness of the SJT arrangements, this feedback is important.

Educational Performance Measure (EPM)

The EPM will replace the scores currently comprised of academic quartile rankings and educational achievements (Q1 of the FPAS form). For the PRE, administrators only need to give a score for medical school performance, calculated in deciles. The EPM Framework (see page 9) sets out the principles for calculating deciles, as well as setting out the scoring framework for the other two components of the EPM score.

EPM Administrator Responsibilities

As the EPM Administrator, you are responsible for:

- consulting with your students to determine the assessments used to formulate the EPM deciles
- agreeing the final basket of assessments used to measure your students' medical school performance
- publishing on your medical school website an explanation of which assessments are to be used to determine the EPM
- calculating decile scores for each final year student and recording them on the spreadsheet which will be provided by the ISFP project team
- submitting the decile score to the ISFP Project Team in February 2012

Consultation with students

The EPM Administrator should work with the PRE Lead to develop a proposed basket of assessments and their weightings, and to seek input from their students. It may be useful to set up a workshop or series of workshops with students to determine which assessments are best. Representatives from each of the years should be involved in the consultation. The agreed EPM Framework will be used for the live recruitment round for FP 2013 unless any issues arise.

Information to be published on medical school websites

By the end of December 2011 you must publish full information about how you will calculate the decile score relating to medical school performance on your website. This information should include:

1. The representative basket of assessments, and their weightings, which will be used to assess medical school performance. These should be composed of a range of representative summative assessments which cover clinical and non-clinical knowledge and skills, up to the end of the penultimate year at medical school
2. Local policies relating to treatment of students with different entry routes, for example graduate entry, standard entry and students who transfer partway through their course
3. Information on how deciles are calculated for students who take a year out to intercalate and for students required to repeat a year
4. Information on whether re-sit scores will be either the original first-attempt mark, or capped at the pass-mark, except in the event of mitigating circumstances as accepted by the university or medical school policy
5. The process by which students will be able to review their decile points score, and appeal if necessary (n.b. this is not an opportunity to appeal individual assessment marks)

Educational Performance Measure (EPM) Framework

The EPM framework will be piloted during the FP 2012 recruitment round as part of the Parallel Recruitment Exercise (PRE). The aim is for the EPM to replace the scores currently comprised of academic quartile rankings and educational achievements for recruitment to FP 2013.

The EPM is worth a maximum of 50 points and is comprised of three parts:

1. Medical school performance (calculated in deciles): 34-43 points
2. Previous degrees: 0-5 points
3. Educational achievements (prizes, publications and presentations): 0-2 points

PLEASE NOTE: The EPM Administrator will only be responsible for determining the decile score part of the EPM for this year's PRE (Part 1).

PART 1 - Medical school performance (34 - 43 points)

The EPM Administrator must rank students based on the results of their pre-defined basket of assessments, divide the cohort into deciles of roughly equal size (by following the rules explained below) and assign each student a decile score. Medical school performance will be assessed using a range of assessments and it will be up to each medical school to define which assessments will be used and the relative weighting of each assessment.

All assessments used in the determination of a student's performance must:

- be summative (and hence subject to formal controls)
- cover clinical knowledge, skills and performance
- cover non-clinical performance
- cover all aspects of the curriculum assessed up to the end of the penultimate year at medical school
- represent the average performance of the applicants over time, rather than being limited to a snap-shot
- include written and practical forms of assessment

Decile rank	Number of points
1	43
2	42
3	41
4	40
5	39
6	38
7	37
8	36
9	35
10	34

The graduating cohort is defined as all students in their final year at the point of application to the Foundation Programme, including those applying to the Academic Foundation Programme and those who have chosen not to apply. Local discretion may be used to determine whether applicants on different entry routes (for example graduate-entry and standard-entry courses) are treated as a single cohort or separate cohorts for the purpose of ranking.

There is no minimum number of assessments to be taken into account in constructing deciles. However, only assessments which achieve a fair spread of scores or grades should be included. Pass/fail assessments should not count within the decile score, unless there is a sufficient number of pass/fail assessments that an above-average applicant is likely to fail at least a few.

Each medical school will construct an initial basket of assessments to be used for decile rankings. Students must be consulted with and have the opportunity to share their views before the final assessments are agreed. The composition of the decile rankings – the basket of assessments - should be published on the medical school website.

The N applicants within a cohort will be allocated into deciles according to the following rules. The applicants will be competition ranked according to their overall score. This means that:

- each applicant will have a rank place between 1 (highest scoring) and N (lowest scoring);
- applicants with the same score will share the same rank place; and
- where x applicants share the same rank place, the next x-1 rank places will remain empty
- The rank places will be allocated in order (from 1 to N) to ten roughly equal-sized groups, so that each group contains N/10 rank places, rounded up or down to the nearest whole number

Finalised decile scores calculated as part of the PRE must be sent in the template Excel spreadsheet, pre-populated with student names, to the ISFP project team for evaluation by 1 February 2012.

Please note: Applicants who re-apply to the Foundation Programme after failing finals, or who delay their application to Foundation Programme for any other reason, should be given their original EPM decile score. Points for additional evidence of academic achievements will be awarded according to the evidence provided at the point of application.

PART 2 - Previous Degrees (max 5 points)

Applicants can earn up to five points for additional degrees that have been awarded at the point of application to the Foundation Programme (either prior to medical school or an intercalated degree). Official notification from the university must be provided. Where the applicant has received a pass result but has not received the degree certificate, a letter from their medical school Dean confirming that they have passed must be provided on letter headed paper, signed and dated by the Dean.

If an applicant holds more than one degree at the time of application to the Foundation Programme, they should provide evidence of the degree that will achieve the highest number of points.

Previous degree	Number of points
• Doctoral degree (PhD, DPhil, etc)	5
• Masters degree • 1st class honours degree • Bachelor of Dental Science (BDS) • B Vet Med	4
• 2.1 class honours degree • 1st class intercalated degree which does not extend the degree programme	3
• 2.2 class honours degree • 2.1 class intercalated degree which does not extend the degree programme	2
• 3rd class honours degree • Unclassified or ordinary degree • 2.2 class intercalated degree which does not extend the degree programme	1
• Primary medical qualification only • 3rd class intercalated degree which does not extend the degree programme	0

Please note: Honours degrees include any type of Bachelors honours degree, e.g. BSc, BA, BEng, LlB, BMedSci, etc. A Masters degree is where it represents a further year of study taken in addition to a basic medical qualification. Some international medical schools (e.g. the USA) award an 'MD' or similar as part of their basic medical qualifications. This qualification does not attract any additional points in this section.

For students who have undertaken an exchange programme of study as part of a degree course, you must take the grade point average (GPA) and calculate the equivalent degree level and select the most appropriate. For a 4 point scale, a GPA of 3.6 - 4 should be scored as equivalent to a 1st class degree, a GPA of 3 – 3.5 as 2.1, a GPA of 2 – 2.9 as 2.2 and a GPA of 1 – 1.9 as a 3rd class degree. For a 5 point scale, a GPA of 4.4 - 5 should be scored as equivalent to a 1st class, a GPA of 3.8 – 4.3 as 2.1, a GPA of 3 – 3.7 as 2.2 and a GPA of 2.9 or lower as a 3rd class degree.

PART 3 - Educational achievements (max 2 points)

Students can earn a maximum of two points in this category. Additional points for previous degrees, prizes, publications and presentations will be automatically awarded by FPAS, and will be subject to verification by medical school and foundation school staff. During the FP 2012 recruitment round, verification will take place on 26 October in London at a National Verification Day. It is likely that this will happen for the FP 2013 recruitment round as well.

Educational achievements	Number of points
Prizes • 1st prize – National/international educational prize	1
Presentations • Oral presentation at a national or international conference • Poster presentation at a national or international conference	1
Publications • Educational research paper published in a peer-reviewed journal	1
Maximum number of points available	**2**

Prizes

Bursaries and medical school prizes will not count in this category. The prize must be 1st prize and it must be a national or international educational prize. A letter of evidence from the awarding body must be uploaded to FPAS system at the point of application.

Presentations

The conference must be hosted by a recognised professional medical body in order for a student to receive a point. The conference must have taken place by the time of application to the Foundation Programme. A letter of evidence from the conference host must be provided by the student and uploaded into FPAS.

Publications

Students must supply a PubMed ID (PMID) at the point of application to the Foundation Programme or provide a letter of evidence that the work has been accepted for publication and is 'in press' for a publication which has a PMID. This includes papers, abstracts, book chapters, audits and in rare cases, letters. The front page of the article including the title and authors' names must be provided by the student and uploaded into FPAS.

If an applicant has more than one publication, prize or presentation, they will receive a maximum of one point for any of the three categories individually; a maximum of two points in total.

Appendix A

Parallel Recruitment Exercise (PRE) Team Roles and Responsibilities

PRE Lead

The PRE Lead, or 'champion', could be a clinician or the Programme Director for final year students. This person will be responsible for the success of the PRE locally, and for reporting process and issues to the Dean. This person will encourage students to take part in the one-hour Situational Judgement Test (SJT) and ensure that the guidelines for the Situational Judgement Test and Educational Performance Measure (EPM) are followed. This person will work with the EPM Administrator to ensure that students are consulted on the basket of assessments to be used in determining the EPM and to agree the final assessments to be used.

Situational Judgement Test Administrator

The PRE SJT Administrator should be an exam administrator or equivalent. This individual is responsible for all of the logistical arrangements for the PRE SJT, including ensuring that a test hall is booked on the date or dates chosen for students to sit the SJT and emails, both from the medical school and from the ISFP Communications Officer are sent to students providing information about the SJT.

Educational Performance Measure Administrator

This person is responsible, with the PRE Lead, for determining the final basket of assessments used to formulate the EPM deciles after consultation with students. Once this is determined, the EPM Administrator will publish the information on how deciles will be calculated online and will submit the EPM score to the ISFP Project Group. Please note this will only refer to the decile score, and not the additional points for educational achievements. The EPM and SJT Administrator may be the same person.

PRE Student Champion

The UK Foundation Programme Office (UKFPO) will ask members of their Medical Student Board to act as local student champions for the PRE at their meeting on 15 September. They will be able to help enthuse students about the pilot, and provide advice and feedback on communications to students. The PRE Leads will be put in touch with their local student champion.

Appendix B

Parallel Recruitment Exercise Timeline and Checklist

Date	Activity	Completed
July	Notify ISFP of the date/dates you will be using for your SJT as soon as possible	☐
July	Meet with your PRE Team. You may wish to consider: • who will undertake each action • the best time for the test to take place on your chosen dates and whether lectures must be re-arranged • who will give the presentation to students about the PRE / when • whether a briefing about the PRE should be given to other staff • Decide if you will be offering refreshments or packed lunch to students to encourage participation • when / how to consult with students on which assessments should be used to calculate the EPM deciles	☐
July	Notify the ISFP project team whether you can attend the PRE workshop in London, and, if you cannot attend, who will be attending in your place	☐
Aug	Finalise arrangements for the two-hour timeslot for the test and book the venue	☐
Aug	Organise invigilators and administrators for the day	☐
Sept	Send an email to final year students to let them know the date of the mandatory ISFP lecture about the PRE and the date(s) that your school will hold SJTs (See Appendix C for exemplar email)	☐
16 Sept	PRE Leads will be informed who their student champion is	☐
5 Oct	**Attend the PRE Team Workshop in London**	☐
Oct	Reminder email to students about the PRE and the incentives available / implications for not participating in the SJT test	☐
Oct	Begin consultation with students on which assessments to use for the EPM deciles	☐
26 Oct	**26 October, 2011, London – National Verification Day for FP 2012 Educational Achievements** Representatives from medical schools and foundation schools will work together to verify the educational achievement documents that applicants loaded onto their FP 2012 application form. It is likely that this verification day will run again for FP 2013. You will need to check if you are required to attend this	☐
Oct/Nov	Mandatory session for students to attend the ISFP presentation on the PRE. Students on elective will not be required to attend	☐

2 weeks before your SJT test date	Hang posters about the date and time of the SJT in conspicuous places around campus	□
1 week before SJT	Email all final year students reminding them about the arrangements for the SJT	□
2 days before SJT	Take delivery of the test documentation pack and ensure that all papers are kept secure	□
SJT date	Ensure relevant materials are available at the venue, register and brief students before the test and count in question booklets, answers sheets and feedback forms after the test and securely post them as requested in the test documentation pack	□
2 weeks after the SJT date	Complete and return the SJT report template	□
End Nov	Complete EPM decile consultation and determine which assessments will be used for the EPM deciles, and what local rules may apply	□
Dec	Publish which assessments will be used for the EPM decile on your medical school's website	□
1 Feb 2012	Submit deciles scores on spreadsheet provided to ISFP project team	□
Feb 2012	PRE Review - The PRE Team will be asked to attend to discuss what worked well and what didn't, and to help inform and determine improvements which need to be made prior to the FP 2013 recruitment round.	□

Appendix C

Supporting Communications Materials

This section sets out the supporting material that the ISFP Project Team will provide to help you ensure that your PRE runs as smoothly as possible.

Communication with students is vital to ensure a good level of participation at the SJT. The following materials are available to help you:

- PowerPoint Presentation – "Improving Selection into the Foundation Programme". This presentation is available from the ISFP project team, and will be given to you at the PRE Team Workshop in October. We recommend that this is given to all students as a mandatory lecture
- Posters – These will promote SJTs and will have space for you to write in the date, time and venue of your SJT. Posters will be distributed at the PRE Team Workshop in October
- Emails – Exemplar emails have been provided (below) showing the type of information which should be sent to all final year students at each stage
- Example certificate of participation

Exemplar E-mails to students re: SJT

The emails below are intended as guidance only. It is expected that these will be amended to meet the needs of your school, and reflect your policies.

Email 1 – to be sent in September 2011

Subject: Foundation Programme – Parallel Recruitment Exercise

Dear final year students

During the 2011/12 academic year, new Foundation Programme selection methods will run alongside the Foundation Programme application process. This Parallel Recruitment Exercise (PRE) is a dry run for the FP 2013 recruitment round.

The aim is for a Situational Judgement Test (SJT) and the Educational Performance Measure (EPM) to replace the "white-space" application questions and the academic quartile score next year. More information about the PRE trial run will be available at the following event:

'Improving Selection into the Foundation Programme' lecture
(insert date & time)
(insert venue)

Please note that this is a mandatory lecture. It will provide you with all the information you will need about the Situational Judgement Test that you will be taking in addition to completing the FPAS form.

The SJT itself will take one hour and will consist of 30 multiple-choice questions. There is no need to study or revise as it is an aptitude test, rather than a knowledge test. It is designed to see how you will react in the workplace given different scenarios you are likely to encounter as a foundation doctor.

The SJT will take place at
(insert time and date) in
(insert venue)

We realise that some of you may be on elective during the lecture, the SJT or both. If you are on elective during this time, you are exempt from participation and will not have the opportunity to undertake the SJT unless you return on the specified date. SJTs cannot be taken at any other time.

SJTs are currently used in selection for GP training, and are being piloted for use in other specialties, including surgery. It is likely that you will have to take an SJT at some point during the next few years, so participating in this pilot will give you an excellent opportunity to practice these test questions before you encounter them in a selection process. You will receive feedback on your performance.

If you are unable to attend the SJT, please contact (insert name) outlining your reasons. Please note your results will not affect your Foundation Programme allocation.

More information about this project, including example SJT questions and answers can be found at: www.isfp.org.uk, or on Facebook.

Regards,

PRE Lead

Email 2 – to be sent in October

Please note – it is recommended that you provide lunch or refreshments for students on the day to help encourage participation.

Subject: Participating in the Situational Judgement Test

Dear final year medical student,

Re: Situational Judgement Test, (Date & Time), (Venue)

All final year students are expected to attend a one hour Situational Judgement Test pilot on (date, time and venue). This is part of the Improving Selection to the Foundation Programme project which is looking at the best way of selecting final year medical students into the Foundation Programme. More information can be found at: www.isfp.org.uk

The SJT itself will take one hour and will consist of 30 multiple-choice questions. There is no need to study or revise as it is an aptitude test, rather than a knowledge test. It is designed to see how you will react in the workplace given different scenarios you are likely to encounter as a foundation doctor.

All participants will be entered into a prize draw to win one of five iPad2s. These will ne national prizes and you will be contacted if you are a winner in January. You will also be given a certificate of attendance and lunch/refreshments will be provided on the day.

If you are unable to attend the SJT, please notify (insert name and contact details) by (insert date). Students on elective at the time of the SJT will be exempt from participation. However, if you are on elective elsewhere in the UK and wish to return to undertake the SJT, please let (insert name) know by (date) so we can ensure we have the correct number of desks available and lunches ordered.

Regards

PRE Lead

Email 3 – to be sent one week prior to the SJT

Please note – the recommended incentive of lunch is inserted into this email. It will have to be tailored to match the incentives your school will be offering.

Subject: Reminder: SJT next week

Dear final year medical student,

Re: Situational Judgement Test, (Date & Time), (Venue)

Next week, you will be participating in the SJT. There are several things you will need to bring with you to the test. These are:

- Student ID
- Two pencils, a sharpener, and an eraser
- Your RA number (FPAS applicant number)

The test will be machine-marked, so answers marked in pen will show as though no answer has been made.

