General Medical Council

Medical school assessment data collection – consultation paper

Summary

The GMC has statutory regulatory responsibility for the standard of medical education in the UK. One of the GMC's core functions is to ensure that undergraduate education continues to maintain high standards. It also co-ordinates all standards of medical education and training so that from the point of application to medical school, through undergraduate education and postgraduate training, medical practitioners are trained to meet the requirements of the profession.

The GMC believes that in order to carry out its functions effectively, it has to be able to conduct and commission research into various aspects of medical education. A key part of this approach has been the success of the UK Medical Education Database (UKMED) project launched in 2012.

We now hope to improve our – and the wider sector's – understanding of medical education by acquiring more detailed data about how medical students progress during their undergraduate degree, to facilitate research such as assessing how predictive undergraduate assessments are of postgraduate outcomes.

We held a series of workshops with medical schools so that we could understand more about how schools hold undergraduate exam data, and the options for providing these data to the GMC using the HESA return.

We recognise that any additional data collection brings an operational cost but in this paper we are setting out what we think is a fair and efficient way to collect a dataset which will make a significant contribution to our statutory functions and inform an understanding across the sector about where resource and improvement initiatives should be targeted.

Background

Why does the GMC need this data?

1 The GMC is acquiring these data in order to carry out its statutory functions under the Medical Act 1983. These include a general function of "promoting high standards of medical education and co-ordinating all stages of medical education", which is set out in section 5 of the Act.

2 Inclusion of undergraduate assessment data has been a long-term objective of the UK Medical Education Database (UKMED) since its inception. Analysis would open long-term future opportunities to evaluate changes in medical education allowing researchers to explore the relationship between performance at undergraduate and postgraduate level.

3 Medical Royal Colleges currently provide equivalent postgraduate data to UKMED, and researchers have already demonstrated the utility of these scores for assessing predictive validity of both medical school aptitude tests sat on entry to medical school, and measure of attainment in medical school. Researchers could explore whether medical school assessments offer predictive validity of later outcomes such as postgraduate performance, or fitness to practise.

4 Collection of a UK-wide dataset would allow national level analysis of differential attainment in undergraduate assessment. Central analysis would be more efficient and informative than conducting individual analyses at school level – saving considerable resource across schools, and potentially enabling insight before the point of graduation.

5 In the long term, assessment data would help us evaluate the MLA. For example, comparing students' results in the applied knowledge test against their assessment performance throughout medical school would allow us to gauge its reliability.

6 The UKMED Advisory Board* is fully supportive of obtaining undergraduate assessment data. A letter of support for this data collection from Professor Jon Dowell, Chair of the UKMED Research Subgroup, can be found at Annex 2.

* The UKMED Advisory Board. This has representation from the following organisations: Academy of Medical Royal Colleges, BioMedical Admissions Test, British Medical Association Medical Students Committee, Conference of Postgraduate Medical Deans, General Medical Council, Graduate Australian Medical Schools Admissions Test, Health Education England, Higher Education Statistics Agency. Medical Schools Council, NHS Education for Scotland, Northern Ireland Medical & Dental Training Agency, UK Clinical Aptitude Test, UK Foundation Programme Office, Wales Deanery.

Benefits for schools

7 Some schools told us that they would find value in having access to a UKMED dataset based on linking their assessment data to other UKMED data such as royal college exam results for their students without applying for a UKMED research extract. The specification of these data is still to be confirmed but the GMC is happy to explore this option further. Access to the data would be on the same terms as UKMED researchers – it would be made through the Safe Haven virtual environment and any outputs would be subject to disclosure controls to prevent identification, but there would be no requirement to have a UKMED research proposal approved.

UKMED governance

8 The main value of the assessment data will come from its inclusion in UKMED. This will allow the GMC to combine applicant, undergraduate, and postgraduate data to provide a rich dataset covering all stages of medical education.

9 Schools can be reassured that data protection is central to the UKMED process. The full dataset is held securely by the GMC. Data is only released in the form of pseudonymised research extracts for research approved by the UKMED Advisory Board.

