Improving Selection to the Foundation Programme

Appendix C

Project Initiation Document February 2010

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Contents

1. Introduction

1.1. This is the Project Initiation Document (PID) for a project to develop and pilot new assessment methods for the selection and allocation of applicants to the Foundation Programme in the UK. The project has been commissioned by the Department of Health in England (DH) on behalf of the four UK Health Departments, and is being run by the Medical Schools Council (MSC).

1.2. The current version is a draft for review by the Project Board.

2. Background

2.1. This section summarises the background to the project to allow a general reader to appreciate the context of the PID. It starts with an explanation of the existing arrangements for the recruitment to the Foundation Programme of final year undergraduate medical students in the UK, and then summarises the case for change that has led to the project.

Existing Arrangements

2.2. In the UK the first two years of training for newly graduated doctors are known as the 'Foundation Programme'[1]. The training is organised and delivered by 'Foundation Schools', who liaise with the NHS organisations in their area to ensure the availability of suitable training posts. Assuring the quality of F1 posts and confirming the successful completion of the F1 year is however the responsibility of the universities that have Medical Schools under the Medical Act 1983 and its subsequent amendments.

2.3. Since 2006 a UK-wide process has been followed to recruit medical students into posts within the Foundation Programme. The annual process, which is known as the Foundation Programme (FP) recruitment round, starts in the autumn of one year, when prospective candidates submit an online application form; the results are announced in the spring of the next year, and the applicants take up their posts in late summer. For most applicants, the process runs in parallel with their final year of undergraduate education.

2.4. Entry into the Foundation Programme is competitive. Each applicant is awardeda score built of two components. One component is determined by the quality of the applicant's answers to the so-called 'white space' questions on the online application form. The other component is an 'academic quartile' score given to the applicant by their Medical School, based on their educational performance relative to all of the other students in their year at the school.

2.5. The scores are used to determine which applicants should be selected into the Foundation Programme, and to allocate successful applicants to Foundation Schools. If there are more applicants than posts, then the highest scoring applicants are selected[2]. If there are more posts than applicants, then all eligible applicants are considered for allocation.

2.6. The allocation of applicants to posts takes place in two stages. In the first stage, each applicant is allocated to a specific Foundation School; in the second, the applicant is allocated to one of the posts associated with that school. The allocation of applicants to Foundation Schools is determined by a set of rules (the allocation algorithm), which take into account the applicants' preferences and scores in a particular way.

2.7. The United Kingdom Foundation Programme Office (UKFPO) administers the recruitment rounds under contract to the four UK Health Departments. There is a separate contract with the Department of Health in England (DH) for the provision of the online system, known as ApplicationMMC, through which the applications, scoring and allocations are managed. The ApplicationMMC contract comes to an end in June 2011, and may be extended for one year only to June 2012.

2.8. A 'Recruitment Rules Group', consisting of stakeholder representatives, maintains the rules and standards for the process. This includes setting the timetable for each round, defining the 'white space' questions and associated scoring guidelines, quality assuring the scoring, and adjudicating over special cases. The scoring of answers to the 'white space' questions is organised by the Foundation Schools, and is performed by trained representatives- mainly clinicians- from the NHS.

[1] See www.foundationprogramme.nhs.uk

[2] This is a simplification. Under the prevailing right-to-work legislation, applicants who have an unconditional right to work in the UK will be selected for places first, in order of score. Any unfilled places will then be allocated to the remaining applicants (i.e. those without an unconditional right to work in the UK), again in order of score.

The Case for Change

2.9. Surveys conducted after each recruitment round have shown a growing level of satisfaction among applicants. However, the current process has some actual and potential shortcomings of a serious nature, as follows:

- The marking of the answers to the 'white space' questions is labour intensive, the cost approaching £2m per year.
- Applicants are allowed to complete the 'white space' questions online at their convenience. While this is logistically simple, it means that there is no real safeguard that the answers are the genuine work of the applicant.
- Model answers to the 'white space' questions have been offered for sale over the Internet. There have been concerns that the impact of such model answers is likely to increase with time, as it will become increasingly difficult to invent entirely fresh questions for each successive recruitment round.
- There have been questions about the extent to which the academic quartile scores can be equated across Medical Schools, particularly since each school derives its scores as it sees fit rather than following a standard approach.
- While the 'white space' questions appear to offer a practical way to rank large numbers of comparable applicants, and are derived from the Person Specification, their technical validity is open to question.

2.10. To date the impact of these concerns has been softened considerably by the fact that there have been fewer applicants than posts (meaning that all applicants can get a job) and around 90% of applicants are allocated to their first preference Foundation School. From this perspective the process has generally been seen as positive by those involved. However, the perspective is somewhat misleading. The percentage of applicants who get their first choice is a product of the algorithm that is used and the relative demand for places at schools- it is not dependent on the selection or scoring method. Furthermore, there is no guarantee that the number of posts will continue to exceed the number of applicants. The effect of European employment law is that the Foundation Programme jobs must be offered on an equal footing to applicants from the European Union; and in any event applicants from elsewhere can apply subject to the prevailing 'right to work' arrangements. In the event that the number of applicants did exceed the number of posts, then it would be more important that the process for selection did indeed pick the 'best' applicants from the pool available, and was not open to legal challenge.

2.11. The Next Stage Review *A High Quality Workforce* recognised that the current arrangements were not sufficiently robust, and recommended new work to develop a more reliable and valid selection process. As a result, the DH commissioned the Medical Schools Council (MSC) to set up the Foundation Programme Steering Group (FPSG) to conduct an options appraisal of selection into Foundation training, with the aim of recommending a reliable, valid, feasible and sustainable method for selection, which minimises the risk of successful legal challenge. The ensuing work was a collaborative venture between all the major stakeholders, and included:

- Surveys and consultations
- Meetings with stakeholders.
- Three independent literature reviews,
- A report from a panel of international experts in assessment and selection.
- An independent cost-benefit analysis.

2.12. Having considered the evidence, the FPSG submitted its report to DH in September 2009, in which it made recommendations about the future of the FP recruitment process. The relevant findings of the report may be summarised as follows:

- While there is much that is right about the current selection process, the 'white space' questions and academic quartiles are not sufficiently robust, and need to be replaced.
- The selection of applicants should take into account their wider professional attributes as well as their clinical skills and knowledge.
- Simple interviewing would not be a robust basis for selection, as the available evidence shows that interviewing is neither a reliable nor a valid selection technique. So called 'Multi Mini Interviews' (MMIs) in which each applicant undertakes several structured interviews in succession, would be more reliable and more valid, but they would be labour intensive and expensive to implement.
- An invigilated, machine-markable test of the applicant's professional attributes (a so called 'Situational Judgement Test' or SJT) would be the best replacement for the 'white space' questions, as it should be highly secure, reliable, and standardised. It also had the advantage of being relatively inexpensive, and of being used successfully for the shortlisting of entrants into specialty training for General Practice.
- The two main options for gauging an applicant's clinical skills and knowledge were to hold a special selection test (the 'national exam for ranking'), or to consider the evidence available from the applicant's performance at Medical School. The former had the advantage of being easy to standardise; however, it was very expensive, and was seen by key stakeholders as undermining educational objectives. It would also not be possible to hold such an exam before Finals (because of variations in the timing of the curricula across Medical Schools), which would be too late for the allocation of posts. The FPSG therefore recommended that the considerable amount of information available from Medical Schools about the performance of the applicant- the so called 'Educational Performance Measure' or EPM- should be used for the purpose of selection. The EPM would be similar in many ways to the academic quartile score, but would be produced in a more robust and standardised way, and possibly be more granular.
- Work should begin to develop and pilot SJT and EPM, with a view to implementation after 2012 when the contract for the current application service comes to an end. Aside from testing the individual effectiveness of SJT and EPM, the pilots would provide data that could be used to determine the relative weightings to be given to SJT scores and EPMs when they are combined to give an overall score to applicants for the purpose of selection.
- An initial step in the work should be a formal job analysis for the Foundation Programme in order that selection tools might be based on more detailed information about the role.

The Way Ahead

2.13. A feasibility study proposed that the recommendations should be implemented through two projects running in series. The first- the current project- would develop, refine and validate the specifications for SJT and EPM through pilots that would take place in parallel with the 2010/11 recruitment round. Subject to ministerial approval of the outcome, a second project would then be commissioned to implement SJT and EPM in a new recruitment process to run from the 2012/13 round onwards.