Your RA number is your FPAS applicant number. It can be found on your online FPAS account by logging into your account at www.foundationprogramme.nhs.uk. If you did not complete an FPAS application this year, you are still expected to participate in the SJT. Just let the administrator know at registration and s/he will assign you a temporary RA number.
The SJT will be run under test conditions, so you will be asked to turn your mobile phone off and leave your belongings (other than your pencils, eraser and sharpener) at the back of the room.

At the end of the test, you will be asked to complete a feedback form, which must be handed to invigilators before you leave the room. After this, you may collect the lunch that has been provided.

You will be able to access your SJT results through your FPAS account in April 2012, after the completion of the FPAS recruitment round. You will be alerted as soon as this information is available.

Remember, by taking part not only will you have the chance of winning an iPad2, but you will be helping for form new national recruitment policies. This will also be excellent practice for you as you are likely to encounter SJTs when applying to speciality training.

Regards

PRE lead

Improving Selection to the Foundation Programme

Certificate of participation
awarded to

_____

for taking part in the Situational Judgement Test pilot on

_____

at xxx Medical School

This was part of the Improving Selection to the Foundation Programme Parallel Recruitment Exercise

Professor Paul O'Neill
Chair, Improving Selection to the Foundation Programme

xxxx
Parallel Recruitment Exercise Lead, xxx Medical School

Improving Selection to the Foundation Programme

Final Report of the Parallel Recruitment Exercise

Appendix E

PRE SJT Invigilator Guide

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Parallel Recruitment Exercise

SJT Invigilator Guide

1. Introduction

1.1 Thank you for your role in delivering the Situational Judgement Test (SJT) for the Parallel Recruitment Exercise (PRE).

1.2 This guidance provides the information you need for a successful SJT, please read it carefully.

1.3 Further information about activities to undertake before and after the test is available in the PRE Administrators Guide.

1.4 Appendices at the end of this guidance contain detailed reference information.

1.5 If you have any questions about the guidance then please contact the project team via admin@isfp.org.uk or 020 7419 5494.

1.6 If you have an urgent concern about the SJT outside of office hours (9.30 – 17.30 Mon-Fri), please phone our emergency contact number: 07980 650381. For example, urgent concerns could include having to evacuate an assessment room during the SJT and not being able to recover test papers.

2. Before the test

2.1 Please ensure that the room(s) for the SJT is light, airy and quiet, with sufficient space for invigilators to walk between the desks. There should be signs outside the door to ensure quiet. A clock must be visible.

2.2 All applicants will need to bring their RA number (FPAS application number, or academic FP application number if successful), two pencils and an eraser to the test. They will also need to bring photo ID.

2.3 We will provide you with a list of applicants and RA numbers for your school, for reference on the day for those applicants who may have forgotten to bring with them their RA number. A small number of applicants may not have completed an application to the Foundation Programme (e.g. military posts, choosing not to apply for personal reasons). If an applicant does not have an RA number, they should enter their RA number as follows:

- Defence deanery applicants should enter 333 – DDMMYY (Date of Birth)
- All others should enter 444 – DDMMYY (Date of Birth)

2.4 If an applicant has does not have an RA number, and has entered a number as specified in paragraph 2.2, it is important that you make a note of the RA number they have entered and their email address, and return this on the Attendance Declaration (paper to be provided with the delivery of question papers). Without this information the applicant will not be able to receive feedback on their SJT performance.

2.5 If an applicant has more than one RA number (e.g. a number for both Academic Foundation Programme and Foundation Programme) they should fill in the RA number for the main Foundation Programme application.

2.6 Question papers, glossaries and OMR forms may be placed on each exam desk before applicants enter the room, with exam conditions strictly observed.

2.7 All applicants must receive the standard briefing before the assessment begins. The applicant briefing and administrator procedure is available in Appendix A. Once the briefing is completed the assessment may begin.

2.8 Applicants who arrive after the briefing has started must wait outside until the assessment is underway. They should receive the briefing outside the assessment room before being allowed to enter and start the assessment. Late arrivals must finish the SJT at the same time as other applicants.

2.9 To check the identity of applicants you will need to:

- Follow local procedures for seating and registering applicants
- Ensure that all applicants have their RA number on display
- Ensure that all applicants are final year medical students
- Check photo ID

By signing the Applicant Declaration, the Responsible Officer for the SJT is confirming that the ID of all participants in the PRE has been verified.

3. During the test

3.1 Applicants are not allowed to leave and re-enter the assessment room during the test, except for a toilet break. Applicants wishing to leave and re-enter the assessment room during the test must be escorted.

3.2 Applicants should not be allowed to enter the assessment room after the starting time, except in exceptional circumstances.

3.3 Agreed local procedures should be followed for giving extra time and/or support (e.g. a scribe) to applicants with known dyslexia or other medical conditions. For those students who are unable to use the OMR form an *SJT template answer sheet* will be provided. An invigilator will then have to transcribe answers from the *SJT template answer sheet* to the OMR form. By signing the Applicant Declaration, the Responsible Officer is confirming that the answers have been transcribed correctly.

3.4 If an applicant fails to follow any of the agreed local rules regarding conduct during the assessment (see Appendix B for example rules), this should be addressed immediately without disturbing other applicants.

3.5 Applicants should be informed 15 minutes before the end of the test and when the full time allowed for the test has been reached. Applicants who started the test late must finish the test at the same time as all of the other applicants, and a note made of this applicant's RA number on the Attendance Declaration.

3.6 Once the test has finished, ALL paperwork must be collected by administrators before any applicants may leave their desks. As administrators collect the answer sheets and question papers they should

check that applicants have completed their name and RA number on both sides of the OMR answer sheet and on question paper.

3.7 Applicants should be given an applicant evaluation form to complete and return once the test has finished.

Appendix A: Applicant Briefing

n.b. you may wish to include information about checking ID and RA numbers during the SJT.

Please read the following aloud to the applicants once they are all seated:

- Thank you for taking the Situational Judgement Test today. Do not open the question booklet until I tell you to do so.
- Your participation will have no bearing on your application to the Foundation Programme. All of the answers and information you share will remain anonymous, and only you will receive feedback on your individual performance.
- The content of the SJT question paper is STRICTLY CONFIDENTIAL. It is essential that you do not reproduce or share any information relating to the contents of the SJT.
- Please ensure that your mobile phone is switched off and placed securely with your belongings. If you have electrical devices or written material that have not already been declared, please raise your hand (*Pause)*.
- If you wish to speak to an invigilator during the test, please raise your hand.
- You will not be able to leave the room until the test is finished. The only exception is if you wish to go to the toilet, in which case please raise your hand and an invigilator will escort you. You will not be able to go to the toilet during the last 15 minutes.
- The test will last 60 minutes. You will be told when there are 15 minutes left.
- Once the SJT is complete, we will collect the question papers and answer sheets. You will then be asked to complete a short evaluation form.
- You should have a question paper, answer sheet and separate glossary on your desk, and you should have brought your own pencil, sharpener and eraser. If you do not have any of these items, please tell me now *(Pause).*
- You will need to complete your RA number and paper number on both sides of the answer sheet and question paper in order to receive feedback on your performance.
- Instructions on how to complete the SJT are on the front page of the question paper.

****

Instructions:

- There are two parts in this assessment:
- In Part One, rank in order of appropriateness the five responses to the situation (1 = most appropriate; 5 = least appropriate). There are marks available for near misses; you may not use the same rank more than once.
- In Part Two, choose the three most appropriate from eight possible actions. You must only select three options.
- There are 30 questions in this paper; 19 questions in Part One and 11 questions in Part Two. Please try and assign your time accordingly.

- In this assessment you will be presented with scenarios typical of those that Foundation Year One (FY1) doctors encounter.
- For each scenario, consider yourself to be a FY1.
- Please answer what you should do (not what you would do).
- You may sometimes feel that you would like more information before answering. However please give your best answer based on the information provided.

Please note:

- Mark your responses on the answer sheet using pencil only.
- If you need to change a response, rub it out and mark your final response. Please do not cross out anything on the answer sheet.
- There is no negative marking; you should therefore attempt all the questions.
- You may write on the question booklet.
- At the end of the test, all papers will be collected by the invigilator. You may not leave the room early.
- The question paper and answer sheet must not be removed.

****

- Does anyone have any questions? *(Leave a few minutes for applicants to ask any questions – only answer general questions about the process)*
- You have 60 minutes to complete the SJT, starting now. *(Begin timing 60 minutes).*
- *(After several minutes, administrators should walk around the room, ensuring that all applicants are completing the answer sheets appropriately. Administrators must check the photo ID of all applicants, and check their RA number. Inform applicants if they are not completing the answer sheet appropriately. Administrators should continue to walk around the room periodically throughout the test.)*

<u>After 45 minutes:</u>

- There are 15 minutes remaining for this test.

<u>After 60 minutes:</u>

- Stop working now. Please put your pencils down. That is the end of the test. Please remain in your seats whilst we collect the question paper, answer sheet and glossary.
- We will now give you a short evaluation of the SJT. This will take no longer than five minutes to complete.

- Please complete your RA number and the name of your medical school
- Your feedback will help us improve future selection to the Foundation Programme. Your comments – as with the SJT– will remain anonymous.

After 5 minutes:

- Please remain in your seats whilst we collect the papers.
- Thank you.

Appendix B: EXAMPLE Applicant Assessment Rules

The following are not permitted in the assessment room:

- Electrical devices of any kind (exceptions are made in the case of medical need e.g. hearing aids). This rule covers:
  - Mobile phones
  - Personal organisers
  - Personal scanners
  - Laptops
  - Calculators etc,

  Any devices brought to the assessment must be placed in the box provided by the invigilator (invigilator(s) do not take responsibility for any devices brought in to the assessment room)
- Any written material, including medical dictionaries (Foreign language dictionaries may be used but permission must be sought from the invigilator before the start of the assessment and the book will be checked to confirm that it is a dictionary and not notes/textbooks)
- Food - (drinks only are allowed in a sealed container)

Applicants may be dismissed from the assessment or have other action taken, including possible referral to the regulatory body, for any of the following reasons:

- Giving or receiving help from another applicant during an assessment
- Using notes, books, any unauthorised notations or other aids
- Possession or use of photographic, recording or transmission devices in an assessment
- Writing on any material other than that provided by the administration team for the purpose of note taking during the assessment
- Removal of assessment materials or notations of any kind from the assessment room or making and removing copies of any part of such papers, answer sheets or assessment materials
- Refusal to comply with time allotments or assessment administration procedures
- Disruption of the assessment for other applicants
- Reproduction or disclosure of assessment content in any manner (including unauthorised notations, engaging in discussion of assessment content with anyone other than assessment personnel during or after an assessment)
- Providing and/or disseminating information about the assessment content with a view to assisting current or prospective applicants whether before or after the assessment
- Failure to follow the lead administrator's instruction, after a warning

  In any such case, an incident report will be filed by the Responsible Officer and the applicant will be told of this action.

Improving Selection to the Foundation Programme

Final Report of the Parallel Recruitment Exercise

Appendix F

Analysis and Evaluation of the PRE SJT

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Analysis & Evaluation of a Situational Judgement Test for Selection to the Foundation Programme – Parallel Recruitment Exercise

Final Report

Improving Selection to the Foundation Programme

Work Psychology Group

Professor Fiona Patterson
Vicki Ashworth
Dr Alec Knight
Dr Máire Kerrin

March 2012

Contents

1 Introduction

1.1 Purpose and Structure of the Report

1.1.1 A Parallel Recruitment Exercise (PRE) was carried out in 2011/2012 as part of the Improving Selection to the Foundation Programme project. The purpose of the PRE was twofold:

- To evaluate the logistics of running a Situational Judgement Test (SJT) in a large scale across a number of key dates
- The development and piloting of additional items to maximise the item bank

1.1.2 This report is concerned with only the second objective; to provide details of the analysis and evaluation of a SJT as part of a PRE.

1.1.3 The report is divided into three main parts:

- Part One describes the development process of additional items that were piloted as part of the PRE.
- Part Two describes the results and analysis of the PRE pilots that were carried out.
- Part Three provides a summary and recommendations going forward.

1.2 Background

1.2.1 In 2009, the Department of Health in England (DH), on behalf of the four UK health departments, commissioned the Medical Schools Council (MSC) to lead a cross stakeholder steering group to design, develop and pilot new arrangements for the selection of medical students into the Foundation Programme (FP). The FP is a two-year generic training programme which forms the bridge between medical school and specialist/general practice training.

1.2.2 This steering group recommended the pilot of a Situational Judgement Test (SJT) and Educational Performance Measure (EPM) and that these two assessments in combination should be used for selecting applicants and allocating them to foundation schools. The SJT must therefore be developed and validated in accordance with accepted best practice, so that it provides an effective, rigorous and legally defensible method of selection.

1.2.3 In August 2011, a report was produced on the design, analysis and evaluation of a SJT for Selection to the Foundation Programme. Recommendations were for the implementation of a SJT, alongside the Educational Performance Measurement (EPM) in 2013.

Part One: Item Development & Review

2 Item Development & Review

2.1 Process Overview

2.1.1 The SJT item development process was conducted using two methodologies in parallel. The purpose of developing items using two methodologies was to evaluate each methodology with regards to efficiency and productivity.

2.1.2 Figure 1 summarises the development and review process undertaken.

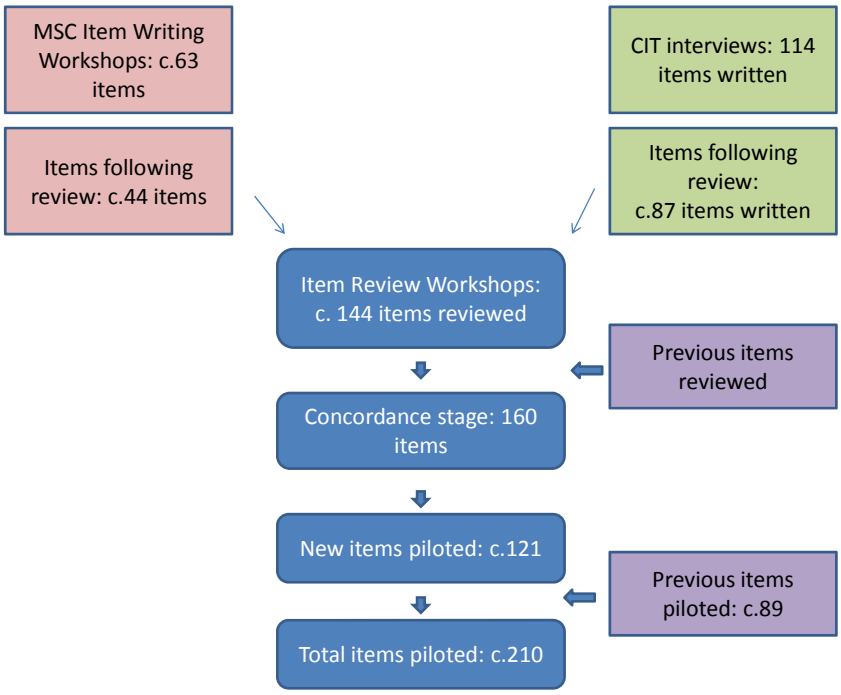


Figure 1: Item development and review process

2.2 Item Writing Workshops

2.2.1 A total of three item writing workshops were held in August 2011. Two workshops were held in London and one workshop was held in Birmingham.

2.2.2 A total of 11 item writers attended the workshops. All item writers were new to the process and had not been previously trained. Previously trained item writers were also invited to attend the second phase of workshops although none could attend.

2.2.3 The breakdown of the demographics of the item writers, their job role and primary specialty is provided in the tables below.

Table 1: Demographics of item writers

Sex	Male	4
	Female	7
	Not Stated	-
Age group	25 and under	-
	26-35	-
	36-45	4
	46-55	6
	56-65	1
	66 and over	-
	Not stated	-
Ethnicity	White	10
	Black	-
	Asian	1
	Mixed	-
	Chinese	-
	Other	-
	Not Stated	-

Table 2: Item writers' job role

Clinical Tutor	-
Clinical/Educational Supervisor	7
Foundation School Director	3
Lay Representative	-
Medical School Director	1
Other	-
Not stated	-

Table 3: Item writers' primary specialty

Specialty	**No.**
Anaesthetics	1
ENT	1
General Surgery	2
Geriatric Medicine	2
Obstetrics & Gynaecology	1
Radiology	1
Renal	2
Rheumatology	1

2.2.4 Information was sent to item writers prior to their attendance at item writing workshops, outlining the background to the project and the use of SJTs for selection, the purpose of the workshops, their role on the day and some example SJT items. Item writers were also provided with some initial information about item writing principles and were asked to complete some pre-work prior to attending the workshops. On the day, item writers were required to sign confidentiality and code of conduct agreements.

2.2.5 Prior to attending the workshop, each item writer was asked to think of at least three possible scenarios or critical incidents that could form the basis of SJT items. They were advised that these should be incidents that involved some dilemma and need for judgement, therefore avoiding straightforward incidents that would elicit text book responses. Item writers were also asked to think about possible responses to the scenarios that should be actions that could plausibly be taken by the applicant in response to the scenario.

2.2.6 Item writers were given guidance on the SJT target domains[1] and were advised that the scenarios should be relevant to one of these domains. This ensures that the scenario is relevant to the professional attributes that are expected of a FY1 doctor and that the content of the scenarios maps on to the person specification.