10 Some attendees at our workshops expressed concerns that their Assessment data could be misunderstood or misinterpreted by UKMED researchers. We would be keen to ensure UKMED and the GMC are guided by school Assessment leads when interpreting their data. We will discuss with the UKMED Advisory Board and the MSC Assessments Leads how best ensure to ongoing engagement between UKMED and school assessment leads, so that UKMED projects using school assessment data benefit from this oversight.

How have we developed our proposals?

11 The GMC and HESA held a series of workshops with universities, which were typically attended by a mixture of staff from the medical school and the central records team. We are grateful to colleagues for their time and advise.

12 The workshops included discussions on different possible approaches to returning assessment data. Schools were understandably concerned about the pressures this new data collection would put on their resources, especially at a time of changes surrounding the MLA and Data Futures. The feedback we received at the workshops has been invaluable in helping us to shape this revised proposal.

Proposed data collection

Scope of data

13 At the workshops we presented two main options for the scope of data to be collected. We accept that it would not be practical for the schools to provide assessment data at item and station level. Instead, we are asking schools to return overall scores for summative assessments (all those that enable a student to pass to a subsequent year or attain a PMQ) for all years of the course.

14 To fully assess the feasibility of this we shall consult in July. The consultation will be run in conjunction with HESA and will request the following:

- The names of the assessments used to determine progression by year of programme within the medical school.
- The names of the modules/assessments/components that are returned to the central system. If the school currently returns an overall module mark which includes the mark for a written paper and an objective structured clinical examination (OSCE) we would prefer separate total marks for the written paper and the (OSCE).
- Where possible – details of what is returned for each of the assessments. We recognise that for some assessments there is no mark, for example one school listed the following assessments Assistantship CASE reports and Professionalism as pass/fail only. Some schools are only returning a pass/fail to their central system, but scores are available within the medical school.
- How to capture the pass mark for each assessment.
- Whether the collection of the total score, the pass mark, the number of stations the candidates sat, and the number of stations passed will suffice for capturing what determines progression following an OSCE.
- How schools capture adjustments, for example a student having extra time on the exam due to a learning disability.
- How schools capture number of attempts.

15 We also hope to develop a process that will ensure new assessments and changes to assessments are captured.

16 Some central teams were concerned that the school assessment datasets would be too complicated for them to validate. We would agree that beyond checking that each

student either has the expected assessment scores for their year (i.e. their student course session in the HESA Data Futures model) or a reason for no score such as illness it would be too complex for central teams to validate further as they would require detailed documentation on the permitted format of the score for each exam. This will not be expected. We would, of course, expect schools to ensure the data submitted to the central team are correct and have been checked, but we assume some of this checking already occurs prior to informing central teams which students are progressing. The GMC is happy to receive the data knowing this and will use its own resources to validate the data for use in UKMED.

17 A proposed data specification can be found in Annexe One of this document.

Collection process

18 The GMC's preferred option is for assessment data to be returned via HESA. We hope that this will also benefit schools, by minimising the number of data submissions they have to make throughout the year.

19 HESA's 3rd reference period (April to July of the academic year) is likely to be the most appropriate point to return these data. However, we are still looking at how this would work in practice, and how to address issues such as resits that take place after submission.

20 Several schools told us at the workshops that including assessment data in their HESA returns for the 2020/21 academic year would not be possible because of the resource implications. However, it was also suggested that it might be possible for schools to submit exam record spreadsheets directly to the GMC.

21 We are proposing to use 2020/21 as a transition year, with schools submitting spreadsheets to the GMC while preparations for a HESA return are underway.

Next steps

What the GMC will do next

22 We will consider all feedback received during the consultation and are aiming to confirm a specification for the assessment data in autumn 2019. We will also confirm whether we expect to collect the data directly from schools or through HESA, and in which years.

23 The GMC and HESA would be grateful if two or three schools could volunteer to test the July consultation form in early July and the process for completing the interim 2020/21 spreadsheet return in late 2020.

Annexes

Annexe 1 Assessment Data Model for Total Scores

24 Based on schools' feedback on what is feasible within the timescales we have revised the proposed data set to only include outcomes for summative assessments.

25 We would like assessment data returned for all summative assessments that lead to a Primary Medical Qualification: COURSEAIM = M16, H16, I16 (in Data Futures this would be where QUALCAT = M0003, H0003 or I0001 and where the ACCREDITATIONID = 05901).