2.14. DH has given conditional approval for the first of these projects, which is the subject of this PID.

3. Objectives

3.1. The principal objective of the project is to design, develop, and pilot the new assessment techniques to ensure that they are suitable to replace the existing selection arrangements for the 2012/13 recruitment round and beyond. This is to include:

- A detailed job analysis of the role of the FP doctor to identify the detailed criteria that should be used for the assessment of FP applicants.
- The development of specifications for the SJT and EPM.
- The production of SJT items.
- The development or purchase of software to store SJT items securely.
- The piloting of SJTs and EPMs.
- Collecting data about costs, resource requirements, timings, etc, for planning a live implementation of the new selection arrangements.
- Developing expertise to underpin the success of the live implementation.
- Spreading awareness of the proposed changes to the selection process, and maintaining the support and cooperation of stakeholders.
- Obtaining legal opinion to confirm that the assessment methods are suitable in all legal respects.

3.2. The implementation of these changes is subject to confirmation of the associated business case, which will be subject to review at the end of the project, and the associated DH approvals process.

4. Blueprint for the New Selection Process

4.1. This section presents a description of the intended arrangements for FP recruitment for placements from 2013 onwards.

4.2. This description does not cover recruitment to academic and military posts, which is subject to special arrangements.

Overview

4.3. There will be an annual UK-wide process (the FP round) for selection into the Foundation Programme.

4.4. Rounds will be managed by UKFPO on behalf of the Health Departments of the UK countries.

4.5. Rounds will run to a UK-wide timetable.

4.6. Rounds will be facilitated by an online system administered by UKFPO.

4.7. There will be a standard person specification for Foundation Programme posts.

4.8. There will be a preliminary 'pre-enrolment' stage for a round during which prospective applicants declare their interest and are subjected to eligibility checks.

4.9. One of the eligibility conditions is that the applicant's Medical School must agree to provide for the applicant a verifiable score- the 'Educational Performance Measure' (EPM) - conforming with published standards.

4.10. The EPMs of all eligible applicants will be entered onto the online system following the pre-enrolment stage where each applicant's eligibility status is checked.

4.11. Eligible applicants will be invited to complete a single application form via the online system.

4.12. In their application, the applicant will specify their preferences for Foundation Schools. To support this, information about all of the Foundations Schools and their associated training programmes will be available to the applicant via the online system.

4.13. All applicants will be invited to take an invigilated selection test- the Situational Judgement Test (SJT)- designed to evaluate their professional attributes relevant to the person specification.

4.14. The SJT will be defined and maintained by Medical Schools Council Assessment Alliance (MSC-AA). The test items for SJTs will be held in a secure item bank managed by MSC-AA.

4.15. The SJT will be machine-marked or computer based- in either case it will not need to be marked manually.

4.16. UK Medical Schools will be responsible for SJTs for their students. UKFPO will be responsible for the tests for other applicants. The tests will be held in the UK on a set number of dates, expected to be fewer than 10, selected to avoid electives.

4.17. The tests will result in an SJT score being awarded to each applicant. These scores will be loaded onto the online application system.

4.18. The online system will calculate for each eligible applicant an overall score which will be a weighted sum of their EPM and SJT score. The rules for the weightings will be the responsibility of UKFPO.

4.19. Applicants will be selected and allocated to Foundation Schools by the online system according to a set of rules that will take into account the number of places available, the overall scores, applicant preferences, and the right-to-work status of applicants.

4.20. Once applicants are allocated to Foundation Schools, each School will be responsible for implementing local arrangements for matching their allocated applicants to individual training posts.

4.21. Once applicants are matched to individual posts, their details will be passed to the relevant employer, who will be responsible for pre-employment checks and employment contracts.

4.22. The SJT scores and answers will be retained centrally for quality assurance purposes.

Organisation and Responsibilities

4.23. This section provides a summary of the responsibilities of the organisations that participate in the delivery of the FP rounds, namely:

- UKFPO and its associated Foundation Programme Rules Group (FRG)
- Medical Schools Council
- Medical Schools
- Foundation Schools
- Employers.

4.24. The responsibilities of these organisations will be as described below.

4.25. UKFPO and the FRG will be responsible for:

- Defining the timetable, eligibility criteria, person specification, and the rules and process for selection and allocation to Foundation School.
- Developing the application form.
- Obtaining final legal sign-off.
- Providing guidance about the round for applicants, Foundation Schools and Medical Schools.
- Checking the eligibility of applicants from Medical Schools outside of the UK.
- Providing and managing the online application system.
- Managing the SJT for applicants from Medical Schools outside of the UK.
- QA of EPMs from Medical Schools.
- Managing the round overall.
- Handling queries from stakeholders.
- Reporting outcomes to the Health Departments.

4.26. Medical Schools Council will be responsible for:

- Developing and maintaining the standards for the production of EPMs.
- Providing standardised guidance to ensure consistency across Medical Schools.
- Designing, creating and maintaining the SJT bank*.
- Making SJTs available to Medical Schools and to UKFPO*.
- Obtaining agreement for common dates on which to hold SJTs.

*this will be through the MSC-AA.

4.27. UK Medical Schools will be responsible for:

- Identifying their eligible applicants.
- Preparing EPMs for each of their applicants.
- Managing the delivery of SJTs for their applicants.
- Providing all relevant applicant information; including EPMs and SJT scores to the Foundation Schools for entering onto the online system. [The project will need to consider how this might work in practice; one option recently considered is for the SJT answer sheets to be centrally scanned by MSC-AA.]

4.28. Overseas Medical Schools will be responsible for providing verifiable EPMs for their applicants.

4.29. Foundation Schools will be responsible for:

- Publishing information about their school, and its programmes and posts, on the online system to help applicants decide their preferences.
- Matching their allocated applicants to individual programmes and posts, and ensuring the results of the matching are entered on the online system.
- Liaising with employers to handover applicant details.

4.30. Employers will be responsible for completing pre-employment checks.

Online Application

4.31. There will be an agreed process through which all eligible applicants are assigned a user name on the online system. UK Medical Schools will be responsible for collating details of their applicants for loading onto the online system. The UKFPO eligibility office will perform this function for other applicants.

4.32. The timetable will include an opening date and a closing date for the submission of applications.

4.33. Eligible applicants will be responsible for registering on the online system and completing and submitting an online application form before the closing date. Late applications will not be accepted.

4.34. The application form is likely to be broadly similar in scope to the current FP application form, except that it will exclude the 'white space' questions.

EPM

4.35. The EPM will be a score provided for the applicant by their Medical School according to an agreed standard framework. The framework will be defined and maintained by the Medical Schools Council (MSC) working with its constituent Medical Schools and in consultation with medical student representatives.

4.36. As well as providing the EPMs for applicants, each participating Medical School must provide a formal declaration confirming that they have complied in full with the standard framework. Declarations are to be received by the UKFPO before the opening date for applications.

4.37. The treatment of applicants that are unable to provide an acceptable EPM needs to be determined within the project. At present, where an applicant is unable to provide an acceptable quartile score, the applicant is not deemed ineligible but is assumed to have the lowest possible quartile score. [This issue is more likely to arise in relation to overseas applicants.]

SJT Definition and Set-up

4.38. The SJT will be a paper-based machine-markable test sat under invigilated conditions. (An option that could be investigated during the project is for the tests to be delivered online.)

4.39. The items for a given test will be drawn from a UK-wide bank of items created, quality assured and administered by the MSC-AA.

4.40. The test items will be produced and quality assured by trained volunteers to standards defined and maintained by MSC-AA.

4.41. MSC-AA will be responsible for ensuring the quality and availability of test items.

SJT Delivery

4.42. UK Medical Schools will be responsible for scheduling and managing the delivery of the test for their students according to national guidance. The guidance, which will be produced by MSC-AA, will specify:

- The instructions for compiling tests from the item bank.
- The time that should be allowed for the test.
- The notice that should be given to applicants invited to the test.
- The steps that should be taken to verify the identities of participating students.
- The invigilation arrangements, and standards for test facilities.
- The guidance and rubric to be given to applicants.
- The process for submitting results for processing on the online system.
- The arrangements for notifying applicants of the results.
- Recommendations for dealing with applicants who fail to attend, interruptions (eg fire alarms), appeals, etc.
- Security arrangements and retention periods to apply to test papers and answer sheets.