2.2.7 The SJT target domains which were presented in the pre-information sent to item writers and at the item writing workshops are outlined in the table below. Pre-information also advised that:

- Scenarios should ideally be fairly short (typically 30-60 words and no more than 80 words) but should provide enough detail to provide dilemma and complexity.
- Scenarios and responses should be described clearly and unambiguously.

2.2.8 Item writers were requested to write two formats of items; ranking items and multiple choice items. Ranking items ask applicants to “rank in order the following actions in response to this situation (1= most appropriate; 5= least appropriate)” and multiple choice items ask applicants to “choose the three most appropriate actions to take in this situation.”

2.2.9 Item writers were then asked to work in pairs creating initial scenarios. Items were then group reviewed and more time was spent developing new items and reviewing items.

2.2.10 Unlike previous item writing workshops, item writers were not required to complete any follow on work. As such, item writers were not asked to review their items further and were not provided with any feedback on their items.

2.2.11 In total, over the three item writing workshops, 63 items were written. This equals an average of 5.7 items per item writer.

[1] Please see FY1 Job Analysis report 2011 for full details of how domains were derived and what comprises each domain

2.3 Item development interviews

2.3.1 Following recent development work in other contexts, Item Development Interviews using Critical Incident Technique (CIT) were held as an alternative methodology to write SJT items. CIT interviews aim to elicit from Subject Matter Experts scenarios or incidents involving Foundation Year One (FY1) doctors that demonstrate particularly effective or ineffective behaviour.

2.3.2 Using interviews such as these have a number of benefits including 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.

2.3.3 An invitation was sent out via the UKFPO Foundation School Directors network who cascaded information to those working closely with FY1 doctors.

2.3.4 In total, 24 interviews were conducted by four trained interviewers. Details of interviewee role and specialty are provided below in table 4 and 5. Full demographic details of the interviewees were not recorded.

Table 4: Item writers job role

Clinical Tutor	-
Clinical/Educational Supervisor	19
Foundation School Director	1
Lay Representative	-
Medical School Director	1
FY1/FY2	3
Other	-
Not stated	-

Table 5: Item writers' primary specialty

Specialty	**No.**
Anaesthetics	2
Colorectal surgery	1
Emergency Medicine	1
Endocrinology	1
ENT	1
General Medicine	1
Geriatric Medicine	1
Infectious diseases	1
Obstetrics & Gynaecology	1
Orthopaedic Surgery	1
Oncology	1

Paediatrics	2
Respiratory	1
Not stated	9

2.3.5 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.

2.3.6 A total of 114 items were written. This equals an average of 4.6 items per 45 minute interview.

2.4 Item Review

2.4.1 All 177 items that were submitted were logged on a spreadsheet which indicated item writer, the date the item was submitted, type of item, target domain, answer key and a short one line summary of the item.

2.4.2 The breakdown of items relevant to each of the target domains written at or following the workshops was as follows:

- Commitment to Professionalism - 28
- Coping with Pressure - 49
- Effective Communication - 17
- Patient Focus - 50
- Working Effectively as Part of a Team - 33

2.4.3 The breakdown of items regarding item format was as follows:

- Ranking - 114
- Multiple Choice - 63

2.4.4 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 in SJTs for entry to specialty training.

2.4.5 Of the 63 items written in the item writing workshops, 19 were rejected due to not aligning with item writing principles. This is a 70% success rate. A Lead Clinician reviewed 17 (27%) of the items.

2.4.6 Of the 114 items written from the CIT interviews, 27 were rejected due to not aligning with item writing principles. This is a 76% success rate. A Lead Clinician reviewed 21 (24%) of the items.

2.4.7 In addition to new items written, a number of items that had not been successful at the previous pilot (79), and also some items that were unsuccessful at the previous concordance (16), were reviewed with the intention of potentially including them for the PRE SJT pilot.

2.4.8 With regards to those items that had not been successful at the previous pilot, following review, 45 had minor changes and were deemed suitable to be piloted. 34 items had more substantial changes and went either to the review workshop stage or the concordance stage. Ideally all items that had been amended would have gone to the concordance stage however minor the changes. However, this was not possible due to logistical constraints. If necessary, these items can go to a concordance stage following the pilot.

2.5 Review workshops

2.5.1 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. The benefit of holding these review workshops is that it enables input from a larger number of clinicians who are able to provide invaluable input into the development of the items.

2.5.2 A small number of Foundation Year Two (FY2) doctors also attended the workshops to provide additional input in terms of relevance and realism. This negated the need for separate FY1/2 focus groups.

2.5.3 Four review workshops were held; two in East Midlands and two in Peninsula. Attendees were invited based on existing networks within specialty selection. As such, the primary specialities of the attendees were general practice and anaesthesia.

2.5.4 A total of 19 individuals attended the four workshops, including 4 FY2s.

2.5.5 All participants who volunteered to take part were sent briefing material outlining the purpose of the review workshop and their role on the day. All participants also completed a confidentiality and code of conduct agreement.

2.5.6 During the workshop, delegates were split into two groups. As a group, with the aid of a facilitator, delegates reviewed no more than 20 items. Delegates 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.

2.5.7 A total of 144 items were reviewed during the focus groups. Following the review workshops, 5 items were rejected due to issues either with relevance or fairness.

2.6 Concordance Panel

2.6.1 In order to validate the SJT items further, concordance panels were conducted. Concordance panels involve Subject Matter Experts, in this case clinicians working closely with FY1s, completing an SJT consisting of trial items. Following best practice in SJT design, the aim of a concordance stage is to identify a high level of consensus between experts on the item keys. Those items that exhibit high levels of consensus go forward to the pilot.

Those items exhibiting low levels of consensus are put to one side for further review with changes made if necessary.

2.6.2 The answer key provided by the concordance panel was used in combination with information from item writers and review workshops to determine the rational scoring key for the pilot data, however this may not reflect the final key as information will be used from the pilot to develop the items and their keys further. For example, if well good performing applicants consistently provide a different key to the established key, then the key will be reviewed with the assistance of Subject Matter Experts.

2.6.3 The criteria for Subject Matter Expert involvement in the concordance panel was that the individuals work closely with FY1 doctors and are very familiar with the responsibilities and tasks, as well as the necessary skills and abilities required for the role.

2.6.4 Two concordance panels were held with one paper reviewed at each panel; both papers consisting of 80 items. Therefore a total of 160 items went to concordance; 126 of these were new items. 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.

2.6.5 A total of 23 individuals attended the concordance stage. One panel consisted of 11 individuals and one panel consisted of 12 individuals. (Ideally, for a concordance panel, a minimum of 10 individuals should be involved to ensure robust results). Details of interviewee role and specialty are provided below in table 6 and 7 below.

Table 6: Concordance participants' job role

Clinical Tutor	2
Clinical/Educational Supervisor	1
Foundation School Director	-
Foundation Programme Training Director	4
Lay Representative	-
Medical School Director	-
FY1/FY2	-
Other	-
Not stated	16

Table 7: Concordance participants' primary specialty

Specialty	No.
Anaesthetics	-
Colorectal surgery	-
Emergency Medicine	-
Endocrinology	3
ENT	-
Gastroenterology	1
General Medicine	1
General Surgery	1
Geriatric Medicine	-
Infectious diseases	-
Neurology	1
Obstetrics & Gynaecology	1
Orthopaedic Surgery	-
Oncology	-
Paediatrics	1
Respiratory	4
Not stated	10

2.6.6 After completing a confidentiality and code of conduct form, the panel was asked to complete the SJT items under test conditions. There was no time limit, although the panels were told the test should take no more than two hours 30 minutes to complete.

2.6.7 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.

2.6.8 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[2], items were deemed either to have acceptable levels of concordance (149) or unacceptable levels of concordance (11).

[2] The criteria for selecting an item for use in the pilot was a significant Kendall's W^2. Following best practice, any item that produces a low and non-significant Kendall's W is removed from the test for further review. An inclusion criterion of approx 0.60+ is also used to assist in selecting items. However, there is a 'tolerance' around this figure and will depend on a number of factors including how many people have taken the concordance. Consideration of the raw statistics must be combined with consideration of the concordance keys versus item writer and focus group keys as well as further feedback gained from the concordance panel. In this context, a Kendall's W of 0.60 or above indicates good levels of concordance, although anything above 0.50 can be described as having satisfactory levels of concordance

Part Two: Pilot Analysis & Evaluation

3 Pilot Analysis

3.1 Purpose and Specifications of the pilot

3.1.1 The purpose of the initial pilot from an analysis and evaluation approach was to pilot a large number of items to maximise the item bank. The purpose was not to evaluate the use of the SJT for Selection to the Foundation Programme, although full evaluation of the tests is carried out.

3.1.2 The PRE was conducted at 30 medical schools and 2 centres for non UK students. All schools were asked to take part, although involvement in this process was not mandatory.

3.1.3 The proposed specification for the pilot, as defined by the authors, was a minimum of 400 participants for each paper. This would allow the psychometric properties of the SJT to be fully analysed and evaluated and would mean that greater confidence could be placed in the results.

3.1.4 Another requirement of both pilots was that the pool of participants was representative of the wider pool of applicants. For any voluntary pilot, this is likely to be a challenge as the individuals will be self selecting and may represent only a sample of the population. An associated issue relevant to the pilot population is that of test taking motivation. In any piloting of a selection test, the motivation of those taking the test may differ to that of applicants for a live selection test. Motivational issues may impact upon the time taken to complete the pilot test (with individuals completing the test in a quicker time than may be anticipated on a live test), the number of items completed (with fewer items being completed than on a live test) and the quality of the answers provided.

3.1.5 As the pilots were carried out in a number of schools, the possible influence of other factors is required to be controlled for as much as possible to ensure that any differences found are due to the test content/applicant ability rather than other factors. This includes ensuring that the tests are invigilated in a standardised way (using instructions provided) and are conducted in similar environments (i.e. test halls).

3.2 Evaluation Overview

3.2.1 This section outlines the psychometric analysis for the pilot. Any high stakes, high profile test needs to meet exacting psychometric standards in terms of the quality of individual items and of the test as a whole, including reliability, validity and fairness. The main analysis and evaluation activities reported here include:

- test level statistics, including reliability and scoring distributions
- item level statistics, including item facility and effectiveness; only those items with sufficient psychometric properties will be used in an operational test
- analysis of group differences at a test and item level to explore fairness
- evaluation of participant reactions

- relationships between application form scores, quartiles and the SJT

3.2.2 All additional analysis carried out following both pilots used the entire test i.e. poorly performing items were not removed when analysing group differences, relationships with other assessments or criterion related validity.

3.3 Pilot Test Specification

3.3.1 A total of 210 items were piloted over 7 papers. This consisted of 121 new items and 89 reviewed and amended items that had been developed as previous item development processes.

3.3.2 Each pilot paper consisted of 30 items; this is less than the recommended 60 items for an operational test. As the 60 item test, and its suitability to be used as part of selection to the Foundation Programme, had been evaluated previously[3] it was not deemed necessary at this stage to evaluate the full 60 item test. Instead, a shorter 30 item test was proposed. This still enables a large number of items to be piloted to maximise the bank, whilst also being logistically more straightforward. However, caution should be used when interpreting the test and item level analysis due to the shortened test length.

3.3.3 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 between each paper. This was to assist with maximising the item bank.

3.3.4 As far as possible, an equal spread of target domains were selected for each paper, however the proportion of items from each target domain is also a reflection of the number of items written within each domain. This also had to be balanced with item response format and topic when constructing the papers. An outline of the spread of domains for each of the papers is outlined in table 8 below.

Table 8: Spread of target domains within each paper

Paper	Commitment to Professionalism	Coping with Pressure	Effective Communication	Patient Focus	Working Effectively as Part of a Team
Total	57	37	30	48	38
1	7	4	4	8	7
2	8	8	4	5	5
3	9	5	2	9	5
4	7	4	6	8	5
5	8	6	3	7	6
6	10	5	5	5	5
7	8	5	6	6	5

[3] FY1 SJT Final Report August 2011

3.3.5 There were a total of 512 marks available for each version of the SJT paper, with 20 marks available for each of the 19 ranking items and 12 marks for each of the 11 multiple choice items.

3.4 Sample

3.4.1 All applicants to FP 2012 were invited to take part in the PRE. In addition, the invitation to take part in the PRE was extended to all final year UK medical students, including those who did not complete an FP 2012 application. This included students who had been pre-allocated to a Defence Deanery Foundation Programme (separate recruitment – but in future, these applicants will also be required to complete the SJT); students who had chosen to take a year out post-graduation (usually for personal reasons); or international students who were returning overseas directly after graduation from medical school.

3.4.2 There was a total of 6842 participants in the PRE, of which 6706 were FP 2012 applicants (94% of all FP 2012 applicants) and a further 136 who did not complete an application to FP 2012 (i.e. pre-allocated to the Defence Deanery).

3.4.3 A breakdown of the number of participants who sat each of the seven papers can be seen in Table 9 below. As far as possible, only one version of a paper was undertaken at each school for logistical reasons, and to minimise security risk with the items. However, in 10 schools, participants undertook more than one paper as the medical school ran the SJT across more than one date.

3.4.4 The participant split between the seven papers aimed to be as similar as possible. Although attempts were made to ensure an equal as possible split between the papers, as the number of participants within each of the schools was unpredictable, this was not possible. The sample size for each paper is well above the requirements outlined above and as such confidence can be placed in the outcomes of the psychometric analysis.

Table 9: Number of participants taking each paper

	No. of participants	Percentage of Overall Sample
Paper One	1188	17.4%
Paper Two	881	12.9%
Paper Three	853	12.5%
Paper Four	1183	17.3%
Paper Five	889	13.0%
Paper Six	822	12.0%
Paper Seven	1026	15.0%

3.4.5 32 centres took part in the PRE. This included 30 medical schools and 2 centres that ran the pilot with applicants trained outside the UK (treated as a single school in Table 10). The breakdown of the number of participants from each centre is outlined in Table 10.

Table 10: Number of participants at pilot sites

	No. of participants	Percentage of Overall Sample	Paper Taken
School 1	149	2.2%	3&7
School 2	308	4.5%	1
School 3	237	%	5&6
School 4	335	4.9%	1
School 5	121	1.8%	1
School 6	242	3.5%	7
School 7	154	2.3%	7
School 8	316	4.6%	4
School 9	145	2.1%	1&6
School 10	163	2.4%	4&6
School 11	182	2.6%	7
School 12	208	3.0%	7
School 13	133	1.9%	5
School 14	221	3.2%	2
School 15	108	1.6%	3
School 16	429	6.3%	6
School 17	48	0.7%	3
School 18	214	3.1%	5
School 19	220	3.2%	5
School 20	298	4.4%	3
School 21	463	6.8%	2&6
School 22	70	%	3, 5 & 7
School 23	298	4.4%	4
School 24	326	4.8%	4
School 25	94	1.4%	6
School 26	163	2.4%	4&5
School 27	206	3.0%	2
School 28	266	3.9%	1&6
School 29	230	3.4%	1&7
School 30	331	4.8%	3&6
School 31[4]	164	2.3%	3&5

[4] School 31 was a non-UK pilot site during which the UKFPO acted as a school for these participants

3.4.6 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.

3.4.7 Table 11 outlines the breakdown of participants by sex. Overall, more females participated in the pilot (3724, 54.4%) than males (2657, 38.8%) (reflecting the male/female split of medical students) and the proportion of males and females is roughly equal across all seven papers.

Table 11: Participant sex by paper

		Male	Female	Not declared
Overall	No. of participants	2657	3724	461
	% of participants	38.8%	54.4%	6.7%
Paper One	No. of participants	451	668	69
	% of participants	38.0%	56.2%	5.8%
Paper Two	No. of participants	344	479	58
	% of participants	39.0%	54.4%	6.6%
Paper Three	No. of participants	330	426	97
	% of participants	38.7%	49.9%	11.4%
Paper Four	No. of participants	454	650	79
	% of participants	38.4%	54.9%	6.7%
Paper Five	No. of participants	355	489	45
	% of participants	39.9%	55.0%	5.1%
Paper Six	No. of participants	318	460	44
	% of participants	38.7%	56.0%	5.4%
Paper Seven	No. of participants	405	552	69
	% of participants	39.5%	53.8%	6.7%

3.4.8 Table 12 outlines the breakdown of participants by ethnicity. Overall, the majority of participants reported their ethnicity as 'white' (4159, 60.8%) with the smallest proportion of participants (145, 2.1%) reporting themselves as being from 'Other Ethnic Background'. This reflects the medical student profile in the UK. The proportion of ethnic breakdown varies across the seven papers, with Paper Seven having the highest proportion of white participants (70.1%) and Paper Six having the lowest proportion of white participants (46.8%).