26 Assessments for intercalated degrees are not included.

27 For maximum utility we would prefer to capture all summative assessment data from year 0 or year 1 onwards. By summative assessments we mean any assessments that are used to determine whether a student can progress to their subsequent year of study or an assessment that is used to determine whether a student is awarded a primary medical qualification.

28 Data are at the level of assessment if a school currently return data that indicates successful completion of an academic year, where successful completion is determined by multiple assessments we will need the total scores for each summative assessment returned.

29 The Assessment table has been revised since the proposal was discussed at the workshops:

29.1 it has been confirmed that the MLA Applied Knowledge Test (AKT) will be set and marked by GMC so MLAAKT has been removed.

29.2 Schools stated that some assessments only have a pass/fail outcome, so a flag has been included to indicate where that is the case.

Assessment

30 This table describes each summative assessment used by the school to determine whether a student progresses or obtains their qualification. Some fields are only required for Clinical and professional skills assessment CPSA type assessments. The CPSA is the final, high stakes performance assessment, irrespective of format (e.g. OSCE, OSLER, MOSLER, PACES), or sitting (e.g. main exam, resit/reassessment).

Field	**Description**
ASSESSID	Id for assessment. Some version control will be required if assessments are changed and require a new ID.
ASSESSNAME	The school's name for the assessment
ASSESSTYPE	Classification of assessment purpose against a pre-defined list with only one value possible. This list might include the following: Modular End of year End of phase Progression
MLACPSA	Percentage contribution of the assessment to the overall MLACPSA assessment. If the MLACPSA includes more than one school assessment, then the value will be less than 100. Some assessments particularly in the earlier years will be summative but will not count to the MLACPSA so the value will be 0.
ASSESSDESCRIP	School's description of assessment. University controlled free text.
ASSESSYEARPROG	The year of the student's programme the assessment is sat.

Field	Description
MANDATORY	Do all students on year of programme sit this assessment?
TOTALSCOREMETHOD	For practical assessment of clinical and professional skills only. Method for deriving standard score – e.g. Is the standard error added to the total score? Is negative marking used?
SCORETYPE	Possible values could include: Raw score Percentage University alphanumeric grade.
PASSFAIL	Flag to indicate assessment only has a pass/fail recorded
STANDARDSETTING	For practical assessment of clinical and professional skills only. A HESA coding frame will be developed to include items such as Standard setting method used, for example: Angoff, Borderline, Relative, Holistic
YEARSTART	The first academic year the assessment was used.

Field	Description
YEAREND	The last academic year the assessment was used.

Passmark

31 This table captures pass marks where they vary by date for a given assessment.

Field	Description
ASSESSID	Id for assessment. Some version control will be required if assessments are changed and require a new ID.
DATEASSESSMENT	Date student sat assessment
EXAMPASSMARK	Pass mark for sitting to allow calculation of score relative to pass.
MAXSCORE	Maximum possible score – to allow scores to be converted to percentage if required.
STATIONREQ	Number of station passes required to pass exam. Only applicable to clinical exams.