- Handling of special needs applicants.

4.43. SJTs will be run on nationally agreed dates, chosen so that at least one of the dates will not clash with the timing of the electives at any given Medical School. The questions for each sitting will be drawn at random from the question bank.

4.44. UKFPO will be responsible for arranging and delivering SJTs for applicants not from UK Medical Schools. These SJTs will be held in the UK.

4.45. There will be a UK-wide deadline by which all SJT scores must be loaded on the online system. It is currently assumed that Medical Schools will send copies of all answer sheets to MSC-AA, and that MSC-AA will be responsible for scanning the sheets and loading the results. However, other options will be considered during the project.

Selection

4.46. Once all SJT scores have been entered onto the online system, the existing selection rules will be applied to determine which eligible applicants are to be allocated a place on the Foundation Programme:

4.46.1. Eligible applicants with an unconditional right to work in the UK will be selected ahead of any others.

4.46.2. Subject to the rule above, higher scoring applicants will be selected ahead of lower scoring applicants.

4.46.3. Where a number of equally scoring applicants are competing for the last available places, the selection from among those applicants will be random. [To illustrate this, suppose there are 7,000 places and 7,050 applicants. Suppose that 6,990 applicants have scores of more than a certain value X, say. All of those applicants have been selected, leaving 10 places available for the remaining lower-scoring applicants. If 15 of these applicants all have the same score X, and 10 of them need to be picked to fill the remaining places, then the 10 will be picked at random.]

4.47. These rules will be implemented by the online system, which will identify those applicants who have been selected and those who have not.

Allocation to Foundation School

4.48. Each selected applicant will be allocated to a Foundation School according to a predefined set of rules (the allocation algorithm) which will take into account the scores and preferences of applicants, and the number of training places available at each school.

4.49. The allocation algorithm will have been defined, agreed with stakeholders, and tested as part of the usual work of UKFPO.

4.50. The allocation will be performed by the online system, following which each Foundation School will have online access to the application forms of its allocated applicants.

4.51. [In practice, allocation and selection are likely to be combined as a single process of the online system, but they are presented separately here for clarity.]

Matching to Posts

4.52. Once applicants have been allocated to a Foundation School, the Schools will be responsible for matching their allocated applicants to individual posts, and for communicating the outcome to applicants and employers.

4.53. Foundation Schools may implement their own local processes for matching; however, the results of the matching process must be entered onto the online system by the deadline specified in the timetable.

4.54. The arrangements for providing employers with access to the application forms will continue as is – namely, the Foundation Schools will be responsible for downloading the application details and transferring them securely to the relevant employing organisation.

Pre-Employment Checks

4.55. Employers will be responsible for liaising with applicants to complete pre-employment checks, making offers of employment and finalising employment contracts.

Reserve List Allocation

4.56. It is possible that issues will arise after matching that prevent individual vacancies being filled (eg applicants withdraw, or fail their finals or pre-employment checks). In such cases the UKFPO would expect to run two small allocation rounds through which any remaining applicants would be allocated to the unfilled posts using the scores and rules from the main round. If there are still unfilled posts after this, then employers will be responsible for recruiting to them directly without UKFPO involvement.

5. Scope and Exclusions

5.1. The detailed scope of the project is considered below under the following headings:

- Job Analysis
- Person Specification
- SJT
- EPM
- Modelling Weightings of SJT and EPM scores
- Algorithm
- CCA
- Online Application System
- Trials and Pilots
- Communications
- Evaluations, Legal Checks and Approvals.

Job Analysis

5.2. The project includes the commissioning and delivery of a structured analysis of the job of the Foundation doctor. The analysis will include a literature search, and interviews with employers, Foundation doctors, Foundation School Directors, educational supervisors and patient representatives. The outcome of the analysis will be justified recommendations about whether and how the Foundation Programme person specification should be updated, and corresponding recommendations for the factors to be taken into account by the design of SJT items.

Person Specification

5.3. The project may make recommendations for the update of the person specification in line with the findings of the job analysis. However the responsibility for implementing any changes to the person specification lies outside the project (with UKFPO).

SJT

5.4. The project includes:

- The design, development and verification of a suitable framework for the delivery of SJT for the purpose of selection. This includes: analysis of the requirements; the development of a test specification and sample tests, the development or purchase of software to permit item banking, distribution and analysis; the verification of the specification through piloting; training and guidance for test developers; scoring rules; procedures and facilities for storing, and distributing test items, and for delivering, marking, calibrating, and quality assuring tests including psychometric performance.

- Associated guidance for applicants for use in the pilots.

- The commissioning of expertise and services as required to support the above.

5.5. The project excludes the production of the live SJT and scoring rules for the 2012/13 round; this will be covered by a subsequent project to be run by UKFPO, based on the outcome of the pilots.

EPM

5.6. The project includes:

- The definition and verification of requirements and standards for the production of EPM for use in recruitment to the Foundation Programme.
- Liaison with all UK Medical Schools to ensure that the standards are workable and implemented.
- Liaison with some Medical Schools outside the UK to inform the development of the standards.
- The production of guidance for UK and non-UK Medical Schools.

5.7. The project excludes:

- The production of guidance for Medical Schools in languages other than English.
- Liaison with Medical Schools to ensure the availability of the EPMs for applicants for the 2012/13 round- this will be managed by UKFPO outside of the programme as part of their operational management of the round.

Models of Score Weightings

5.8. The project includes work to determine the respective weightings to be given to SJT scores and EPMs for the purpose of selection.

Algorithm

5.9. The project excludes any changes to the allocation algorithm.

Common Content of Assessment (CCA)

5.10. The project excludes the work associated with the extension of CCA to all Medical Schools, and its transfer from UMAP to MSC-AA; this will be separately managed by MSC.

5.11. The project does include the work required to ensure that the MSC-AA item bank (or an equivalent) can be used to create, store and distribute SJT test items and to support the analysis of item performance.

Online Application System

5.12. The project excludes the procurement of an online application service to support recruitment rounds from 2012/13; that will be the responsibility of a subsequent project run by UKFPO.

Trials and Pilots

5.13. The project includes:

- The piloting and assessment of the use of SJT and EPMs.

5.14. The project excludes:

- The running of live recruitment rounds, which will remain the responsibility of UKFPO.

Communications

5.15. The programme includes:

- Scheduled and ad-hoc reporting to the appropriate governance bodies (eg the four UK health departments).

- Consultation with stakeholders to define and confirm requirements.
- Liaison with participating Foundation Schools, Medical Schools, doctors and medical students to arrange, run and evaluate trials and pilots.
- Publication of information about the project, its objectives, its deliverables, and its progress, for stakeholders.

5.16. The project excludes liaison with individuals, employers, Foundation Schools, Medical Schools or applicants in connection with the running of live recruitment rounds, which will remain the responsibility of UKFPO.

Evaluations, Legal Checks and Approvals

5.17. The project includes:

- The production of evaluation reports.
- The production of a business case for implementation.
- Obtaining legal advice to confirm that the detailed arrangements are legally robust.

5.18. The production of any associated impact assessments will remain the responsibility of DH staff.

6. Constraints

6.1. The approach to the project is subject to the following constraints.

Timescales

6.2. The piloting of any changes must be scheduled to fit in with the timetables for the annual recruitment rounds, which are set each year by UKFPO.

6.3. The current contract for the ApplicationMMC service cannot be extended beyond the 2011/12 recruitment round; allowing time for approvals and reprocurement, this means that the Assessments project must deliver its final report by July 2011.

6.4. The timing of SJT tests must be scheduled to suit the pattern of electives across Medical Schools.

6.5. At least eight weeks notice will need to be given for project activities that require the time of clinical staff.

Legal Compliance

6.6. Any changes to the recruitment process must be in accordance with relevant UK and EU employment and right-to-work legislation, and with UK public law standards of reasonableness and fairness.

Standards

6.7. Any personal information collected through the programme must be held and processed in accordance with the Data Protection Act and guidance provided by the guidance provided by the Information Commissioner's Office.

Funding and Resources

6.8. Some of the development and quality assurance work will be performed by volunteers, with their time being provided to the programme free of charge by their employer. As a result the programme will have limited access to their time, and will not be able to call upon it at short notice. Typically, it can be expected that such working groups will be able to meet no more than once a month.