Table 12: Participant ethnicity (5+1 groups) by paper

		White	Asian	Black	Chinese	Mixed	Other	Not declared
Overall	No. of participants	4159	1181	169	320	257	145	611
	% of participants	60.8%	17.3%	2.5%	4.7%	3.8%	2.1%	8.9%
Paper One	No. of participants	626	293	37	56	44	31	101
	% of participants	52.7%	24.7%	3.1%	4.7%	3.7%	2.6%	8.5%
Paper Two	No. of participants	491	158	17	69	41	26	79
	% of participants	55.7%	17.9%	1.9%	7.8%	4.7%	3.0%	9.0%
Paper Three	No. of participants	521	127	13	32	30	16	114
	% of participants	61.1%	14.9%	1.5%	3.8%	3.5%	1.9%	13.3%
Paper Four	No. of participants	814	146	22	29	49	18	105
	% of participants	68.8%	12.3%	1.9%	2.5%	4.1%	1.5%	8.8%
Paper Five	No. of participants	603	139	26	22	26	15	58
	% of participants	67.8%	15.6%	2.9%	2.5%	2.9%	1.7%	6.5%
Paper Six	No. of participants	385	212	39	51	39	27	69
	% of participants	46.8%	25.8%	4.7%	6.2%	4.7%	3.3%	8.4%
Paper Seven	No. of participants	719	106	15	61	28	12	85
	% of participants	70.1%	10.3%	1.5%	5.9%	2.7%	1.2%	8.2%

3.4.9 Table 13 outlines the breakdown of participants' ethnicity (White and Black and Minority Ethnic (BME) group). 4159 (60.8%) participants reported themselves as white and 2072 (30.3%) participants reported themselves as being from Black and Minority Ethnic groups. 611 (8.9%) participants did not declare their ethnicity. Paper Six has the highest proportion of BME participants (44.8%) followed by Paper One with 38.8%.

Table 13: Participants ethnicity (2 groups) by paper

		White	BME	Not declared
Overall	No. of participants	4159	2072	611
	% of participants	60.8%	30.3%	8.9%
Paper One	No. of participants	626	461	101
	% of participants	52.7%	38.8%	8.5%
Paper Two	No. of participants	491	311	79
	% of participants	55.7%	35.3%	9.0%
Paper Three	No. of participants	521	218	114
	% of participants	61.1%	25.6%	13.3%
Paper Four	No. of participants	814	264	105
	% of participants	68.8%	22.3%	8.8%
Paper Five	No. of participants	603	228	58
	% of participants	67.8%	25.6%	6.5%
Paper Six	No. of participants	385	368	69
	% of participants	46.8%	44.8%	8.4%
Paper Seven	No. of participants	719	222	85
	% of participants	70.1%	21.6%	8.2%

3.4.10 The mean age of the entire sample was 24.7 years and the median age was 23.5, with a range of 21 – 56 years.

3.4.11 To assist with establishing the equivalence of those taking the seven papers, the quartile scores and competency based application form (white space question) scores for the participants taking the seven papers were examined. Ideally, each population's scores should be normally distributed and should show a good and comparable spread of scores for both the application form and the quartile score as would be expected in a full operational sample. It should be noted that this information was not available for all participants.

3.4.12 Table 14 provides the descriptive data for the application form and quartiles by paper. The results show that the mean scores for the application forms vary between the papers, with Papers Two and Six having the highest mean score (40.4) and Papers Four and Five having the lowest mean score (38.0). T-test analyses showed that differences between the scores for all papers are significant at the $p<0.01$ level. It may therefore be expected that that the overall SJT scores for Papers Two and Six would be higher than for the remaining papers. This is based on the assumption that the application form is a reliable and valid assessment

method which correlates positively with the SJT. Histograms of application form scores for each of the 7 papers are provided below.

3.4.13 There were no significant differences in quartile scores for the seven papers.

Table 14: Application form and quartile scores by paper

	Application Form			Quartile		
	Mean	Range	SD	Mean	Range	SD
Paper One (1085)	39.2	10-54	6.7	37.0	34-40	2.2
Paper Two (757)	40.4	14-60	7.2	36.9	34-40	2.2
Paper Three (727)	39.1	14-54	7.5	37.1	34-40	2.2
Paper Four (1079)	38.0	15-54	7.0	37.1	34-40	2.2
Paper Five (788)	38.0	12-54	7.8	37.0	34-40	2.3
Paper Six (746)	40.4	15-55	7.0	36.8	34-40	2.2
Paper Seven (886)	39.0	16-56	7.2	37.0	34-40	2.2

Figure 2: Histogram for Application Form Total for Paper One

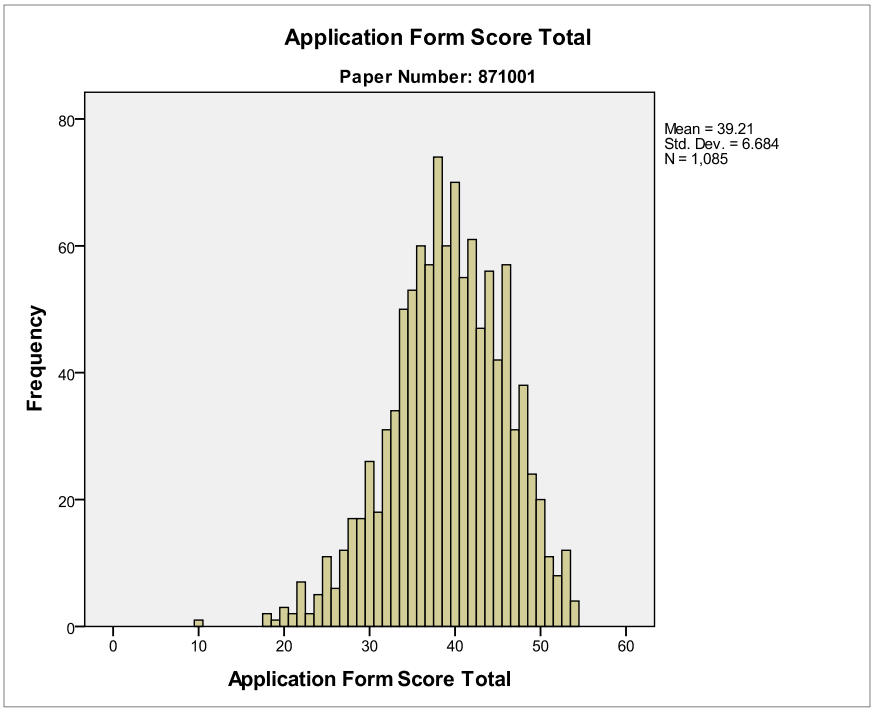


Figure 3: Histogram for Application Form Total for Paper Two

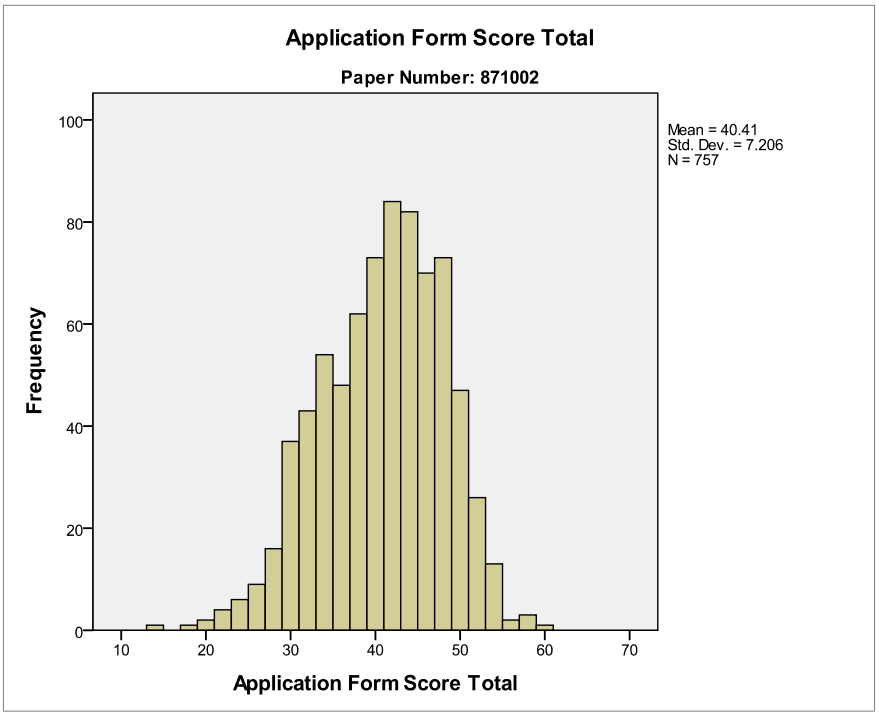


Figure 4: Histogram for Application Form Total for Paper Three

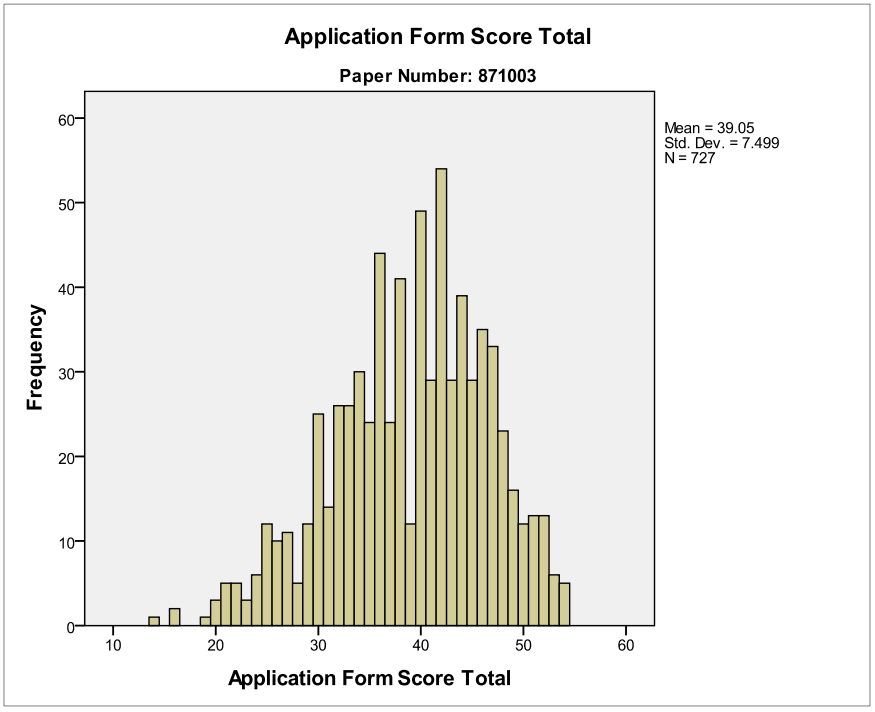


Figure 5: Histogram for Application Form Total for Paper Four

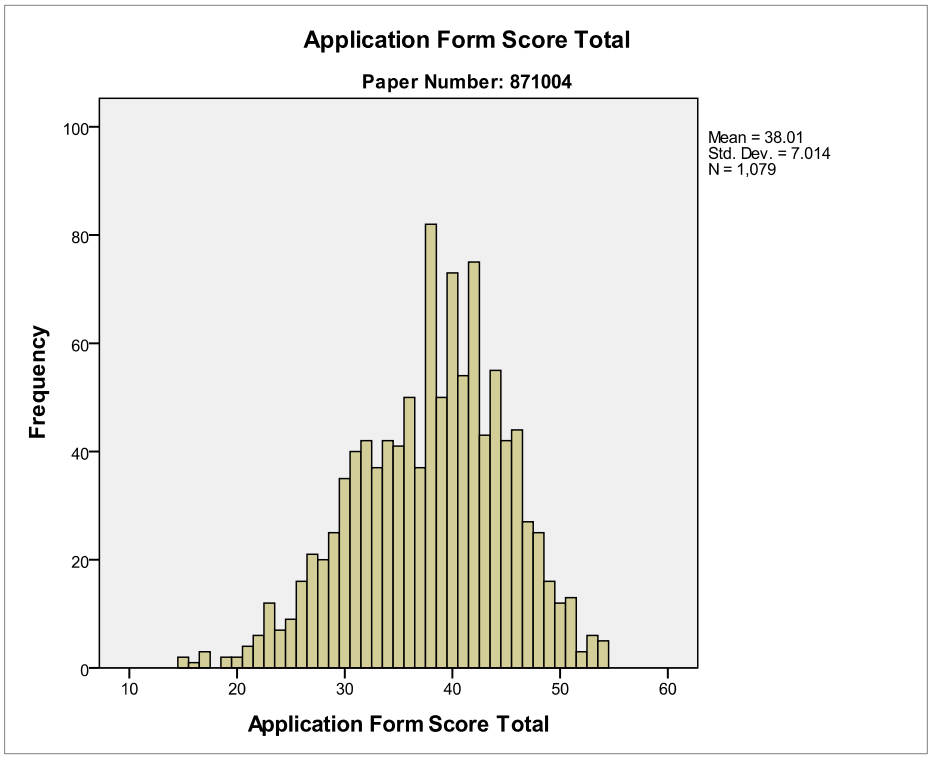


Figure 6: Histogram for Application Form Total for Paper Five

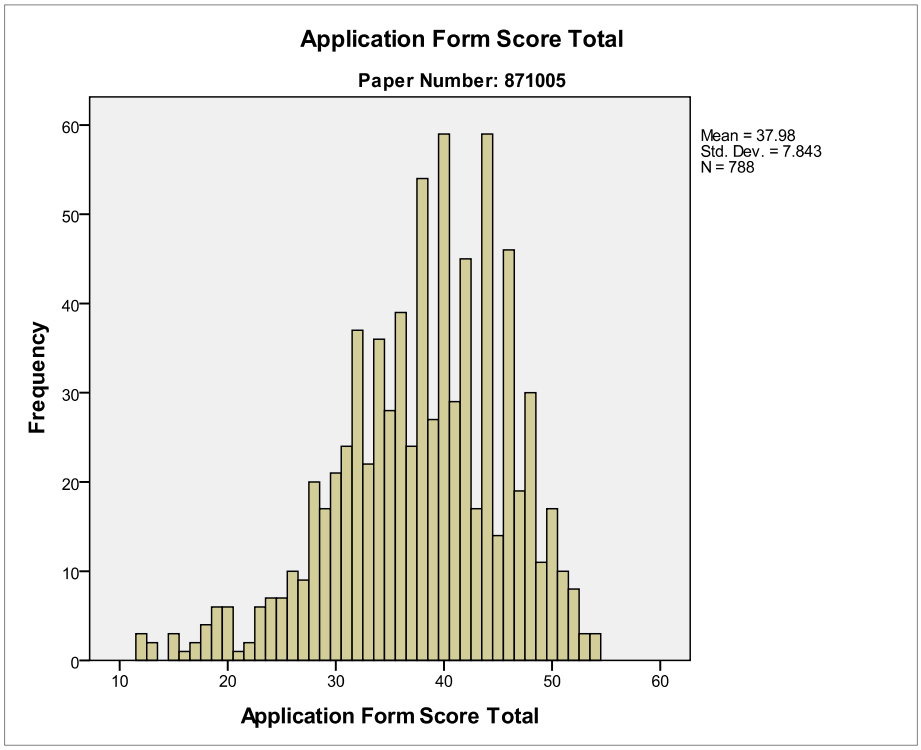


Figure 7: Histogram for Application Form Total for Paper Six

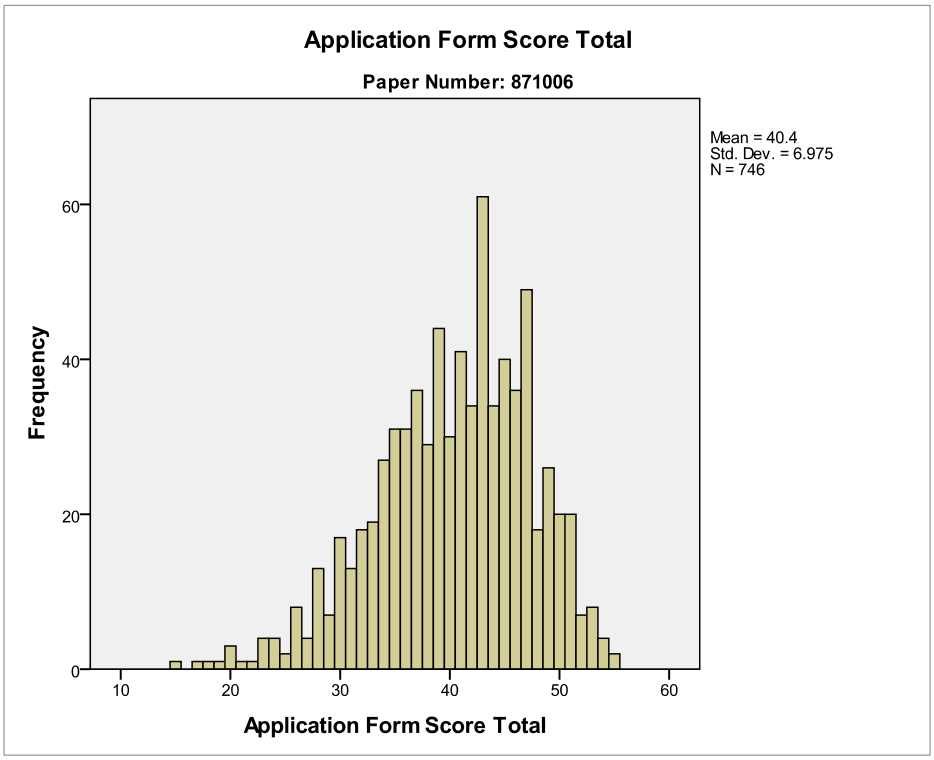
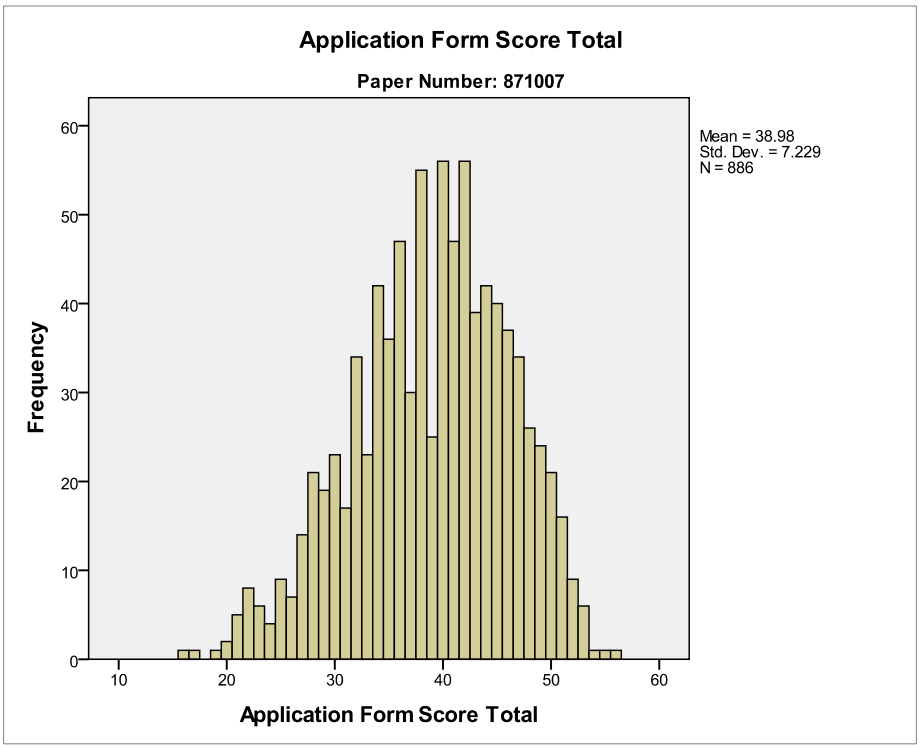


Figure 8: Histogram for Application Form Total for Paper Seven



3.5 Overall Summary of Results

3.5.1 Table 15 provides test completion data for all seven papers. Overall, 3.2% participants (216) did not finish the test, categorised by not completing item 30, 0.8% of participants missed more than 4 items and 96% of participants completed all 30 items within the paper. Paper Two had the lowest completion rate, with 94.2% of participants completing all items within the paper, and Paper Seven had the highest completion rate with 97.4% of participants completing all items within the paper. These results are comparable with previous pilots (97.2% completion rate in 2011 pilot) and confirms 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.