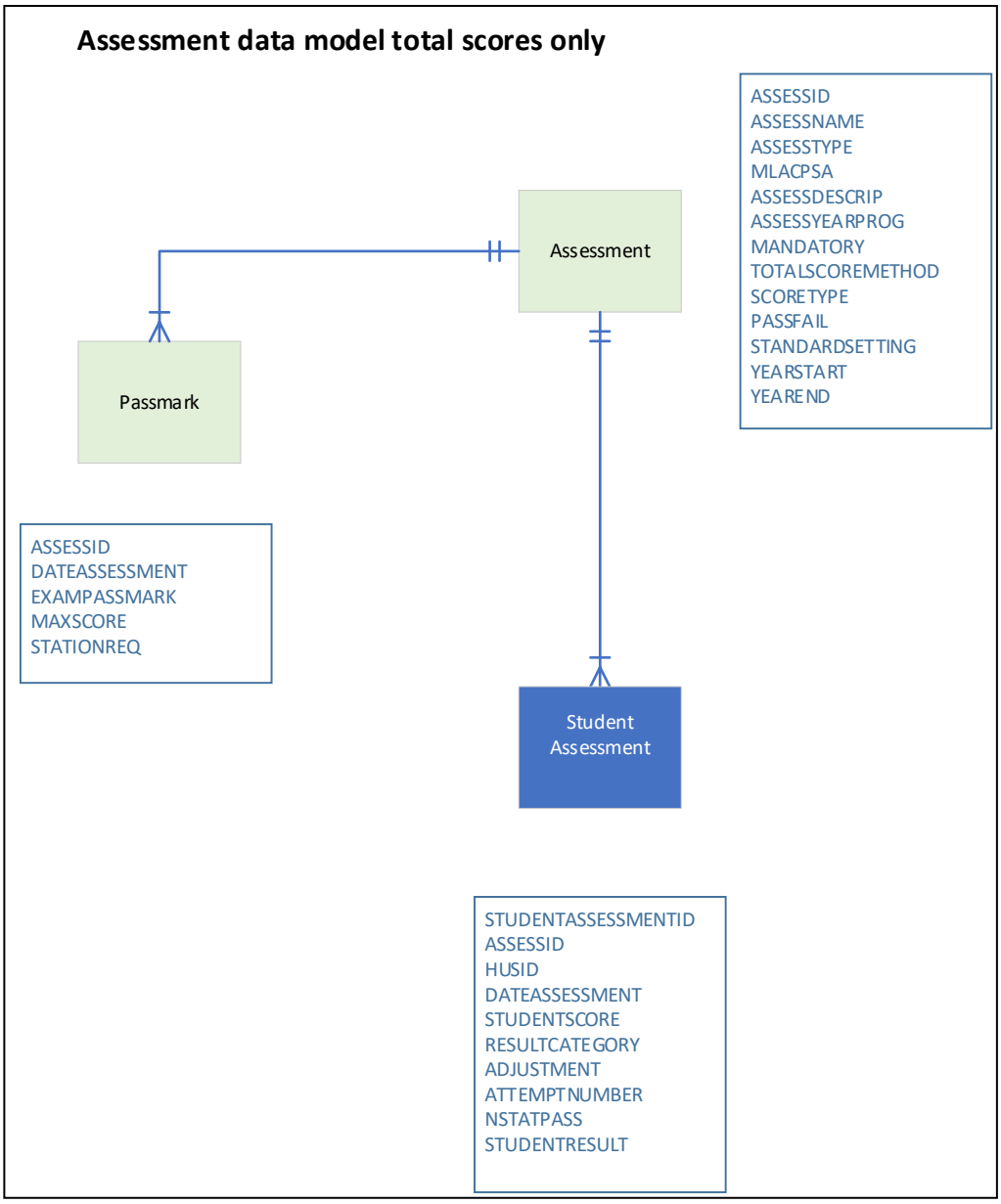
Student Assessment

This table contains summary scores for both knowledge and clinical assessments. Some fields are only applicable to clinical assessments.

Field	Description
STUDENTASSESSMENTID	Id for this student on this assessment.
ASSESSID	Assessment identifier
HUSID	Student identifier
DATEASSESSMENT	Date student sat assessment

Field	Description
STUDENTSCORE	Student's overall raw score on assessment or total score for all stations on a clinical exam or university alphanumeric grade
RESULTCATEGORY	Type of result category: Borderline, Distinction etc.
ADJUSTMENT	Details of any adjustment the student had whilst sitting the exam, for example the amount of extra time.
ATTEMPTNUMBER	Whether this was the student's 1st, 2ndetc attempts at the exam. Attempt number may be reset following an appeal/mitigating circumstances. ATTEMPTNUMBER will indicate whether the attempt was a resit.
NSTATPASS	Total number of stations passed, if applicable. (OSCE only)
STUDENTRESULT	For clinical exams a pass may be based on the STUDENTSCORE greater than or equal to the EXAMPASSMARK AND NSTATPASS (the number of stations passed) being greater than STATIONREQ.