Approvals

6.9. The work is subject to the DH approvals processes.

7. Approach

7.1. This section defines the approach to project. It begins with an overview, then considers the main elements of work individually in the following order:

- Job Analysis
- SJT
- EPM
- Score Modelling

Overview

7.2. DH has commissioned MSC to implement the project. MSC in turn will commission some elements of the work from third parties.

7.3. A core team within MSC will be responsible for:

- All project deliverables, bar those to be outsourced (see below).
- Obtaining the necessary approvals for the project.
- Defining and maintaining the project plan.
- Managing risks, issues and progress.
- Reporting to the Project Board.
- Commissioning and managing sub-contracts.
- Managing project-level communications and relationships with stakeholders.
- Ensuring a smooth handover to UKFPO of the outputs of the project.

7.4. The following elements of work will be commissioned externally by the core team:

- The Foundation Programme job analysis.
- The development of the SJT, and the associated item bank arrangements.
- Advice about the relative weightings of SJTs and EPMs.
- Legal opinions and other specialised QA activities.

Job Analysis

7.5. The purpose of the job analysis is to identify:

- The professional attributes that should be considered in ranking applicants for the purpose of selection and allocation.
- The indicators of the attributes, and how these are to be tested.

7.6. The job analysis will be commissioned from Cambridge University. The core team will draw-up the requirements for the analysis for QA by representatives of the Project Group.

7.7. The job analysis is expected to include a literature search, and structured interviews with employers, clinical supervisors and Foundation Programme doctors. The output of the work is to be a report which will provide the information needed to inform the design of the SJT.

SJT

7.8. It is proposed that the arrangements for creating and managing SJTs should build upon the substantial work that has already been completed by the Universities Medical Assessment Partnership (UMAP) in building infrastructure and processes for the development and management of assessment tests. UMAP has a network of trained writers who draft assessment items at specially facilitated workshops, and a thorough quality assurance process for refining the drafts for incorporation in a national bank, from which test items are distributed to Medical Schools for use in finals. At present 16 Medical Schools participate in this scheme, but is has been agreed that all Medical Schools will do so in future, and the scheme will become owned by the Medical Schools Council Assessment Alliance (MSC-AA). It is proposed that this scheme should be used for the operational production of SJT, subject to the following developments:

- New training and guidance for item writers specifically for the SJT items, based on a specification for SJT.
- An increase in the number of trained writers to provide the additional capacity required. These item writers will have experience of working with FP doctors, and are likely to include, for example, Clinical Tutors and Medical School Directors of Education.
- Additional workshop, specially blueprinted to suit the SJT requirements.
- Developing QA arrangements to cover SJT.
- Changes to the software of the item bank to manage the SJT items separately from those for other assessments, and to allow test answers to be uploaded for analysis.
- New guidelines for the administration of SJT tests by Medical Schools.

7.9. The MSC will be responsible for managing the introduction of these changes, but will commission specialist expertise (expected to include Cambridge University and MSC-AA[3]) to deliver the following outputs and activities:

- The SJT test specification, including the test content, the criteria for setting/modifying test content, the item types and response formats, test length, scoring conventions, standards for rubric.
- The guidance and training materials for item writers.
- The QA of individual test items.
- Facilitation of the item writing workshops.
- The design of pilots and trials of the effectiveness of the SJT, and the associated analysis, reporting, and any subsequent revisions of the specification and guidance (arranging and managing the trials will remain the responsibility of MSC).

[3] From here in this document MSC-AA will be used to refer to MSC-AA or UMAP

7.10. The project team will draw-up the requirements for the specialist work, and negotiate contracts.

7.11. The sequence of the work will be as described below.

7.12. The test specification will be produced in draft, and subject to QA review.

7.13. An initial set of test items will then be produced by volunteers at workshops facilitated by the specialists. The workshops will be arranged by MSC. In preparation for the workshops, the specialists will produce draft guidance materials. The outputs from the workshop will include: comments from the participants about the quality of the guidance; draft test items; productivity metrics that can be used to plan operational item production.

7.14. The draft items will then be subject to a rigorous quality assurance process designed by the specialists. If necessary, the guidance materials will be updated to reflect any systematic issues found at this stage.

7.15. Further item-writing workshops will be held as required to produce sufficient items for an initial mini-pilot, the purpose of which is to assess the characteristics of the test are broadly suitable before investing effort in developing further items for a large-scale evaluation. In particular the mini pilot will be designed to assess:

- The time taken to complete the test.
- Whether the tests provide a good spread of results.
- Whether the rubric is sufficiently clear, and the format can be readily understood.
- Whether the test items are sufficiently unambiguous and appear to have face validity and fairness from the candidate perspective.

7.16. The mini pilot will be organised by MSC with the support of one or more Medical Schools, the final-year students from which will act as the candidates for the test. This pilot will also be extended to include applicants undertaking the clinical assessment as part of eligibility checks, thus including a number of non-UK applicants. [The detailed planning of the pilots would also consider the option of involving F1 doctors- this might be particularly relevant if there is a specific requirement for participants not from UK Medical Schools.] The venues for the test will be provided by the participating Medical Schools.

7.17. Subject to successful completion of the mini-pilot, further item writing workshops will be held as required to produce the materials for the main pilot. This will be on a larger scale, involving at least 4-5 Medical Schools. The purpose of the main pilot is to provide sufficient data to underpin a rigorous psychometric assessment of the SJT, specifically to confirm:

- The reliability of the test.
- The validity of the test in relation to the requirements of the Person Specification and the other findings of the job analysis.
- The fairness of the test in relation to the relevant legal requirements (eg the test should not systematically favour candidates by gender or ethnicity).

7.18. The pilot will also be used to test the administration procedures and guidance.

7.19. One output of the main pilot will be a detailed assessment report describing the manner in which the SJT provides a robust basis for selection to the Foundation Programme. This must provide sufficient evidence to convince stakeholders and must be completed by July 2011.The other main output will be a set of recommendations for changes to the banked test items, the test specification, or the guidelines.

EPM

7.20. The purpose of the EPM is to provide a standard framework by which Medical Schools can provide reliable scores for the clinical knowledge and skills of their students. The key outputs of the EPM work are:

- A definition of the standards to be satisfied by EPMs.
- Guidance for Medical Schools on how to implement the standards.
- The processes and templates to be used by Medical Schools to pass EPMs to the online application system.
- A standard declaration to be signed by heads of Medical Schools to conform that the EPMs are valid and have been produced in accordance with the standards.
- Guidance for applicants.

7.21. The development and introduction of the EPM standards will be managed by MSC, and will build upon the information gathered through a questionnaire sent to all UK Medical Schools to query the availability of quantitative information about the educational performance of applicants.

7.22. The responses to the questionnaire will be collated and analysed to identify a common subset of quantitative information that might be provided by all schools and be relevant to selection to the Foundation Programme. Based on the outcome of the analysis, MSC will produce an options paper for review, which will describe and assess the options that are consistent with the common subset. These might include, for example:

- The indicators from which EPMs should be derived- eg whether prizes should be taken into account.
- The use of a single score or multiple measures.
- The type of scores (eg quartiles, Z-scores, etc).

7.23. The draft will be issued to Medical Schools for comment, and legal advice sought.

7.24. In parallel with the review, the MSC will begin to draft the processes, templates, and associated guidance for Medical Schools. These will be subject to initial QA by members of the Project Group and issued in draft to the Medical Schools for comment.

7.25. The feedback from the review, and the comments received from the Medical Schools, will be collated by the MSC core team who will liaise with the Medical Schools to agree the resolution of issues associated with the comments, and for updating the draft products accordingly. Where the issues cannot be resolved they will be escalated first to the Chair of MSC, and then if necessary to the Project Board.

7.26. The new standards, templates and procedures are to be ready for initial trialling in the 2010/11 recruitment round, when they are to be used by Medical Schools to produce EPMs in parallel with the academic quartiles.

7.27. The MSC will obtain written agreement from all UK Medical Schools to the final version of the standard to be used from 2012/13 onwards.

Score Modelling

7.28. The purpose of the modelling is to determine how SJT scores and EPMs should be combined for the purpose of selection and allocation.

7.29. The modelling will be conducted by an appropriate specialist commissioned by UKFPO. The main inputs to the work are expected to be the Foundation Programme person specification, the SJT and EPM design criteria, and scores and outcomes from the earlier trials and previous live rounds. The output of the work will be a report showing the impact of different options for combining the EPM and SJT scores, and a recommended option. The paper will be subject to QA by members of the Project Group, and approval by the Process Project Board.