Table 15: Test completion data

	Did not complete item 30		Completed fewer than 26 items		Completed all items	
	N	**Percentage**	**N**	**Percentage**	**N**	**Percentage**
Overall	216	3.2%	75	0.8%	6566	96.0%
Paper One	53	4.5%	17	1.3%	1125	94.7%
Paper Two	37	4.2%	14	1.4%	830	94.2%
Paper Three	18	2.1%	6	0.5%	826	96.8%
Paper Four	36	3.0%	12	0.5%	1139	96.3%
Paper Five	24	2.7%	9	0.6%	860	96.7%
Paper Six	27	3.3%	9	1.1%	787	95.7%
Paper Seven	21	2.0%	8	0.8%	999	97.4%

3.5.2 After initial review of the results, some 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)[5].

- For Paper One, 11 participants were removed due to a large number of missing data and one very low scorer was removed
- Paper Two, 14 participants were removed from the analysis due to a large amount of missing data
- Paper Three, 4 participants were removed due to a large amount of missing data and 2 participants due to erratic answer patterns
- Paper Four, 3 participants were removed due to a large amount of missing data and 3 participants due to erratic answer patterns
- Paper Five, 5 participants were removed due to a large amount of missing data and 4 participants due to erratic answer patterns

[5] These participants still received feedback on their performance.

- Paper Six, 6 participants were removed due to a large amount of missing data and 2 participants due to erratic answer patterns
- Paper Seven, 3 participants were removed due to a large amount of missing data and 2 participants due to erratic answer patterns

3.5.3 The sample figures we have therefore presented aim to give the most useful view of the pilot results by excluding only those participants with unusually high levels of missing data and/or erratic response patterns. In an operational test, analysis would be completed on the entire sample, and figures reported as such.

3.6 Test Level Analysis

3.6.1 Test level analysis was carried out for all seven papers separately. The figures below illustrate the test level descriptives along with further detail in Table 16. Data are not provided for all seven tests combined as the tests have not been equated and the data would therefore be meaningless. It is not possible to equate the tests until following piloting of all items when all psychometric properties of the items are known.

3.6.2 It is important to note that the papers undertaken as part of the PRE contained 30 items and therefore are only half the length of the full operational test. Based on this, test level analysis results should be interpreted with caution. Corrections have been made to the data to estimate based on a 60 item test using the Spearman Brown Formula, but this is not possible for all analyses.

3.6.3 The estimated internal reliability for a 60 item test (including those with poor psychometric properties) is provided in Table 16 below[6]. This is lower than may be expected, however this may be due to the composition of the items within the test. More detail is provided in section 4.9.11, however a relatively large number of previously poorly performing items that had been reviewed were included in the PRE. It therefore may be expected that a reasonable proportion of these items would still be classified as poor, and as such this will impact upon the reliability of the test.

3.6.4 One of the aims of the PRE was to pilot items to establish whether they have sufficient psychometric properties to enter the item bank. Only those items with sufficient psychometric properties[7] and that have undergone final review based on all the available information will be used in a live test. Therefore the internal reliability for only those items which have sufficient psychometric properties with regards to item quality is also presented in column four[8]. The reliability for all seven papers is α=0.80 and above; sufficient for the use of an operational SJT, and in one case (Paper 3) is α=0.87.

3.6.5 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

[6] Reliability for a 30 item test is not provided as this would not provide useful information
[7] Sufficient psychometric properties primarily refers to item quality established using item partials, but also takes into consideration item facility
[8] Corrected using Spearman Brown formula to provide an estimation of the reliability of a 60 item test with similar quality of items

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).

3.6.6 The kurtosis figures are provided for each of the tests; the higher the kurtosis figure the more the variance is the result of infrequent extreme deviations (e.g. outliers), as opposed to frequent modestly sized deviations. All kurtosis figures are relatively low, with paper three having the highest kurtosis figure, indicating that more of the variance in this paper is due to infrequent extreme deviations.

3.6.7 Overall the distribution of scores is slightly negatively skewed. A negative skew indicates that the tail on the left side is longer than the right side/bulk of the values. However, results show a close to normal distribution and indicate that the SJT is capable of differentiating between participants.

3.6.8 In terms of scoring distribution, the scores range from 305 to 468 (a range of 163 scores) from 512 marks. 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 based on the item number constraints if the PRE. As expected for a shorter test with a lower available maximum score, this is a smaller distribution than has been achieved in previous pilots (minimum 658 and maximum 922 from 1040 marks for the main pilot, minimum 682 and maximum 952 from 1116 marks for the initial pilot). For an operational test, once all the psychometric properties are known for a test, items with a range of difficulty will be used to assist with the distribution of scores.

Table 16: Test level descriptives by paper

	N	Reliability (α)[9]	Reliability (α)[10]	Mean	Mean %	Skew	Kurtosis	SD	Min	Max
Paper One	1176	0.69	0.84	399.2	78.0%	-0.63	0.85	20.0	317	452
Paper Two	867	0.65	0.85	399.5	78.0%	-0.44	0.23	18.5	322	444
Paper Three	847	0.71	0.87	414.3	80.1%	-1.14	2.79	18.9	305	454
Paper Four	1177	0.63	0.82	409.6	80.0%	-0.68	1.56	18.0	312	468
Paper Five	880	0.72	0.80	413.1	80.6%	-0.64	1.35	19.3	316	468
Paper Six	814	0.66	0.80	411.7	80.4%	-0.62	1.28	17.3	326.5	461
Paper Seven	1021	0.63	0.80	401.6	78.4%	-0.44	0.39	17.9	334	450

[9] This is based on a 60 item test, including poorly performing items

[10] Corrected using Spearman Brown formula for those items that were psychometrically robust