Figure 1


Assessment data model total scores only
ASSESSID
ASSESSNAME
ASSESSTYPE
MLACPSA
ASSESSDESCRIP
ASSESSYEARPROG
MANDATORY
TOTALSCOREMETHOD
SCORETYPE
PASSFAIL
STANDARDSETTING
YEARSTART
YEAREND
Assessment
Passmark
ASSESSID
DATEASSESSMENT
EXAMPASSMARK
MAXSCORE
STATIONREQ
Student Assessment
STUDENTASSESSMENTID
ASSESSID
HUSID
DATEASSESSMENT
STUDENTSCORE
RESULTCATEGORY
ADJUSTMENT
ATTEMPTNUMBER
NSTATPASS
STUDENTRESULT

Annexe 2 Letter from Professor Jon Dowell

UKMED
UK medical education database

Professor Jonathan Dowell

UKMED Research Subgroup

7th May 2019

Dear Deans,

Re: HESA and GMC Assessment Data Proposal

At the UKMED research subgroup on the 7th May, we discussed the proposal to collect assessment data via HESA for UKMED which MSC Council is reviewing. I thought it might be helpful to advise you that we felt that the simplified model, in which only section and total assessment scores would be collected, is both worthwhile, achievable and therefore preferable.

This would give the undergraduate data held in UKMED parity with the postgraduate data provided by the medical royal colleges. Researchers have already demonstrated the utility of these scores for assessing predictive validity in the UKCAT-12 study* and shown that these local school measures can be used in multi-site studies.

* McManus, IC; Dewberry, C; Nicholson, S; Dowell, JS; (2013) The UKCAT-12 study: educational attainment, aptitude test performance, demographic and socio-economic contextual factors as predictors of first year outcome in a cross-sectional collaborative study of 12 UK medical schools. BMC Medicine, 11, Article 244. 10.1186/1741-7015-11-244

We feel that supporting HESA and the GMC in developing a specification by August 2019 would ensure:

- Greater coverage and equity as all schools could participate.
- The supply would become part of the routine data flow and so be secure, reliable and efficient with data part of the existing HESA extract, matched to the student record.
- GMC funding the collation of these data via HESA, to the advantage of Medical Schools.
- A time limited opportunity is taken to make these changes using HESA Data Futures project.

Having in school assessment data within HESA will enable some much-needed analysis that cannot currently conducted and open up long term future opportunities to evaluate changes in medical education more quickly:

Analysis of differential attainment with medical schools

UKMEDP42 Understanding variation in BME medical exam performance across the UK has been restricted to postgraduate exams, EPM and the Prescribing Safety Assessment. My understanding is that the GMC are likely to require schools to look at differential attainment in detail. Such analyses could be run centrally, save considerable resource across schools, enable an understanding of the variations observed and hence identify best practice without need to wait for point of graduation.

Analysis of widening participation activities

UKMEDP091 Access to HE qualifications and widening participation in medicine only has progression as an outcome measure to assess Gateway students' progress and as numbers are small the benefits of comparable UKMED data across the UK are clear.

The UK Medical Applicant Cohort Study (UKMACS) – Kath Woolf, UCL

To our knowledge this is the only current study looking at applicants to medical school on a UK-wide basis. It has significant NIHR funding. Studies such as this and the future of medical education in the UK more generally will be enormously enhanced by access to UK wide in school assessment data.

This appears a unique opportunity to achieve a significant step forward. If, in conjunction with schools, the forthcoming HESA/GMC workshops can enable the systematic collation of basic assessment data via HESA we will hugely improve our ways of *Identifying best practice in the selection of medical student*[*] and open up many new evaluative options.

[*] Cleland J, Dowell J, McLachlan J, Nicholson n S, Patterson n F. Research report: Identifying best practice in the selection of medical students (literature review and interview sur vey). November 2012. General Medical

We understand HESA and the GMC are looking for medical school assessment and student records colleagues from each school to attend and your schools engagement in finding a proportionate way to achieve this important goal would be much appreciated.

Specific queries can be address by emailing Daniel.smith@gmc-uk.org.

Yours sincerely

Professor Jon Dowell

Chair of UKMED Research subgroup

Letter from Professor Jon Dowell

Council. Available from: https://www.gmc-uk.org/-/media/about/identifyingbestpracticeintheselectionofmedicalstudentspdf51119804.pdf?la=en&hash=7BF8F94D402EC8230728221C2598732D69D81851