8. Products

8.1. This section lists the nigh-level deliverables from the project, broken down under the following headings:

- Project Management and Approvals
- Job Analysis and SJT
- EPM
- Scoring Rules
- Communications

8.2. More detailed product breakdowns will be produced on a stage by stage basis.

Product Category	Product Name	Notes
Project Management and Approvals		
	PID	
	Project Filing System	
	Risk Register	
	Action and Issues Log	
	Quality Log and product Checklist	
	Product Descriptions	Formal product descriptions will be produced for key products only.
	Communications Plan	Comms products relating to specific categories are itemised separately below
	Stage Plans	
	End Stage Reports	
	Highlight Reports	
	Checkpoint Reports	
	Project Board Meetings and Minutes	
	Project Closure Report	
	Business Case	A high-level business case will be produced for review at the end of each project stage. A more detailed business case will need to be produced to support the case for the procurement of a replacement online system.
	Evaluation Report	The report could be commissioned from an independent organisation or produced as a project assurance activity by user representatives.
	Legal Approvals	
SJT and Job Analysis		
	Requirements	To define the services and deliverables expected from Cambridge.
	Contract with Cambridge	
	Detailed plan for the work	This will be produced by the core team with input from the supplier.
	Literature study	
	Job analysis interviews and questionnaires	

Product Category	Product Name	Notes
	Job analysis report and recommendations	
	Recruited volunteers for item writing	Need to get a group of question setters.
	Draft specification of SJT	What skills are covered? How many questions? Marking scheme? Format of the answers, etc. Pass criteria. Realistic scenarios, unambiguous, relevant to NHS/F1, takes account of E&D agenda, test attitudes to E&D. What are the delivery arrangements- on paper or electronic? Number of questions, number of possible answers, duration of test. Is the test flat or an 'IRT' tree structure? Need to take account of differences in the structure of curricula across the Medical Schools
	Item writing workshops	
	Quality Assurance process	
	Specification for item bank	To define how the MSC-AA item bank will be used to store and distribute SJT
	Item banking arrangements	May need interim arrangements for the pilots pending the set-up of MSC-AA
	Training material for item writers	
	Initial pilot test	
	Arrangements for initial pilot	Who is involved, when will it happen, what are the deliverables, who is doing what, etc
	Initial evaluation report and recommendations	
	Updated materials and specifications	Assume the workshop materials and SJT specifications may need to be updated in the light of the learning from the pilot.
	Large pilot test questions	
	Large pilot evaluation report and recommendations	
	Sample tests and explanatory info for applicants	
	Live questions in bank for 2012/13	
	Common administration procedures	Security and safe storage, security escalation arrangements, how far apart the desks, Illness DNAs, special circs, spoiled papers, uploading scores, retention policy, appeals, fire alarms etc. Equipment needed, ID checks, invigilation standards, data prep (how do we ID students uniquely- nb MS student numbers unique if school prefix added, but overseas students might be an issue??) NB the procedures for uploading SJT results onto the online application system will be developed by the processes project. However, there needs to be an equivalent process for uploading results to the item bank to support future analysis. These two processes could be combined.

Product Category	Product Name	Notes
	Analysis and reporting requirements	A definition of the steps that will be taken to analyse the outcomes of the SJT.
	Analysis and report	The product of the requirements above.
EPM		
	Requirements	A formal statement of the requirements that must be satisfied by EPMs in order for them to provide a robust basis for selection
	Options paper	If there is more than one option
	Specification	A formal definition of the EPM standard.
	EPM template	The template for the delivery of EPMs. Assume this is a spreadsheet which contains EPMs linked to some ID of the applicant.
	Declaration	Form of words to be signed by head of Medical School to confirm that EPMs are valid.
	Delivery process	A written description of the process to be followed for providing EPMs for piloting. NB needs to cater for UK and overseas applicants.
	Guidance for Medical Schools	Explanatory information to ensure that Med Schools understand the requirements and processes for generating EPMs.
	Information for Applicants	Applicants will need to know how the EPMs are formed, who is responsible for providing them, etc
	Medical Schools workshop	Medical Schools will be invited to a workshop at which the EPM standards, requirements and processes will be explained. NB may need more than one workshop across the UK.
Scoring Rules		Modelling the EPM/SJT weightings
	Assessment Criteria	A written definition of the criteria that will be used to determine the optimum way to combine SJT and EPM scores.
	Analysis and recommendations	A report showing the effect of modelling different options, comparing these with the assessment criteria, and recommending the preferred option.
	Published rules	The formal definition of the overall score.
	Rationale	An explanation of the rationale for the scoring rules, which can be published to pre-empt queries and criticisms.
Communications		
	See Section 20	

9. Assumptions

9.1. This section lists the assumptions upon which the plan for the project is based.

Timescales

9.2. The new arrangements for selection and recruitment must all be introduced in time for the 2012/13 round. Allowing time for approvals and for the procurement and implementation of a new online system, the current project must be completed by the end of June 2011.

Test delivery

9.3. Applicants from UK Medical Schools will attend SJT tests arranged by their Medical School.

9.4. The SJT will be taken under invigilated conditions in the UK.

9.5. The UKFPO will be responsible for arranging the SJT for overseas applicants.

9.6. There will be a small number of nationally agreed dates, selected to avoid clashes with electives, upon which Medical Schools may schedule SJTs. The test items used in a given SJT sitting will be drawn randomly from a large bank of test items, to minimise the risk that questions leaked from the earlier sitting could give advantages to applicants taking the later sitting.

9.7. The duration of the SJT will be of the order of 2-3 hours.

9.8. The SJT items will ultimately be stored in the item bank provided by MSC-AA. Until the MSC-AA bank is available for storing SJT items, a temporary store will be built or purchased by MSC.

9.9. SJT items will be produced by trained volunteers, whose time will be provided gratis by their employer.

UK-Wide Approach

9.10. The new selection arrangements will continue to be provided on a UK-wide basis, with no requirement to support local variations over and above the degree of flexibility provided in the current arrangements.

Test Purpose

9.11. The purpose of the SJT is to support only selection and allocation: the tests are not required to provide diagnostic outputs to identify the development needs of applicants.

ApplicationMMC

9.12. There will not be a requirement for applicants, Medical Schools or Foundation Schools to use ApplicationMCC for the trialling of SJT and EPM.

9.13. There may be a requirement for ad-hoc data downloads from ApplicationMMC to support analysis. Such downloads will be obtained on a ‘business as usual’ basis by UKFPO.

The Selection Process

9.14. The selection process will be as described in Section 4.

Board Costs

9.15. The members of the Project Board and Project Group (excluding core team members) will contribute their time free of charge to the project. The project will pay for reasonable travelling expenses.

EPM

9.16. All UK Medical Schools will agree to provide the EPMs to the required standard and at no cost to the project.

Procurement

9.17. The procurement of the specialist services to develop the SJT will be conducted according to the MSCs normal practice for procurement, and will not be subject to EU procurement rules.

Scope

9.18. The scope is as defined in Section 5.

10. Dependencies and Interfaces

External Dependencies

10.1. The table below lists the activities or deliverables outside the direct control of the programme, upon which the success of the programme depends. It also identifies the escalation route to be used where issues arise in relation to the dependencies.

Owner	Dependency	Escalation
Medical Schools	Agreeing and implementing the EPM arrangements.	MSC Chair
Medical Schools	Participation in pilots.	MSC Chair
Medicals Schools	SJT administration.	Head of School
Methods Consulting Ltd	Cooperation in providing data (eg white space scores) from ApplicationMMC to be used in the analysis of SJT and EPM.	DH Contract Manager
DH	Funding, and timely sign-off of stages etc	SRO
DH	Obtaining approvals from other UK countries.	SRO
NHS employers and clinicians	Participation in SJT item writing at no cost to the project.	SRO
BMA and other professional organisations	Agreement to changes to the national recruitment process if recommended by results of pilot	SRO and MEE
Students and FP doctors	Participation in pilots	Heads of Medical Schools and Foundation Schools

11. Success Criteria and Evaluation

Success Criteria

11.1. The project success criteria are as follows:

11.2. **Completeness.** All of the project's products have been completed and accepted.