Figure 9: Distribution statistics for Paper One

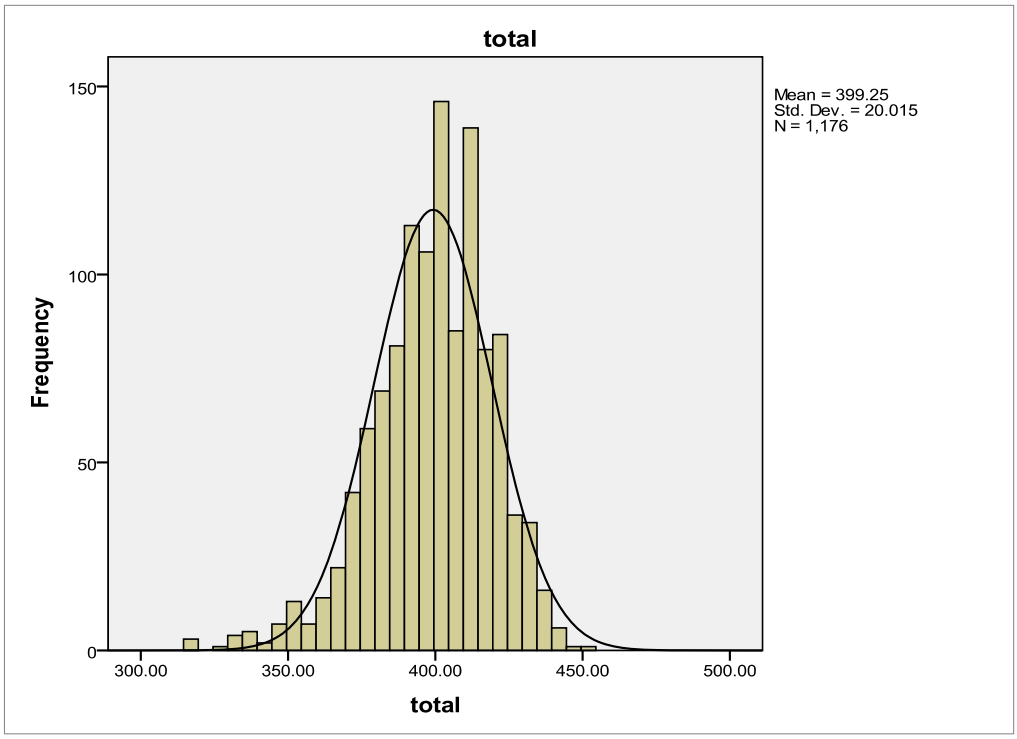


Figure 10: Distribution statistics for Paper Two

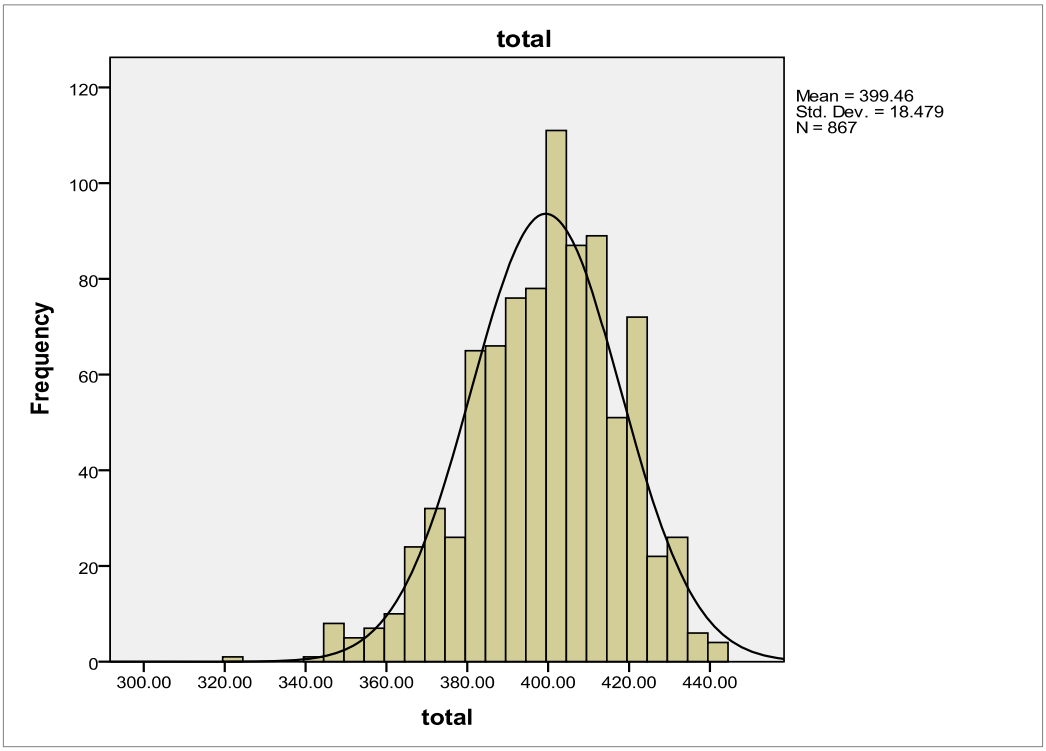


Figure 11: Distribution statistics for Paper Three

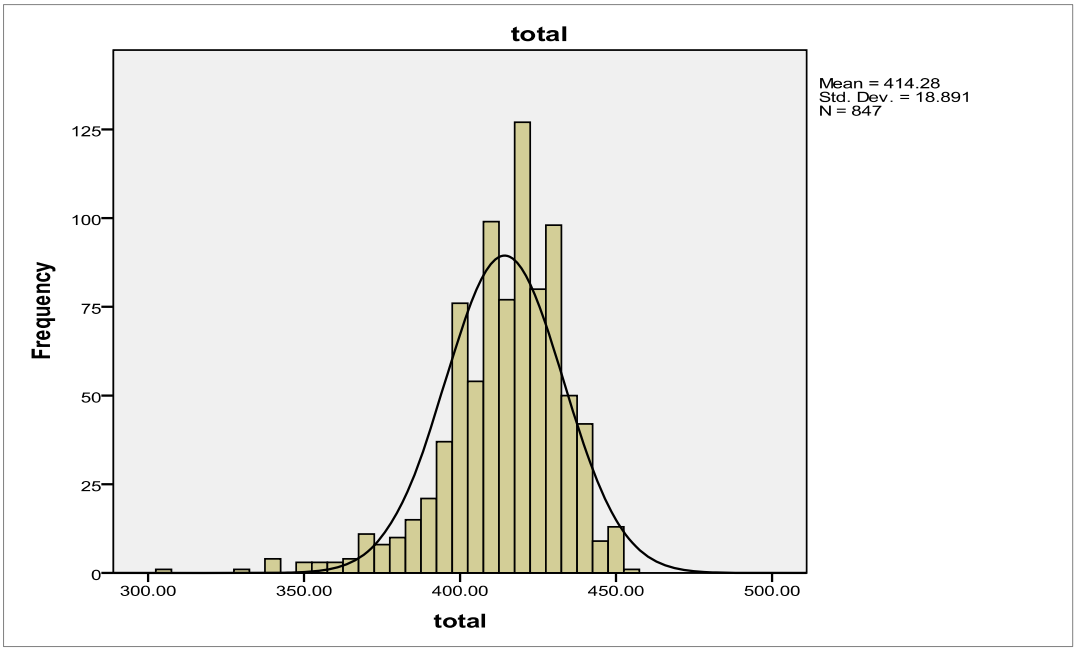


Figure 12: Distribution statistics for Paper Four

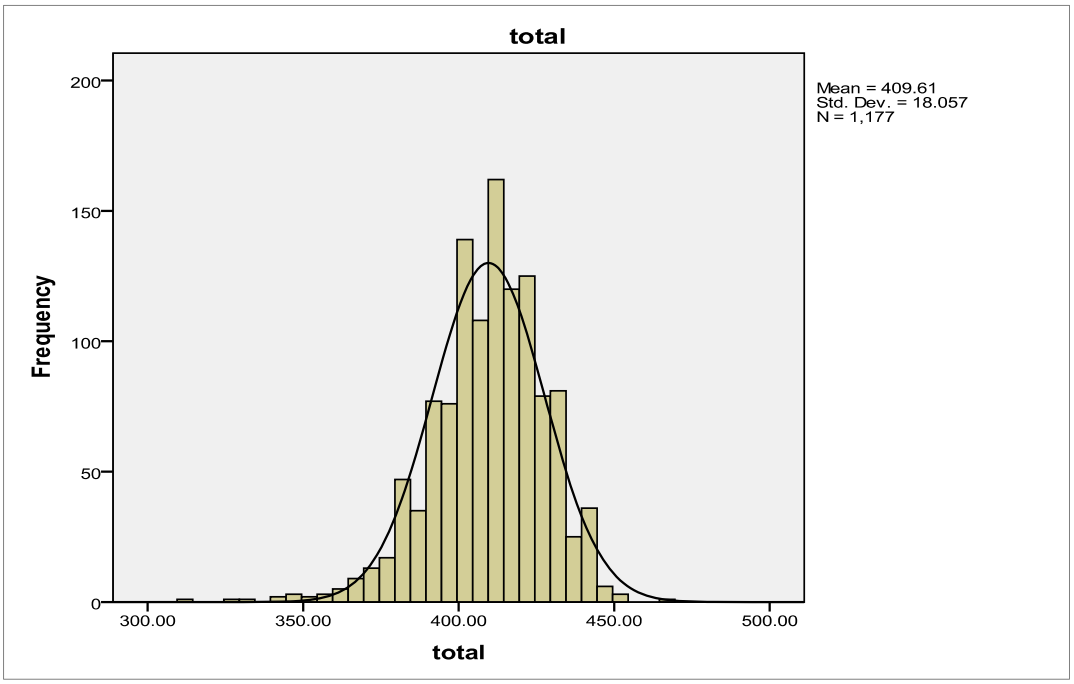


Figure 13: Distribution statistics for Paper Five

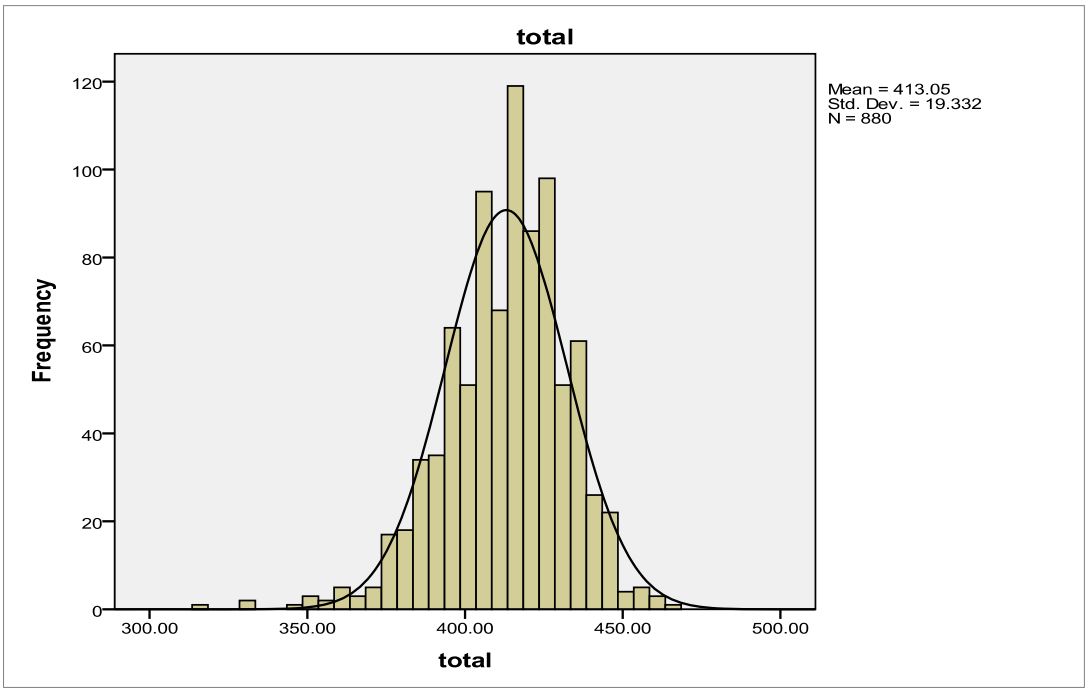


Figure 14: Distribution statistics for Paper Six

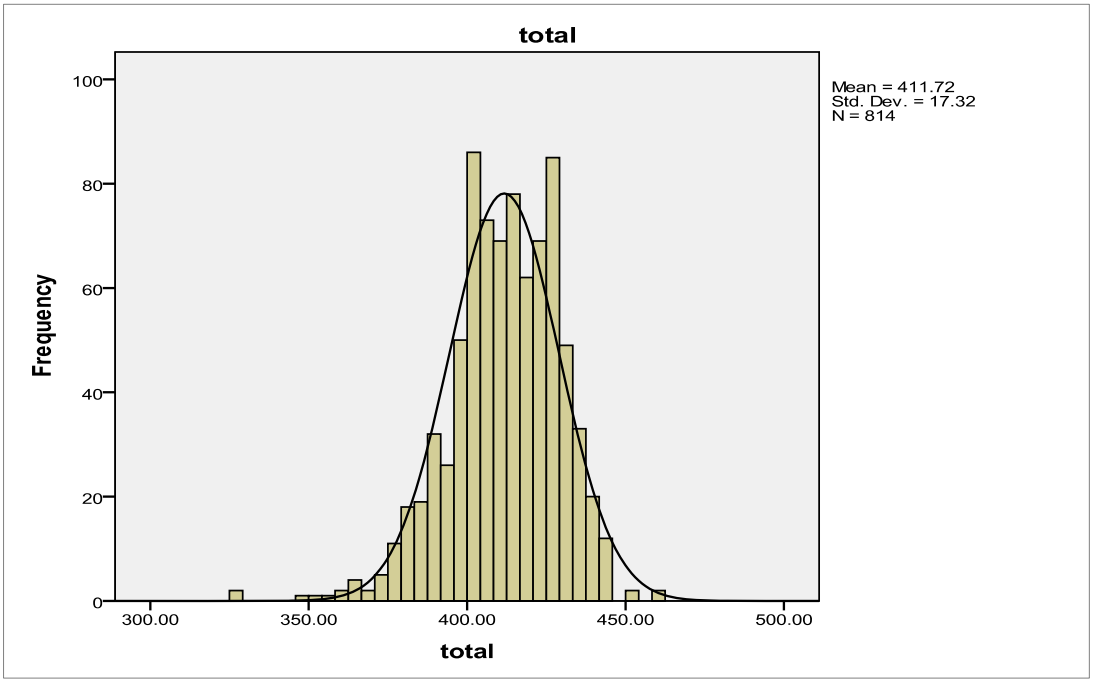
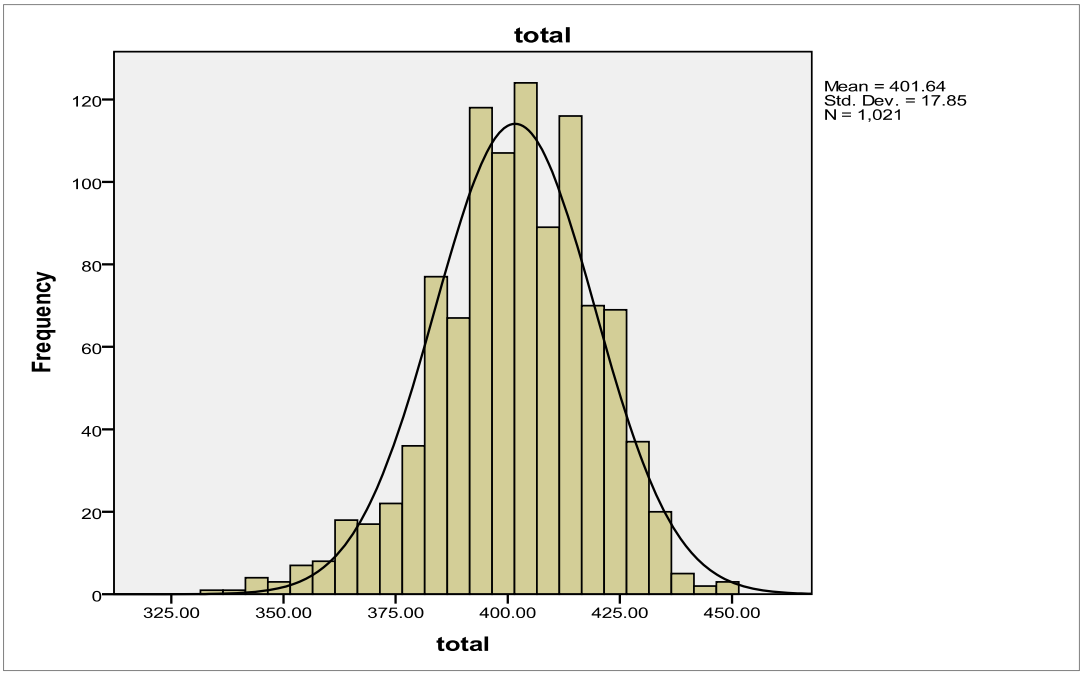


Figure 15: Distribution statistics for Paper Seven



3.9 Item Level Analysis

3.9.1 Item analysis was used to look at the difficulty and quality of individual SJT items. Together these can help identify how well the items differentiate between participants and the results are used to further refine the items and scoring keys.

3.9.2 Item facility (difficulty) is shown by the mean score for each item (out of a maximum of 20 for ranking items and 12 for multiple response items). If the facility value is very low, then the item may be too difficult and may not yield useful information. This may also indicate that the scoring key for these particular items may need to be examined again, as there may be little consensus between participants and the concordance panel. If the facility value is very high, then the item may be too easy and may not provide useful information or differentiate between participants. A range of item facilities is needed for an operational test, with few very easy (characterised by a mean score of greater than 90% of the total available score) or very difficult (characterised by a mean score of less than 30% of the total available score) items. However, this specification depends on the purpose of the test; if one was only selecting the very best performers, then more difficult items would be needed. However, in this context where participants are being ranked, it is not necessary to have many very difficult items. Within this test, 'very easy' equates to a score of 18 for ranking and 10.8 for multiple choice, and 'very difficult' equates to 11.6 for a ranking and 3.6 for a multiple choice.

3.9.3 The standard deviation of an item should also be considered. If an item's standard deviation is very small, it is likely to not be differentiating between participants. The standard deviation for an item should be at least 1.0. If the standard deviation is very large, it may mean that the item is potentially ambiguous and there is not a clear 'correct' answer, especially if this is coupled with a relatively low mean.

3.9.4 Table 17 outlines the item level statistics for all seven papers. For the ranking items, the mean facility value was very similar across all papers. The range of facility values for 6 of the 7 papers is broadly similar. Paper three had a very small range (16.2-17.7) indicating that there were no particularly 'difficult' ranking items. The standard deviation range is broadly similar for all papers; with the exception of paper one. One ranking item within this test has a very high standard deviation (coupled with a relatively low mean and a low item partial), suggesting this is a poor item.

Table 17: Item level statistics

		Ranking			Multiple Choice		
	N	Mean	Facility Range	SD Range	Mean	Facility Range	SD Range
Paper One	1176	16.6	14.6-17.7	1.9-4.1	8.4	7.6-9.5	2.2-3.1
Paper Two	867	16.5	14.6-18.2	1.7-3.0	7.9	6.5-8.6	2.4-3.0
Paper Three	847	16.8	16.2-17.7	1.9-2.7	8.6	6.8-10.4	1.9-2.9
Paper Four	1177	16.9	14.8-18.2	1.7-3.7	8.0	6.3-8.7	2.1-2.9
Paper Five	880	16.6	14.8-18.7	1.8-3.1	9.0	6.3-10.0	2.2-2.7
Paper Six	814	16.5	13.4-18.3	1.6-2.9	9.0	8.0-10.1	2.2-2.7
Paper Seven	1021	16.4	13.7-18.7	1.7-3.1	8.2	7.2-10.3	2.2-3.2

3.9.5 For the multiple choice items, the mean facility value was similar across all items, with Paper two having the lowest mean facility value (7.9) and Paper five and six having the highest mean facility value (9.0). The range of facility values differ across the papers.

3.9.6 When constructing an operational test where the psychometric properties of all items are known, items with a range of facility values will be used.

3.9.7 Item quality was determined by the correlation of the item with overall SJT score, not including the item itself (item partial)[11]. This analysis compares how individuals perform on a given item with how they perform on the test overall. You would expect that high scoring participants overall would select the correct answer for each item more often than low scoring participants, i.e. the item discriminates between good and poor participants. This would show a good to moderate correlation/partial. A poor correlation would indicate that performance on the individual item does not reflect performance on the test as a whole. Table 18 below outlines how items performed for each of the seven papers and overall.

3.9.8 Although the item partial provides vital information in terms of how well as item is performing, this needs to be taken into consideration with a number of other statistics

[11] With regards to acceptable levels of correlations for item partials, guidelines suggest in general 0.2 or 0.3 as identifying a good item (Everitt, B.S.,2002 *The Cambridge Dictionary of Statistics*, 2nd Edition, CUP). In this process we have used heuristics based on these guidelines and based on identifying items with sufficient level of correlation to be contributing to the reliability of the test.

(item facility, SD) and information (distracter analysis using available data). It is also recommended that item partials are balanced with other considerations, e.g. need to provide coverage of all target domains.

Table 18: Item level statistics

	Overall	Paper One	Paper Two	Paper Three	Paper Four	Paper Five	Paper Six	Paper Seven
Range of Item Partials	-.03-.36	.11 - .27	.03 - .30	-.01 - .32	-.01 - .31	.04-.30	-.03-.34	.05 - .36
Mean Item Partial	0.17	0.18	0.16	0.18	0.17	0.18	0.17	0.17
Good (>0.17)	111 (53%)	12 (40%)	15 (50%)	18 (60%)	18 (60%)	17 (57%)	17 (57%)	14 (47%)
Moderate (0.13-0.17)	42 (25%)	7 (23%)	5 (17%)	8 (27%)	5 (17%)	9 (30%)	3 (10%)	5 (17%)
Item requires further review (<0.13)	57 (27%)	11 (37%)	10 (33%)	4 (13%)	7 (23%)	4 (13%)	10 (33%)	11 (37%)

3.9.9 Papers one, two and seven all have the fewest items with partials above .17. Paper six also has a relatively large proportion of items below .13.

3.9.10 111 of the 210 (53%) items are deemed as having good psychometric properties with regards to item quality and it is likely that the majority of these will enter the item bank, after final review and following consideration of the other available data (e.g. item facility, SD). 42 (25%) of the items are deemed as moderate. These items will be reviewed further, and where deemed appropriate, taking into consideration all the information about the item, some of these items may enter the item bank in their current form. . Those 'moderate' items that are not deemed suitable to enter the item bank in their current form, and all items requiring further review will undergo further review (please see section 6 for further detail).

3.9.11 57 of the 210 (27%) of the items require further review and 42 (25%) are deemed as having moderate psychometric properties. However this may be in part due to the origin of some of the items. Out of the 210 piloted items, 56 of the items (27%) that were piloted were already known to have moderate or poor psychometric properties prior to any reviews/changes to the items:

- 27 of the items in the pilot are items that previously had item partials of .13 or below. These items were reviewed and went to a concordance stage.
- 13 of the items in the pilot are items that previously had item partials of .17 or below. The items were reviewed and the majority went to a concordance stage.
- 16 items that were not deemed sufficient to go to the spring pilot following concordance were also reviewed and used in the PRE.

3.9.12 Although these were all reviewed and felt to be sufficient to be piloted following alterations, it was likely that a proportion of these items would still not have sufficient psychometric properties.

3.9.13 Items deemed as 'moderate' or requiring 'further review' were further broken down in terms of origin. This indicates that there is no real difference between 'new' items and items previously known to have poor or moderate psychometric properties.

- Out of the 99 items that were deemed as 'moderate' or requiring 'further review'; 27 of the items (27%) were known to previously have poor or moderate psychometric properties and 72 (73%) of the items were new items,
- Thus; 27 of the 56 items (48%) that previously had moderate or poor psychometric properties were classified as needing further review or as moderate.
- 72 of the 154 (47%) 'new' items were classified as needing further review or as moderate.

3.10 Group Differences

3.10.1 In order to examine fairness issues regarding the use of a SJT for selection into the FP, group differences in performance within the participant sample were analysed on the basis of sex, ethnicity and age for each of the seven papers. Group differences for all seven papers overall is not provided as the three tests had not been equated and therefore the data would not be meaningful.

3.10.2 Table 19 shows group differences in performance on the SJT based on sex. For all seven papers female participants scored slightly higher than male participants. This effect was greatest for Paper One and weakest for Paper Five and Paper Six. However, based on t-test results in combination with analysis of effect size using Cohen's D (>30) it is determined that the differences in the mean SJT scores for males and females were not significant indicating that performance on the SJT does not appear to be influenced by sex differences.

Table 19: Group differences by sex

	Sex	N	Mean	SD	Sig Difference
Paper One	Male	451	394.55	24.13	Ns
	Female	668	400.84	22.09	
Paper Two	Male	344	395.51	23.09	Ns
	Female	479	400.27	19.92	
Paper Three	Male	330	413.99	17.53	Ns
	Female	425	417.06	16.34	
Paper Four	Male	452	407.03	18.97	Ns
	Female	650	411.21	21.47	

Paper Five	Male	354	411.61	19.04	Ns
	Female	487	413.95	20.87	
Paper Six	Male	318	408.63	19.57	Ns
	Female	458	411.74	24.84	
Paper Seven	Male	405	399.66	18.50	Ns
	Female	550	402.85	18.31	

3.10.3 Table 20 shows group differences in performance on the SJT based on ethnicity by White and Black and Minority Ethnic (BME) groups. White participants scored higher than BME participants on all seven tests and t-tests showed that this difference was statistically significant ($p<0.01$) for all seven papers. The effect was greatest for Paper Five, followed by Paper One, Paper Three and Paper Six and weakest for Paper Seven. A richer understanding of the implications of the observed groups differences in practice (for sex and ethnicity) is needed as an impetus for future research. Without detailed systematic research in this area, causal factors cannot be reliably identified.