11.3. **Legality.** Legal advice has confirmed that the proposed approach is robust.

11.4. **Finances.**

11.4.1. The projected costs of implementing the new approach are affordable, and less than the costs of the current process.

11.4.2. The actual costs of the project are within the approved budget.

11.5. **Reliability and Validity.** The tests have confirmed that SJT and EPM provide a reliable and valid selection method.

11.6. **Practicality.** The project has confirmed that: it is possible to schedule and run the SJT for the expected numbers of applicants, taking into account the need to avoid electives; Medical Schools are able to provide EPMs to the required standard, and there is a satisfactory means of dealing with applicants that cannot provide EPMs.

11.7. **Buy-in.** The key stakeholders have confirmed their support for the approach, including:

- All Health Departments
- All Foundation Schools
- All Medical Schools
- BMA Medical Students Committee
- UKFPO
- COPMED
- NHS Employers
- General Medical Council
- Medical Royal Colleges
- Medical Education England
- General Medical Council.

11.8. **Robustness.** Piloting has shown that it is possible for Medical Schools to implement the SJT securely, taking into account the need to keep questions secret, to ensure the identity of the applicants taking the tests, and to mark the scripts correctly.

11.9. **Timeliness.** The key products have been delivered in good time for the start of the 2012/13 recruitment round.

11.10. **Sustainability.** It is possible to develop a sufficiently large number of SJT items to support selection over many years.

Evaluation

11.11. By July 2011 the proposed approach needs to be piloted and evaluated to give a firm basis for starting work on the requirements and approvals to procure a replacement online system. There will need to be a formal evaluation, starting around June 2011, to provide the necessary confidence in the way forward, specifically considering the following subset of the evaluation criteria:

11.12. The evaluation must confirm that the combination of SJT and EPM provides a valid and reliable method that can be practically deployed in a robust way for selection purposes,

11.13. The evaluation will include a legal review of the following:

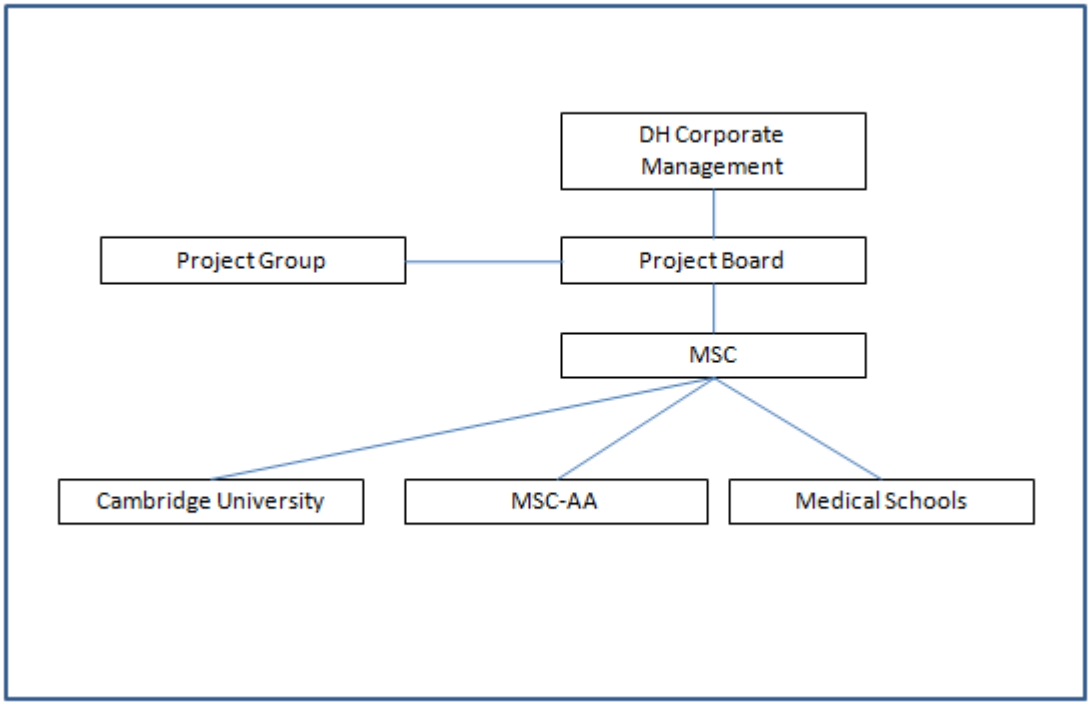
- The proposed selection process.
- The nature or the SJTs and the arrangements for delivering them.
- The standards and process for the provision of EPMs.

11.14. The Net Present Value of the proposed approach will be re-assessed and compared with the 'Do Nothing' option to ensure that the economic case for the project is still sound.

11.15. The evaluation must confirm that the programme is still on-track to deliver in good time for the start of the 2012/13 round.

12. Organisational Structure

12.1. The organisational structure of the project is illustrated in the diagram below.



12.2. The Project Board will be chaired by Patricia Hamilton, the Director of Medical Education in DH, who is the Senior Responsible Officer (SRO) accountable for the success of the work. The other members of the Project Board are listed below:

Wendy Russell	DH Policy Lead	
Lindsey Proctor	DH Project Manager	
Matthew Langham	DH Analytical Support	
Derek Gallen	Chair UKFPO	(Senior User)
Christine Outram	MEE Managing Director	(Senior User)
Paul O'Neill	Chair Project Group	(Senior Supplier)
Katie Petty-Saphon	MSC Executive Director	(Senior Supplier)

12.3. Project assurance and stakeholder representation will be provided by the Project Group, chaired by Professor Paul O'Neill, which includes representatives of the following organisations:

- The four health departments
- Medical Schools
- Foundation Schools
- NHS Employers
- British Medical Association
- General Medical Council

- The UKFPO

12.4. A core team within the Medical Schools Council (MSC) will be responsible for the performance of the work, and for managing the input from Medical Schools and the two main sub-contractors Cambridge University and MSC-AA.

13. Activity Plan

13.1. This section presents a high-level activity plan for the project, beginning with an assessment of the critical path.

The Critical Path and End Date

13.2. The end date for the project is determined by the need to validate the proposed selection process to a sufficient degree to allow legal advice to be sought and approval to be given to procure, develop and test a new online application system in time for the 2012/13 round (note that the contract for the current system can only be extended until June 2012). Given this, the final evaluation report from the project needs to be submitted around July 2011.

13.3. The critical path is mainly determined by the SJT development, and can be identified by working back from the final report as follows:

13.4. The final report cannot be completed until the main pilot has been run and the outcomes analysed.

13.5. The main pilot cannot be run unless the SJT is ready to be piloted.

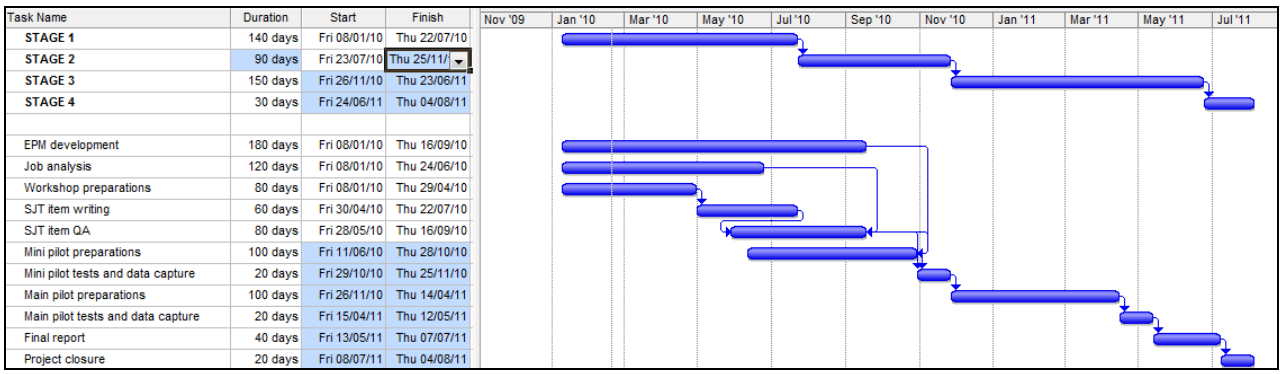
13.6. The SJT needs trialled on a small scale basis to ensure it is ready for piloting.

13.7. The small scale trial cannot be run until an initial set of SJT items has been drafted and quality assured.

13.8. The SJT items cannot be drafted until the item-writers have been trained.

13.9. The item writers cannot be trained until they have been recruited, the training sessions scheduled, and the training materials produced.

13.10. The overall timeline is illustrated below.



Task Name	Duration	Start	Finish
STAGE 1	140 days	Fri 08/01/10	Thu 22/07/10
STAGE 2	90 days	Fri 23/07/10	Thu 25/11/
STAGE 3	150 days	Fri 26/11/10	Thu 23/06/11
STAGE 4	30 days	Fri 24/06/11	Thu 04/08/11
EPM development	180 days	Fri 08/01/10	Thu 16/09/10
Job analysis	120 days	Fri 08/01/10	Thu 24/06/10
Workshop preparations	80 days	Fri 08/01/10	Thu 29/04/10
SJT item writing	60 days	Fri 30/04/10	Thu 22/07/10
SJT item QA	80 days	Fri 28/05/10	Thu 16/09/10
Mini pilot preparations	100 days	Fri 11/06/10	Thu 28/10/10
Mini pilot tests and data capture	20 days	Fri 29/10/10	Thu 25/11/10
Main pilot preparations	100 days	Fri 26/11/10	Thu 14/04/11
Main pilot tests and data capture	20 days	Fri 15/04/11	Thu 12/05/11
Final report	40 days	Fri 13/05/11	Thu 07/07/11
Project closure	20 days	Fri 08/07/11	Thu 04/08/11

Staging

13.11. In line with good practice the project will be run in stages. Each stage, bar the final one, will include the production of a detailed plan for the next stage in line, so that more detailed plans will be signed-off on a stage by stage basis as each project progresses.

13.12. Each stage will include fortnightly checkpoint meetings and bi-monthly project board meetings.

13.13. To ensure continuity and minimise unnecessary delays, project work will continue in parallel with end-stage approvals, rather than being suspended while approvals are sought. For the same reason, minor tasks associated with one stage may be scheduled to start near the end of the preceding stage, in effect anticipating approval. However, no major commitments will be made to continue work beyond the end of a stage. In particular, the contracts for externally commissioned work should contain appropriate breakpoints to allow for the possible premature closure of the project at each stage boundary.

13.14. The stages will be as follows:

- Stage 1- Set-up, Analysis and Design. January 2010 to July 2010.
- Stage 2- Initial Pilot. August 2010- December 2010.
- Stage 3- Main Pilot and Report January 2011 to July 2011.
- Stage 4- Closure July 2011 to August 2011.

13.15. These stages are described in turn below.

Stage 1- Set-up, Analysis and Design. January 2010 to July 2010.

13.16. In this stage the project will be set-up, the Foundation Programme job analysis will be completed, an initial version of the SJT specification will be prepared, and draft EPM standards and guidance will be developed.

13.17. **Set-up.** The key project controls- PID, risk register, meeting schedules, action log, communications plan, etc- will be set-up by the project team.

13.18. **Job analysis.** The requirements for the work will be drafted by MSC and subject to review by representatives of the Project Group. Cambridge will be responsible for planning and managing the work, which will be subject to fortnightly reviews with the core team. Four months have been allowed for the performance of the work and the production of a report, with a subsequent month for the report to be considered and accepted by the Project Group and Project Board.

13.19. **SJT.** Again the MSC will be responsible for the development of requirements for review by representatives of the Project Group. Five months have then been allowed for the initial design work and the production of a first set of SJT items for initial pilots. The SJT work can start in parallel with the job analysis, but some time must be allowed after the job analysis has been completed for further changes and refinements to the SJT design.

13.20. **EPM.** The responses to a questionnaire issued to Medical Schools will be used to determine what information they hold that could be used for constructing an EPM. The responses to the questionnaire will be analysed to scope the possibilities for the design of an EPM, and an options paper will be published for consultation. In parallel with that consultation, work will begin on drafting the guidance and processes that will be followed by Med Schools when they produce EPMs. It is assumed that most of the products will be developed in an iterative way, with successive drafts being subject to review (rather as the UKFPO Rules Group manages its work presently).

Stage 2- Initial Pilot. August 2010 to December 2010.

13.21. In this stage: some Medical Schools will produce EPMs in parallel with quartiles, as the basis for assessing the validity of the standard and associated guidance; the SJT will be trialled on a small scale at one or two Medical Schools.

Stage 3- Main Pilot and Report. January 2011 to July 2011.

13.22. In this stage: the SJT will be piloted on a larger scale, with around 10 Medical Schools; legal advice will be sort in relation to the detailed arrangements for SJT and EPM; the evaluation report will be produced.

Stage 4- Closure. July 2011 to August 2011.

13.23. In this stage the project will be closed down, and work handed over to the UKFPO.

14. Resources and Funding

Budget and Funding Summary

14.1. . The table below summarises the expected costs for the project, broken down by financial year:

Project Costs (£ex VAT)

Category	2009/10	2010/11	2011/12	Totals
SJT specialists and job analysis	£100,000	£325,000	£150,000	£575,000
MSC-AA manpower and software development	£10,000	£400,000	£200,000	£610,000
Working groups T&S	£8,550	£49,200	£14,250	£72,000
Med School pilot expenses	£0	£232,500	£0	£232,500
Legal Advice	£0	£20,000	£30,000	£50,000
Independent Review	£0	£20,000	£20,000	£40,000
Communications	£0	£75,000	£25,000	£100,000
Project team	£131,200	£393,600	£164,000	£688,800
Contingency	£100,000	£0	£0	£100,000
Project totals	**£349,750**	**£1,515,300**	**£603,250**	**£2,468,300**

14.2. An indicative breakdown by Stage is as follows:

Project Costs (£ex VAT)

Category	Stage 1	Stage 2	Stage 3	Stage 4
SJT specialists and job analysis	£250,000	£150,000	£150,000	£25,000
MSC-AA manpower and software development	£135,000	£300,000	£150,000	£25,000
Working groups T&S	£32,100	£17,100	£19,950	£2,850
Med School pilot expenses	£0	£22,500	£210,000	£0
Legal Advice	£0	£10,000	£40,000	£0
Independent Review	£0	£10,000	£30,000	£0
Communications	£25,000	£25,000	£25,000	£25,000
Project team	£300,000	£150,000	£206,000	£32,800
Contingency	£100,000	£0	£0	£0
Project totals	**£842,100**	**£684,600**	**£830,950**	**£110,650**

14.3. The items in the summary tables are explained in more detail below.

SJT Specialists and MSC-AA Manpower and Software Development

14.4. These headings cover the cost of the specialist resource responsible for devising, producing and validating the SJT. The costs are based on a quotation provided by Cambridge University, and indicative figures provided by UMAP. Specifically, the costs are intended to cover:

- The completion of the job analysis.
- The initial definition of the SJT specification.
- The training of item writers.
- Facilitation of workshops for item writing.
- Devising and managing the process for the QA of SJT items.
- The production of test items.
- Any necessary technical modifications to the item bank to support SJT.
- The development of the pilot strategy, and of the guidance for pilot participants.
- Provide the item banking service for the pilots.
- The evaluation of the pilots, and subsequent refinements of the test definition.

14.5. There is considerable uncertainty around the cost and timing of the work required to ensure that the item bank is suitable for use for SJT. The figures provided should therefore be considered as a prudent allowance- they are not based on detailed bottom-up estimates.

Legal Advice

14.6. The costs for legal advice are those to be incurred by MSC in relation to verifying the legality of the proposed changes to the selection process, once these have been defined in more detail. The costs have been estimated by extrapolating the actual costs incurred for earlier advice relating to the recommendations of the FPSG.

T&S

14.7. The travel and subsistence costs have been estimated from the assumptions shown below.

- The Project Board will meet every other month.
- The Project Group will meet every month.
- The checkpoint meetings will not be face-to-face.
- The project will pay T&S for volunteers attending item writing workshops, there being a total of 100 attendances.
- An allowance of 10 attendances a month has been made for ad-hoc meetings (eg formal reviews for quality assurance).
- The individual T&S costs will vary between £300, say for travel from Manchester to London, to £0 for locally-based participants, with the average being £150 per participant.