Table 20: Group differences by ethnicity

	Ethnicity	N	Mean	SD	T-test Sig.	Cohen's d
Paper One	White	626	403.80	19.3	p<0.01	0.53
	BME	461	392.07	25.18		
Paper Two	White	491	401.73	18.69	p<0.01	0.40
	BME	311	393.37	23.58		
Paper Three	White	521	418.17	15.45	p<0.01	0.50
	BME	217	410.08	19.04		
Paper Four	White	814	411.84	16.88	p<0.01	0.40
	BME	262	402.98	28.29		
Paper Five	White	600	416.99	17.67	p<0.01	0.71
	BME	228	402.67	22.38		
Paper Six	White	385	415.78	15.19	p<0.01	0.51
	BME	366	404.81	27.99		
Paper Seven	White	718	403.09	17.43	p<0.01	0.36
	BME	221	396.23	20.78		

3.10.4 In terms of age, there was a positive correlation (*r*=-.08 - Spearman's rho, p<0.05) between age and scores on the SJT for Paper Three; that is older participants scored significantly better on the SJT than younger participants. There were no significant correlations for the remaining six papers.

3.10.5 Differential Item Functioning (DIF) was examined at an item level. The DIF analysis is a procedure used to determine if test items are fair and appropriate for assessing the ability of various demographic groups. It is based on the assumption that test takers who have similar ability (based on total test scores) should perform in similar ways on individual test items regardless of their sex or ethnicity. DIF is a necessary but not sufficient condition for bias: bias only exists if the difference is illegitimate, i.e., if both groups should be performing equally well on the item. An item may show DIF but not be biased if the difference is due to actual differences in the groups' ability to answer the item, e.g. if one group is high proficiency and the other low proficiency, the low proficiency group would necessarily score much lower.

3.10.6 DIF, undertaken using a multiple regression analysis, was used to examine whether the demographic variable (e.g. sex) significantly predicts performance on each item once overall test performance has been controlled for (i.e. is there a difference in item performance beyond that which expected due to differences between groups on the test overall?).

3.10.7 61 (29%) items were flagged for sex differences (Males performed better on 30 items and females on 31 items). 8 of the items were in Paper 1, 13 of the items were in Paper 2, 6 of the items were in Paper 3, 8 of the items were in Paper 4, 8 of the items were in Paper 5, 7 of the items were in Paper 6 and 11 of the items were in Paper 7.

3.10.8 57 (27%) items were flagged for ethnicity differences (White applicants performed better on 31 items and Black and Minority Ethnic applicants on 26). 12 of the items were in Paper 1, 6 of the items were in Paper 2, 6 of the items were in Paper 3, 8 of the items were in Paper 4, 8 of the items were in Paper 5, 7 of the items were in Paper 6 and 10 of the items were in Paper 7. As items on which males and females performed better, and items on which white and BME applicants performed better are present in equal proportions, this strongly suggests that the test is not biased.

3.10.9 These items will be reviewed in light of these results following the pilot to identify whether there appears to be any bias in the item content. Once reviewed, if the items do appear to demonstrate bias (as outlined above, DIF is a necessary but not sufficient condition for bias), items will either be adjusted and re-piloted or will be removed from the item bank.

3.11 Correlations with Quartiles and Application Form

3.11.1 Correlations were run between SJT total scores and current FP selection methods. The selection method used for FP 2012 includes quartiles and a competency based application form. Quartiles are calculated using examination scores from preceding years at medical school. Students are awarded one of four quartile scores (34, 36, 38, 40). The application form consists of 6 questions. Question 1 covers career history and qualifications. Questions 2 to 6 are 'white space' competency based questions, scored by clinicians against an agreed national scoring criteria, based on the Foundation doctor person specification.

3.11.2 At the p<0.01 level significant correlations were found between SJT scores and quartile scores (Spearman rho) for all seven papers and between SJT scores and the application form (Pearson r) for five of the seven papers. Although these correlations are significant, indicating some shared variance/commonality between the assessment methods, there is also a large amount of variance not explained, therefore the SJT appears to be assessing somewhat different constructs to the other methods.

Table 21: Correlations between SJT total scores and current selection methods

	Current selection methods	SJT total scores
Paper One	Quartiles[12]	.23**
	Application form[13]	.063*
Paper Two	Quartiles	.24**
	Application form	Ns
Paper Three	Quartiles	.18**
	Application form	.11**
Paper Four	Quartiles	.16**
	Application form	Ns
Paper Five	Quartiles	.25**
	Application form	.15**
Paper Six	Quartiles	.31**
	Application form	.17**
Paper Seven	Quartiles	.18**
	Application form	.12**

* Significant at the p<0.05 level
** Significant at the p<0.01 level

3.12 Participant Evaluation

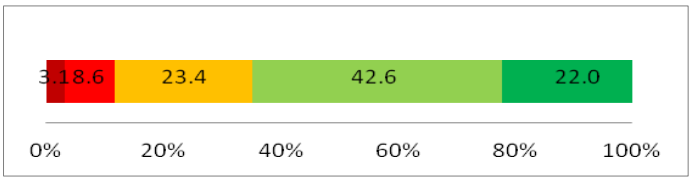
3.12.1 All participants who participated in the PRE were asked to complete an evaluation questionnaire regarding their experience and perceptions of the SJT. A total of 6788 (99.2%) participants completed the questionnaire.

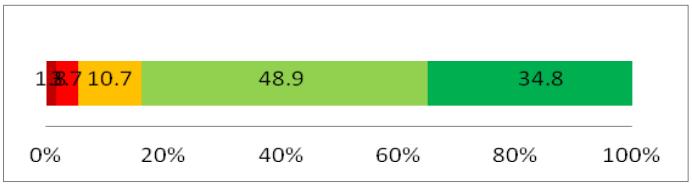
3.12.2 Participants were asked to indicate their level of agreement with several statements regarding the content of the SJT paper, the results of which are shown in the Table 22.

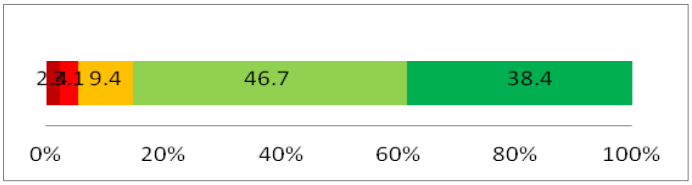
[12] All correlations between SJT scores and quartiles use Spearman Rho's correlation coefficient
[13] All correlations between SJT scores and application form use Pearson r's correlation coefficient

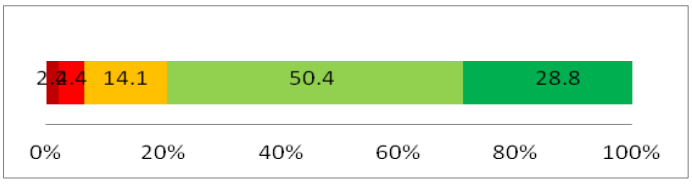
Table 22: Participant evaluations

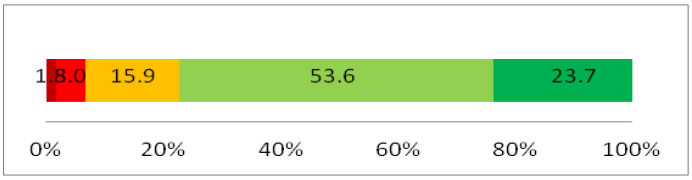
% participants (N=6788)				
Strongly Disagree %	Disagree %	Neither %	Agree %	Strongly Agree %
The information I received in advance of the SJT was clear and helpful				
The instructions for the test were clear and easy to understand				
The test seemed well-run and well-invigilated				
The content of the test seemed relevant to the Foundation Programme				
The scenario content seemed appropriate for my training level				
The level of difficulty of the test was appropriate				
The content of the test appeared to be fair				

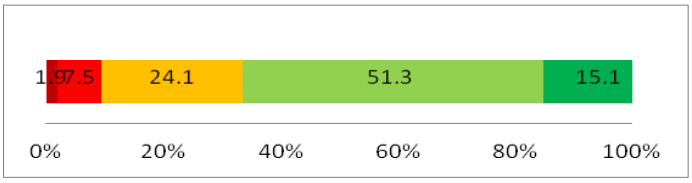


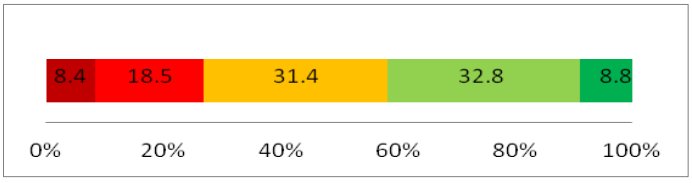


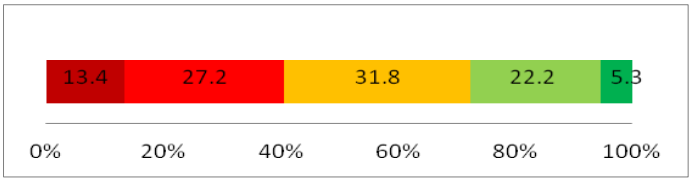










The results of the test should help selectors to differentiate between weaker and stronger applicants	

3.12.3 84% of the participants felt that the test instructions were clear and easy to understand, while 65% thought that the information given about the pilot was clear and helpful. 79% of participants also agreed or strongly agreed that the content of the SJT seemed relevant to the FP. 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. 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. 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.

Part Three: Summary & Recommendations

4 Summary

4.1 The Parallel Recruitment Exercise was undertaken for a number of reasons, but for the purpose of this report, principally to maximise the item bank to ensure that there was a sufficient number of items to use in the live selection round in 2013. As such the purpose was not to evaluate the use of the SJT for Selection to the Foundation Programme, although full evaluation of the tests was carried out.

4.2 The psychometric analysis presented in this report is evidence that the SJT is a reliable measurement methodology. Test level analysis was consistent with findings from previous reports and was as expected based on a 30 item test; half the length of the operational test. The range for a 30 item test was as expected, and based on the number of items, was able to differentiate sufficiently between applicants.

4.3 Item-level analysis showed that a large proportion of the SJT items worked well. A total of 111 (53.0%) of the items were deemed to have sufficient item partials. A more in depth review of these items, including analysis of facility values and DIF analysis will take place and it is expected that a large proportion of these will enter the item bank, ready to be used in live selection.

4.4 The relationships between the SJT score and the application form and quartile score were examined. This analysis showed that generally those that scored higher on the SJT also achieved higher marks in the application form and the quartile score. However, the correlation coefficient indicates that they are testing different constructs.

5 Item Writing Methodology

5.1 Two methods of item writing methodology were trialled during the development phase of the PRE; Item development Interviews and Item Writing Workshops. An outline of the two methodologies and the number of items developed using each of these methodologies is outlined in Section 3.

5.2 In summary, it is the authors' recommendation that the item development interviews allow for a sustainable and efficient process. It is also proposed to evaluate the item writing workshops approach further which will have other benefits including stakeholder buy-in and developing expertise in item writing amongst the academic audience.

5.3 Considerations for item writing methodologies include:

- Scope for scenario diversity
- Motivation of item writer
- Scope for involvement with or without ongoing commitment
- Engagement with clinicians
- Direct and indirect clinician costs
- Scope to increase item quality over time
- Security risk
- Generation and sharing of knowledge of best practice in SJT item writing principles
- Efficiency and cost efficiency in terms of number of items generated per 'day'

5.4 We recommend continued use of review workshops to allow for the detailed group review of items resulting in enhanced item quality. The review workshops also allow input from FY2; thus negating the need for separate focus groups.

5.5 In any development process, considerations around representation of those involved and how this may impact on potential discrimination need to be addressed. Recommendations include:

- Monitor ethnic representation of all involved in the development process (interviewees, reviewers, concordance panel)
- Undertake targeted approach for each of the development phases with regard to under-represented groups
- Continue to monitor group differences (sex, ethnicity, age)
- Continue to undertake Differential Item Functioning (DIF) analysis to identify potential bias in items

6 Clinician review

6.1 Following the large scale pilot, all items were reviewed by an expert in SJT development and clinicians, also experienced in SJT development; this is termed the clinician review. This review consists of two aspects;

- A review of the items to ensure that the item looks relevant and unambiguous. As all items have gone through a review and concordance stage, it is not expected at this stage that any major concerns will be raised. However it is important to remember that the pilot is still part of the development process items and as such some updates to items may be made at this stage
- The second, and the predominant stage of the clinician review, is using the statistics derived from the pilot to help interpret and improve poorly performing items. This in-depth review involves the experts examining all item statistics, including graphs) in an attempt to identify where changes can be made to help the item differentiate between applicants.

6.2 Those items from the spring 2011 pilot with insufficient psychometric properties were the main focus of this review, although a number of items that were deemed as having 'sufficient' psychometric properties were also reviewed and some updates made. As a result of this review, the content of some of items was altered and/or the scoring key reviewed and as such these items were re-piloted as part of the PRE. 89 items piloted in the PRE were items from this pool.

6.3 In some cases the changes made at the clinician review resulted in the item not performing as well psychometrically in the PRE as it had done previously in earlier pilots. In these cases, a review will be made of the item to see why this may be the case, why alterations were made (e.g. because it was ambiguous, or because changes were made in an attempt to improve the item psychometrically) and whether the item should be returned to its original form and entered into the item bank, or rejected.

7 Item bank

7.1 Following the PRE, there will be more than a sufficient number of items in the item bank for live selection in 2013. The equating strategy is yet to be finalised but it is anticipated that roughly 100 items will be required in each year, on the current assumptions of two national dates (plus a third date for those with extenuating circumstances) and 60 live items in a test.

7.2 Currently, not including items from the PRE, the item bank consists of 79 items (27 from the initial pilot and 52 from the main pilot). Although 104 items from the main pilot were deemed as having sufficient item partials, this included repeat anchor and feedback items. In 31 cases, items from the main pilot that had sufficient item partials were reviewed and small changes made based on the item statistics. As such these were either re-concorded and piloted, or just re-piloted.

7.3 From the PRE, a total of 111 items were deemed as having 'good' item partials. A more in depth review of these items, including analysis of facility values and DIF analysis will take place and it is expected that a large proportion of these will enter the item bank, ready to be used in live selection.

Improving Selection to the Foundation Programme

Final Report of the Parallel Recruitment Exercise

Appendix G

Feedback to medical schools on the PRE SJT

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Parallel Recruitment Exercise (2011-12)
SJT Feedback – School

The PRE was a pilot of the Situational Judgement Test (SJT), which will be used for selection to the Foundation Programme from FP 2013 as a measure of meeting the national person specification. The PRE was also a pilot of the calculations of deciles for the Educational Performance Measure (EPM).

FP 2012 applicants will be able to log into FPAS from Thursday 15th March to view their SJT and EPM deciles. Of the X participants in the PRE from your School who did not complete an FPAS application (ie Defence Deanery applicants), X provided contact details and will be emailed their SJT decile.

There is no statistical analysis of the SJT scores by school. Only the named recipients of the email on Thursday 15th March 2012 will be provided with the feedback for your school.

1. SJT Deciles

Several papers were used in the PRE SJT; each paper included a different 30 pilot items. The pilot data will be used to generate the performance data used for test-equating in future years. Around 1,000 applicants took each SJT paper and we have been able to give an indication to applicants as to how they scored on the SJT in relation to all other applicants who took the same paper, divided into the top 10% (1st decile), top 20% (2nd decile) and so on.

Table 1: Summary of SJT deciles – School (n=X)

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

n.b. Please note that the size of deciles was roughly 10% (there were a number of tied scores at the margins)

2. Applicant evaluation

After completing the SJT, applicants were asked to complete a short evaluation of the SJT. We received evaluation data from X applicants at your medical school. The free text comments collected through this evaluation form are being summarised in the Final Report of the PRE. Table 2 describes the percentage of your applicants giving different scores to a set of statements. These data are compared with the overall rankings of all applicants who completed evaluation forms (n=6762).

Table 2: Summary of applicant feedback on the SJT (mean score)

	Statement	School applicants (%)					All applicants (%)				
	1= strongly disagree, 2= disagree, 3=neither agree nor disagree, 4=agree, 5=strongly agree	1	2	3	4	5	1	2	3	4	5
1.	The information I received in advance of the SJT was clear and helpful						3.1	8.6	23.4	42.7	21.9
2.	The instructions for the SJT were clear and easy to understand						1.8	3.7	10.8	48.9	34.9
3.	The SJT seemed well-run and well-invigilated						2.4	3.1	9.4	46.6	38.5
4.	The content of the SJT seemed relevant to the Foundation Programme						2.2	4.5	14.1	50.3	28.8
5.	The scenario content seemed appropriate for my training level						1.8	5.0	15.8	53.5	23.7
6.	The level of difficulty of the SJT was appropriate						1.9	7.5	24.1	51.3	15.1
	If you 'strongly disagree' or 'disagree' with Question 6, please indicate if you found the test too easy or too difficult	Too easy		Too difficult			Too easy	2.0	Too difficult	8.3	
7.	The content of the SJT appeared to be fair for selection to the Foundation Programme						8.4	18.4	31.2	32.7	8.7
8.	The results of the SJT should help to differentiate between weaker and stronger applicants						13.3	27.0	31.7	22.1	5.3

Improving Selection to the Foundation Programme

Final Report of the Parallel Recruitment Exercise

Appendix H

Feedback to applicants on the PRE SJT and PRE EPM

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Feedback on the Parallel Recruitment Exercise (PRE)

Thank you for your participation in the Parallel Recruitment Exercise. Your involvement has helped to ensure that selection to the Foundation Programme (FP) is more reliable, robust and cost-effective.

Situational Judgement Test (SJT)

The PRE was a pilot of the Situational Judgement Test (SJT), which will be used for selection to the Foundation Programme from FP 2013, in place of white space questions, as a measure of meeting the national person specification.

Several papers were used in the PRE; each paper included a different 30 items. Around 1,000 applicants took each SJT paper. Your SJT score reflects how you performed in relation to all other applicants who took the same paper as you, divided into the top 10% (Decile position: 1), top 20% (Decile position: 2) and so on. The scoring convention for the SJT is described on the ISFP website.

Only you know your SJT decile. Your SJT decile does not affect your application to the Foundation Programme in any way.

SJT items assess the FP national person specification, for example team working, leadership, patient focus. The person specification was further explored through the detailed and thorough Job Analysis of the FY1 role which informed the design of the SJT. It is not possible to give an SJT 'score' by domain as one item could assess several different domains, and other domains are integral to all items, for example decision making.

The SJT items included in the paper were written and reviewed by clinicians who work closely with FY1 doctors and by psychologists, and then discussed, refined and agreed by a further group of clinicians and current FY1s and FY2s. Piloting these items through the PRE SJT allows us to determine their difficulty, which will be used in future years to equate different versions of the SJT. Therefore, as these were pilot items, we can only give an indication of how you performed in relation to all others who took the same paper.

The security and confidentiality of the SJT must be maintained as the vast majority of items will now be used for selection to the Foundation Programme. We are therefore unable to release the SJT items or the answer keys, although we will be releasing a further set of items as a practice paper, available from www.isfp.org.uk in April/May.

Data Protection

Participants in the PRE SJT were asked to provide their name and RA number so that we could give you feedback, enter you into the prize draw for one of 5 iPads, and to allow for anonymous statistical analysis. Data is handled and stored in accordance with the Data Protection Act 1998.

This work was undertaken on behalf of the UK Foundation Programme Office; the views expressed in this publication are those of the authors and not necessarily those of the UK Foundation Programme Office.

Educational Performance Measure (EPM) INFORMATION FOR UK APPLICANTS

The PRE was a pilot of the deciles component of the EPM which will be used for selection to the Foundation Programme from FP 2013, in place of quartiles, as a measure of performance at medical school up to the point of application.

Your decile score relates to your performance on summative assessments at medical school up to the point of application in relation to all others in your final year cohort, divided into the top 10% (Decile position: 1), top 20% (Decile position: 2) and so on. The way that the deciles have been calculated is in line with a standardised EPM framework which was agreed by students, employers and all medical schools in 2011. Many schools have involved their students in a consultation to review the method for placing the cohort into deciles for Foundation Programme applications.

The EPM decile score has been calculated by your medical school; only you, your medical school and your local foundation school know your EPM decile score. Your EPM decile does not affect your application to FP 2012 in any way, but will be carried forward if you apply to FP 2013.

The format of your decile score differs from your quartile score. Please remember that one quartile covers three decile scores, for example applicants in the 4th quartile may find themselves placed in the 8th, 9th or 10th decile. If the weightings or the composition of modules and marks to be included in the decile calculations have also changed, it is possible that some applicants may find themselves in a different decile again.

SJT and EPM for FP 2013

The PRE SJT was a shortened version of the full SJT and so may not reflect the composition of a 'live' SJT paper. From FP 2013, there will be 70 SJT items taken in 2 hours 20 minutes (plus extra time for applicants with disabilities) which will include a small number of pilot items. There will be two SJT papers for the two national dates; these will be test-equated to generate comparative scores for all applicants. From FP 2013, applicants will receive up to 50 points of a 100 point application for the SJT.

From FP 2013, applicants will receive up to 50 points of a 100 point application for the EPM, of which 34-43 points are available for the EPM decile and up to 7 points are available for additional academic achievements. You can calculate the points that you would receive under the FP 2013 application process for any additional degrees, presentations, prizes and publications by looking at the EPM framework. Please note, if you apply to FP 2013, your EPM decile score calculated during the PRE will be carried forward as your EPM decile score; points for additional academic achievements will be counted at the point of application.

Further information

Further information about the evidence and rationale for introducing the SJT and EPM, their evolution and piloting, the forthcoming report of the PRE, and about the Improving Selection to the Foundation Programme (ISFP) project can be found on www.isfp.org.uk. Any questions you may have may be answered by the FAQs section or can be raised on the ISFP forum.

This work was undertaken on behalf of the UK Foundation Programme Office; the views expressed in this publication are those of the authors and not necessarily those of the UK Foundation Programme Office.

Improving Selection to the Foundation Programme

Final Report of the Parallel Recruitment Exercise

Appendix I

PRE EPM Framework

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Parallel Recruitment Exercise
Educational Performance Measure (EPM) Framework

The EPM framework will be piloted during the FP 2012 recruitment round as part of the PRE. The aim is for the EPM to replace the scores currently comprised of academic quartile rankings and educational achievements for recruitment to FP 2013.

The EPM is worth a maximum of 50 points and is comprised of three parts:

1. Medical school performance (calculated in deciles)
2. Additional degrees
3. Other educational achievements (prizes, publications and presentations)

Please note, for the PRE, medical schools will only be asked to calculate the EPM deciles (Part 1).

PART 1 - Medical school performance (34 - 43 points)

Students will be assessed and ranked on their medical school performance. Medical school performance will be assessed using a range of assessments and it will be up to each medical school to define which will be used and the relative weighting of each assessment. All assessments chosen must all adhere to the agreed principles below.

All assessments used in the determination of a student's performance must be:

- Summative (and hence subject to formal controls)
- Cover clinical knowledge, skills and performance
- Cover non-clinical performance
- Cover all aspects of the curriculum assessed up to the end of the penultimate year at medical school
- Represent the average performance of the applicants over time, rather than being limited to a snap-shot
- Include written and practical forms of assessment

The EPM Administrator will then divide their cohort into deciles of roughly equal size and will assign each student a decile score (see the score table below).

Decile rank	Number of points
1	43
2	42
3	41
4	40
5	39
6	38
7	37
8	36
9	35
10	34

The graduating cohort is defined as all students in their final year at the point of application to the Foundation Programme, including those applying to the Academic Foundation Programme, as well as those who have chosen not to apply. Local discretion may be used to determine whether applicants on different entry routes (for example graduate-entry and standard-entry courses) are treated as a single cohort or separate cohorts for the purpose of ranking.

There is no minimum number of assessments to be taken into account in constructing deciles. However, only assessments which achieve a fair spread of scores or grades should be included. Pass/fail assessments should not count within the decile score, unless there is a sufficient number of pass/fail assessments that an above-average applicant is likely to fail at least a few.

Each medical school will construct an initial basket of assessments to be used in decile rankings. Students must be consulted with and be given the opportunity to share their views before the final assessments are agreed. Once your assessments have been chosen, these must also be published on your website.

The N applicants within a cohort will be allocated into deciles according to the following rules. The applicants will be competition ranked according to their overall score. This means that:

- Each applicant will have a rank place between 1 (highest scoring) and N (lowest scoring)
- Applicants with the same score will share the same rank place
- Where x applicants share the same rank place, the next x-1 rank places will remain empty
- The rank places will be allocated in order (from 1 to N) to ten roughly equal-sized groups, so that each group contains N/10 rank places, rounded up or down to the nearest whole number

Finalised decile scores calculated as part of the PRE must be sent in an Excel spreadsheet along with each applicant's RA number to the ISFP project for evaluation by 1 February 2012. More information will be provided shortly to the EPM Administrator at each school.

PART 2 - Additional Degrees (max 5 points)

Applicants can earn up to 5 points for additional degrees that have been awarded by the time of application to the Foundation Programme (either prior to medical school or an intercalated degree). Official notification from the university must be provided. Where the applicant has received a pass result but has not received the degree certificate, a letter from their medical school Dean confirming that they have passed must be provided on letter headed paper, signed and dated by the Dean.

If an applicant holds more than one degree at the time of application to the Foundation Programme, they should provide evidence of the degree that will achieve the highest number of points.

Additional degree	Number of points
• Doctoral degree (PhD, DPhil, etc)	5
• Masters degree • 1st class honours degree • Bachelor of Dental Science (BDS) • B Vet Med	4
• 2.1 class honours degree • 1st class intercalated degree which does not extend the degree programme	3
• 2.2 class honours degree • 2.1 class intercalated degree which does not extend the degree programme	2
• 3rd class honours degree • Unclassified or ordinary degree • 2.2 class intercalated degree which does not extend the degree programme	1
• Primary medical qualification only • 3rd class intercalated degree which does not extend the degree programme	0

Please note:
Honours degrees include any type of Bachelors honours degree, e.g. BSc, BA, BEng, LlB, BMedSci, etc. A Masters degree is where it represents a further year of study taken in addition to a basic medical qualification. Some international medical schools (e.g. the USA) award an 'MD' or similar as part of their basic medical qualifications. This qualification does not attract any additional points in this section.

For students who have undertaken an exchange programme of study as part of a degree course, you must take the grade point average (GPA) and calculate the equivalent degree level and select the most appropriate. For a 4 point scale, a GPA of 3.6 - 4 should be scored as equivalent to a 1st class degree, a GPA of 3 – 3.5 as 2.1, a GPA of 2 – 2.9 as 2.2 and a GPA of 1 – 1.9 as a 3rd class degree. For a 5 point scale, a GPA of 4.4 - 5 should be scored as equivalent to a 1st class, a GPA of 3.8 – 4.3 as 2.1, a GPA of 3 – 3.7 as 2.2 and a GPA of 2.9 or lower as a 3rd class degree.

PART 3 – Other educational achievements (max 2 points)

Students can earn a maximum of 2 points in this category. Additional points for additional degrees, prizes, publications and presentations will be automatically awarded by FPAS, and will be subject to verification by medical school and foundation school staff. During the FP 2012 recruitment round, verification will take place on 26 Oct in London at a National Verification Day. It is likely that this will happen for the FP 2013 recruitment round as well.

Other educational achievements	Number of points
Prizes • 1st prize – National/international educational prize	1
Presentations • Oral presentation at a national or international conference • 1st named author in a poster or presentation at a national or international conference	1
Publications • Educational research paper published in a peer-reviewed journal	1
Maximum number of points available	**2**

Prizes

Bursaries and medical school prizes will not count in this category. The prize must be an educational prize, it must be 1st prize and it must be a national or international prize. A letter of evidence from the awarding body must be provided by the student and uploaded onto FPAS.

Presentations

Students must have either personally given a presentation at a national or international conference, or must be the first named author on a poster presentation. The conference must be hosted by a recognised professional medical body in order for a student to receive a point. The conference must have taken place by the time of application to the Foundation Programme. A letter of evidence from the conference host must be provided by the student and uploaded onto FPAS.

Publications

Students must supply a PubMed ID (PMID) at the time of application to the Foundation Programme or provide a letter of evidence that the work has been accepted for publication and is 'in press' for a publication which has a PMID. This includes papers, abstracts, book chapters, audits and in rare cases, letters. The front page of the article including the title and authors' names must be provided by the student and uploaded onto FPAS.

If an applicant has more than one publication, prize or presentation, they will receive a maximum of one point for any of the three categories individually; a maximum of two points in total.

Improving Selection to the Foundation Programme

Final Report of the Parallel Recruitment Exercise

Appendix J

Summary case for the SJT

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Improving Selection to the Foundation Programme

Summary case for SJT

Introduction

The project 'Improving Selection to the Foundation Programme' (ISFP) has extensively evaluated options for improving the selection of junior doctors for Foundation Programme training within the NHS. The main recommendation from the project is that a new national 'Situational Judgement Test' (SJT) should be introduced to replace the 'white space' questions that are currently used to rank applicants to the Foundation Programme. The ISFP project and its recommendations have been very thoroughly documented (see www.ISFP.org.uk for the details). This short paper presents a highly summarised account of the case for introducing the SJT, and is intended specifically to record aspects of the case that have been highlighted by the legal review of the ISFP recommendations.

Shortcomings of the current 'White Space' method for FP selection

Since 2006 there has been a UK-wide process for selecting applicants for FP training posts. Applicants complete an online form that contains 'white space' questions designed to test the applicant against the FP person specification. The answers given by the applicants are manually scored, and the scores are used to rank the applicants for selection. There have been long-standing concerns about the following aspects of the existing arrangements:

- The applicant completes the online form in their own time and without any supervision. Given this, there is no guarantee that the answers are entirely the applicant's own work.

- There is insufficient evidence that the 'white space' questions provide a reliable and valid basis for selection.

- The manually marking of the questions by clinicians is very labour intensive; it costs around £1.6m per year, and distracts staff from front line duties.

- Because the questions require written answers, their use potentially disadvantages applicants whose first language is not English.

ISFP

Given the concerns about the 'white space' selection method the Department of Health (DH), on behalf of the four UK health departments, commissioned work to investigate, assess and pilot a more robust method. That work has become known as 'Improving Selection to the

Foundation Programme' (ISFP) and has been directed by the ISFP Project group, which comprehensively represents the bodies concerned with the recruitment of junior doctors:

- Medical Schools Council (MSC)
- The Academy of Medical Royal Colleges (AoMRC)
- The British Medical Association (BMA
- 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)
- The four UK Health Departments.

ISFP has spanned almost three years, and has involved the efforts of almost 2000 people across the UK. The work has included comprehensive and unprecedented investigation and evaluation of options for improving FP selection. An international panel of experts evaluated a longlist of options, and put forward the most promising for a rigorous options appraisal that was conducted according to the best practice set out by HM Treasury in the 'Green Book'. The options were assessed not just in terms of cost but also in terms of an extensive set of evaluation criteria, which included fairness, reliability, validity, educational impact, the burden on applicants, and so on. All of the investigation and analysis work has been transparently published and laid open for scrutiny.

The analysis showed convincingly that the introduction of an invigilated Situational Judgement Test (SJT), along with a more standardised way for medical schools to rank the educational performance of their students (the 'Educational Performance Measure', or EPM) was the best option by a considerable margin.

The SJT and EPM have since been subject to extensive development and piloting. The DH has accepted the recommendations of the ISFP Project Group that the SJT should replace the use of 'whitespace' questions from 2012 onwards, following a full-scale 'Parallel Recruitment Exercise' (PRE) in 2011 when the SJT was trialled alongside the 'white space' questions. The implementation of the recommendations will more align FP recruitment with the processes that are used for selection in later stages of medical training, since SJTs have been used for some years to select applicants for GP training, and are also being implemented by other medical specialties in the UK.

The practicalities of implementing SJT

The SJT is intended to be a robust and secure basis for selecting applicants for FP training. To achieve this, the implementation of the SJT must be approached in a very rigorous way. For example:

- The SJT test questions must be developed, quality assured, and piloted according to established best practice before they are used for selection. The piloting requires each question to be taken by a large sample (hundreds) of applicants under realistic test conditions. This limits the number of questions that can be practically produced each year to around 100.

- The tests must be delivered in a standard way for all applicants. Standards have been developed to cover all aspects of the delivery of the tests, including: the timing of the tests, the briefings to be given to applicants, the quality of the venues, invigilation, the secure storage of papers, the arrangements for applicants with special needs (eg dyslexia) and so on.

- There must be no possibility that applicants have prior sight of the test papers, or get any form of unauthorised help in taking the test. Given this, if tests are to be run on more than one date, then each sitting will require a different version of the test, so that the questions from one sitting cannot be leaked to applicants taking another.

Given the above it is proposed that the SJTs will be implemented by the UK medical schools acting under Memorandum of Understanding to adhere to the necessary standards. The Medical Schools Council will retain responsibility for quality assuring the performance of the schools, and for supporting and briefing the staff of the schools. The tests will be held on two main dates each year, with a third fall-back date for applicants who have exceptional reasons for having missed the main dates. All applicants will therefore be required to take the test in the UK.

Legal review and justification

The ISFP recommendations have been subject to a legal opinion (see www.isfp.org.uk for the detailed report). The legal review has flagged for consideration two aspects of the recommendations, as follows:

1) The results of the pilots suggest that there might be some group differences in the SJT for applicants whose first language is not English
2) The proposals to run the SJT at UK medical schools is a disadvantage for applicants who would be far away at the time and have to travel to the UK to take the test.

The ISFP Project Group has reconsidered these issues and has determined that they are comprehensively outweighed by the benefits of implementing the recommendations. More specifically:

While the pilot SJT results did show a small group difference for applicants whose first language is not English, the extent of this was considerably less than the group difference that arises from the use of 'white space' questions. The improvement appears to arise in part because the 'white space' questions require both comprehension and composition in English,

whereas the SJT requires only comprehension. In any event the SJT provides a significant reduction in group difference, and it would be irrational to forego the improvement simply because some small residual group difference still remained. That said, the performance of the SJT will be reviewed year on year, and opportunities for further improvement will be pursued where they are identified.

The possibility of running the SJT outside of the UK will be kept under review. However, at present the requirement for applicants to take the test in the UK is considered a reasonable one given that:

- Attending interviews or other selection tests in the UK is the norm for recruitment to UK-based jobs.

- Applicants can apply from anywhere in the world, and there is no way of knowing their geographic spread until they have applied.

- It would be too expensive- even if it were possible- to run the tests to the required standard in many different locations for small numbers of applicants at each location.