14.8. The effect of these assumptions is shown in the table below:

T&S Costs	2009/10	2010/11	2011/12
Project board attendances per month	4	4	4
Project group attendances per month	10	10	10
QA meeting attendances per month	5	5	5
Active months in the year	3	12	5
Total attendances for routine meetings	57	228	95
SJT workshop attendees		100	
Total attendees	57	328	95
Average cost per attendee	£150	£150	£150
Total cost	**£8,550**	**£49,200**	**£14,250**

Medical Schools

14.9. The costs payable to Medical Schools for their participation in the pilots have been estimated by comparison with the actual costs incurred by Foundation Schools in administering the marking of white space questions. It is assumed that:

14.10. Each of the 31 Medical Schools will hold one substantial SJT test as part of the piloting.

14.11. The effort required will amount to 10 days of administrative time and 5 days of management time per SJT test per Medical School.

14.12. The cost of the venue for the test will average £3,000 per Medical School.

Communications

14.13. The costs for communications are based on detailed estimates presented separately in the project communications plan.

MSC Core Team

14.14. Estimates for the resource requirements for the MSC core project team have been produced on a 'bottom-up basis' from estimates for individual products listed in Section 8.

15. Project Controls

15.1. The controls to be applied for the management of the project will be a sub-set of PRINCE 2 as defined below.

Business Case

15.2. A high level business case will be produced by the project team for approval by the Project Board. The business case will be revisited at the end of every stage to ensure that there is a valid basis for proceeding to the next stage.

Stages

15.3. The project will be run in stages, with each stage subject to Project Board approval to proceed.

Products

15.4. The planning and controls will be product-based. There will be a master product list, maintained by the project team, showing the status of all planned and delivered projects. Product descriptions will be produced for the most important deliverables, as agreed by the Project Board.

Quality Management

15.5. The quality management approach will be as defined in Section 16.

Project plans

15.6. There will be a high-level plan identifying the timeline for the project overall, and for the stages.

15.7. There will be separate detailed plans for each of the stages within the project.

15.8. The plans will include formal definition of tolerances within which the project team has delegated authority- any planned or expected changes that breach the tolerances will be the subject of exception reports requiring Project Board approval.

Communications Plan

15.9. The project team will produce a detailed communications plan for approval by the Project Board. The plan will be reviewed at least at the end of each stage.

Project reporting

15.10. Project highlight reports will be produced monthly, to an agreed standard format, by the project manager and distributed to members of the Project Board for information.

15.11. Exception reporting will be used to raise and manage events that cannot be managed within the tolerances of the Project.

15.12. End stage reports will be produced at the end of each project stage for Project Board approval.

15.13. An End of Project report will be submitted to the members of the Project Board during the final month of the project. The report will cover the achievement of the project's objectives, performance against planned target time and cost, and recommendations for dealing with any outstanding issues.

Meetings

15.14. **Project Boards**. The Project Board (which will contain business, user, and supplier representatives) will meet at least quarterly to assess the progress of the project and provide

any decisions or direction required by the project manager. Board meetings will also consider any exception reports.

15.15. **Checkpoint meetings**. The core project team will meet fortnightly to review progress against plan, agree forward actions, deal with risks and issues, and prepare reports for the Project Boards. The checkpoint meetings might be held by conference call to reduce travel costs.

Actions and Issues

15.16. The project manager will maintain a joint log covering all issues and actions agreed between the core team and the workstream leads (note it is not intended that the log should include actions or issues that arise within the externally commissioned workstreams).

Risk Management

15.17. There will be a risk register for the project.

15.18. The risk register will be updated monthly and reviewed at the project board meetings.

15.19. Each risk will have a business owner at project board level accountable for ensuring that the proposed mitigation/management actions are appropriate and progressed.

15.20. The key risks are considered in Section 19.

Change Control

15.21. Requests for change relating to externally commissioned work will be managed as follows:

15.22. Once a new requirement becomes apparent, at the request of the project manager the relevant workstream leads will produce recommendations for how to deal with the new requirement (where this is not already clear), with an assessment of the likely impact on costs, risks and timescales. The project manager will determine, through reference to the Project Board as required, whether the change should be implemented, and if required will ask the workstream lead to produce a contract change note (CCN) for approval by the Project Board.

15.23. The CCN will include:

- A brief description of the change.
- Any additional charges.
- The detailed impact of the change, in terms of requirements, deliverables, timescales, documentation, staffing and dependencies.

15.24. The CCN will become effective when signed by the project manager (following Project Board approval) and the workstream lead. Where a significant amount of work is required to produce recommendations and assess the impact of a change, then by agreement this will charged through a separate CCN.

Lessons Learned

15.25. The End Stage Reports will consider lessons learned from each stage, and make recommendations as required for building upon them in subsequent stages.

16. Quality

16.1. This section defines the responsibilities for quality and quality assurance, the project-level quality expectations, and the management methods to be followed.

Responsibilities

16.2. The Project Board is responsible for quality. The Project Board will delegate quality assurance for certain products to specialists or user representatives who will be independent of the individuals or organisations responsible for the delivery of those products.

Overarching Quality Expectations

16.3. The changes to be made to the selection process must:

- Be robust, transparent, valid, reliable, fair and effective.
- Be properly trialled, so that their effectiveness can be judged on evidence acquired through practical use.
- Comply with all applicable legislation and standards.
- Be subject to independent evaluation and scrutiny, including a review of legal compliance, and of the data security arrangements.
- Be sufficiently scaleable to cope with likely fluctuations in numbers of applicants and posts.
- Be capable of supporting recruitment rounds from 2012/13 until at least 2016/17.
- Satisfy the expectations established in the cost benefit analysis that formed part of the options appraisal undertaken by MSC on behalf of DH.

Quality Methods

16.4. The applicable quality methods will be specified on a product by product basis within the relevant stage plans. Typically these methods will be some combination of the following options:

- Informal review
- Formal review
- Scripted acceptance testing
- Trialling
- Legal check.

16.5. These methods are described in turn below.

16.6. **Informal Review.** In this method, the draft product will be distributed to reviewers, typically by email, for them to review individually against the relevant quality criteria. The product owner will collate and respond to the comments from the individual reviewers, liaising with the reviewers as necessary to clarify concerns and agree their resolution. The response to the comments will be in writing. Once the reviewers have agreed to the written responses, a further version of the product will be produced with the necessary changes incorporated. Where agreement cannot be reached, or the concerns raised appear to conflict with the quality criteria, a project issue will

be raised. The review comments and responses will be filed. This will be the default method for reviewing documents.

16.7. **Formal Review.** This will be as per the informal review except the reviewers will go through their comments and concerns together in a chaired meeting at which the resolution of issues will be agreed. This method will be used for the review of documents in cases where the issues to be addressed are likely to be complex or the subject of conflicting views.

16.8. **Scripted Testing.** This method will be used to quality assure software and systems for user acceptance purposes (i.e. in additional to earlier testing undertaken by the producer). Test scripts will be produced to cover the expected behaviour of the product. Testers following the scripts will compare the actual characteristics of the product with the expected characteristics and record any variances, which will be graded by severity according to an agreed specification. The testing will be subject to a test plan which will define:

- The timing and location of the tests
- The selection and briefing of testers
- The arrangements for supporting the testers
- The requirements for test datasets and environments
- The arrangements for recording, and reviewing test results, for correcting defects and re-testing, and for reporting outcomes for final sign-off.

16.9. **Trialling.** This method will be used for quality assuring systems, processes, and the tests to be undertaken by applicants. As with the scripted acceptance testing, volunteers will conduct trials following written instructions, in accordance with a defined test plan, the outcome of the trials being recorded and compared with the expected results or other quality criteria.

16.10. **Legal Check.** Certain end products of the programme will be subject to professional legal scrutiny to ensure compliance with law and to assess the risk of legal challenge.

17. Project Tolerances

17.1. All changes or developments that may lead to the inability of the project to meet the key milestones shown below must be escalated without un-necessary delay to the Chair of the Project Board.

17.2. The project team has delegated authority to make changes that will not:

- Increase overall costs.
- Materially increase the overall risk of completion.
- Delay the achievement of key milestones.

17.3. Any such changes should be notified to the Project Board through the highlight reports.

17.4. The key milestones are as follows:

Milestone	Date
Completion of job analysis	August 2010
Initial pilot	November 2010
Main pilot	April 2011
Final report	July 2011

18. Communications

18.1. There is a separate communications plan for the project.

19. Risks

19.1. The project risk register is separately documented in the highlight reports provided to the Project Board.