

HESA Assessment Data

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Background - HESA

- 1 HESA collects data from Higher Education Providers (HEPs) across the UK; its statutory powers of data collection come from its Statutory Customers the funders. In England returning the student record is a condition of registration with the Office for Students, allowing access to public funding and student loan company money. For the rest of the UK, as part of the memorandum of assurance and accountability HEPs have with their funding council there is a requirement to return accurate and timely data to HESA.

Background – HESA and the GMC

- 2 The GMC has statutory powers under [section 6] of the Medical Act 1983 to require the provision of information relating to qualifications registerable under that Act, which include higher education qualifications, and statutory duties under paragraph 9A of Schedule 1 to the Medical Act 1983 to co-operate with public bodies or other persons concerned with particular activities in relation to health and social care services, including the education or training of medical practitioners or other health care professionals and the provision, supervision or management of health services.

- 3** HESA currently provide the GMC with data for the purposes of research, quality assurance and equalities monitoring to enable the GMC to meet its statutory responsibilities. Both the GMC and HESA regard this as a long term arrangement.
- 4** We are seeking to minimise the burden of regulation on medical schools. For example the GMC no longer requires schools to return sections Section C1 - Student Intake numbers and Section C2 – Progression of the Medical School Annual Report (MSAR)¹ as this information is available from HESA.
- 5** The GMC's current contract with HESA runs to 31 January 2019 with the final extract covering data for the academic year 2017/18. The GMC uses these data for UKMED² and for progression reports³. This contract will be extended to cover the academic year 2018/19.
- 6** During 2019, the GMC will be negotiating a new contract with HESA covering data for academic year 2019/20 onwards.
- 7** From the academic year 2020/21 onwards the GMC is seeking to include data on schools' assessments, as HESA's data futures project reaches fruition.
- 8** We have previously explored using HESA's existing data entity of Module to meet this requirement, via a HESA consultation⁴ and some visits to schools. We have concluded that using module data will not work as courses leading to a Primary Medical Qualification are not structured in this way and because an assessment of interest can map to more than one module. Therefore we will require a new data entity: Assessments.

Objectives

- 9** We would like assessment data returned for all summative assessments that lead to a Primary Medical Qualification: COURSEAIM = M16.⁵ Assessments for intercalated degrees are not included. 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 is able to progress to their subsequent year of study or an assessment that is used to determine whether a student is awarded a primary medical qualification.
- 10** HESA have expertise in collecting data from the sector and have kindly agreed to work with us to convene a series of workshops to discuss how assessment data can be included in UKMED to support the following activities:
 - 10.1** UKMED research including following up on the successful applicants in the UK Medical Applicant Cohort Study (UKMACS) study.⁶
- 11** The GMC is introducing the MLA⁷ with the aim of demonstrating that those who obtain registration with a licence to practise medicine in the UK can meet a common

threshold for safe practice. It will be a significant change for UK medical schools, UK students and international medical graduates seeking UK registration, as well as for the GMC itself. So it will be important to evaluate its impact, both as we implement it and once it is up-and-running. The GMC will undertake its own evaluation, and we anticipate that external researchers in medical education and assessment will also be interested in considering the MLA's development and delivery. These will be long-term projects. But we need to identify and, where possible to begin sourcing, sound baseline data as soon as possible and summative assessment data--collected through existing processes--would be a useful contribution to this.

Sector Benefits

- 12** The inclusion of these data in UKMED will allow interested parties to apply to access data for research purposes, for example assessment data from early years of students' undergraduate years can be used to validate schools' selection methods. Currently there are no outcome data for all UKMED cases until the final year of medical school when the Educational Performance Measure deciles⁸ collected as part of the application to foundation training is available.
- 13** The absence of outcome data at an earlier stage presents challenges for UKMED research, for example *UKMEDP091 Access to HE qualifications and widening participation in medicine*⁹ is currently restricted to using RSNEND¹⁰ when looking at how the performance of student admitted with access qualifications compares to those admitted traditional qualifications.
- 14** In addition to validation of selection methods this within school assessment data would allow detailed exploration of issues such as differential attainment.
- 15** Collation of the data at a granular level will allow researchers to standardise measures within school using their preferred method and ensure greater consistency of approach across schools.
- 16** Starting collection in the academic year 2020/21 will ensure the data collection can be tested prior to the MLA commencing in the academic year 2021/22. To register with a licence to practise, students graduating in 2023 onwards will need to have passed a degree that includes the MLA. The clinical and practical skills assessment (CPSA) will be delivered through the medical schools' arrangements in place in 2022. The GMC are working with medical schools to see how the applied knowledge test (AKT) can fit into their programmes of assessment. We know some schools are already considering whether it could replace an existing test.
- 17** Starting collection in the academic year 2020/21 will ensure outcome data are available for the UKMACS study of medical school applicants.

- 18** All interested parties could have access to the data via a UKMED application for the purposes of evaluating the impact of the MLA.

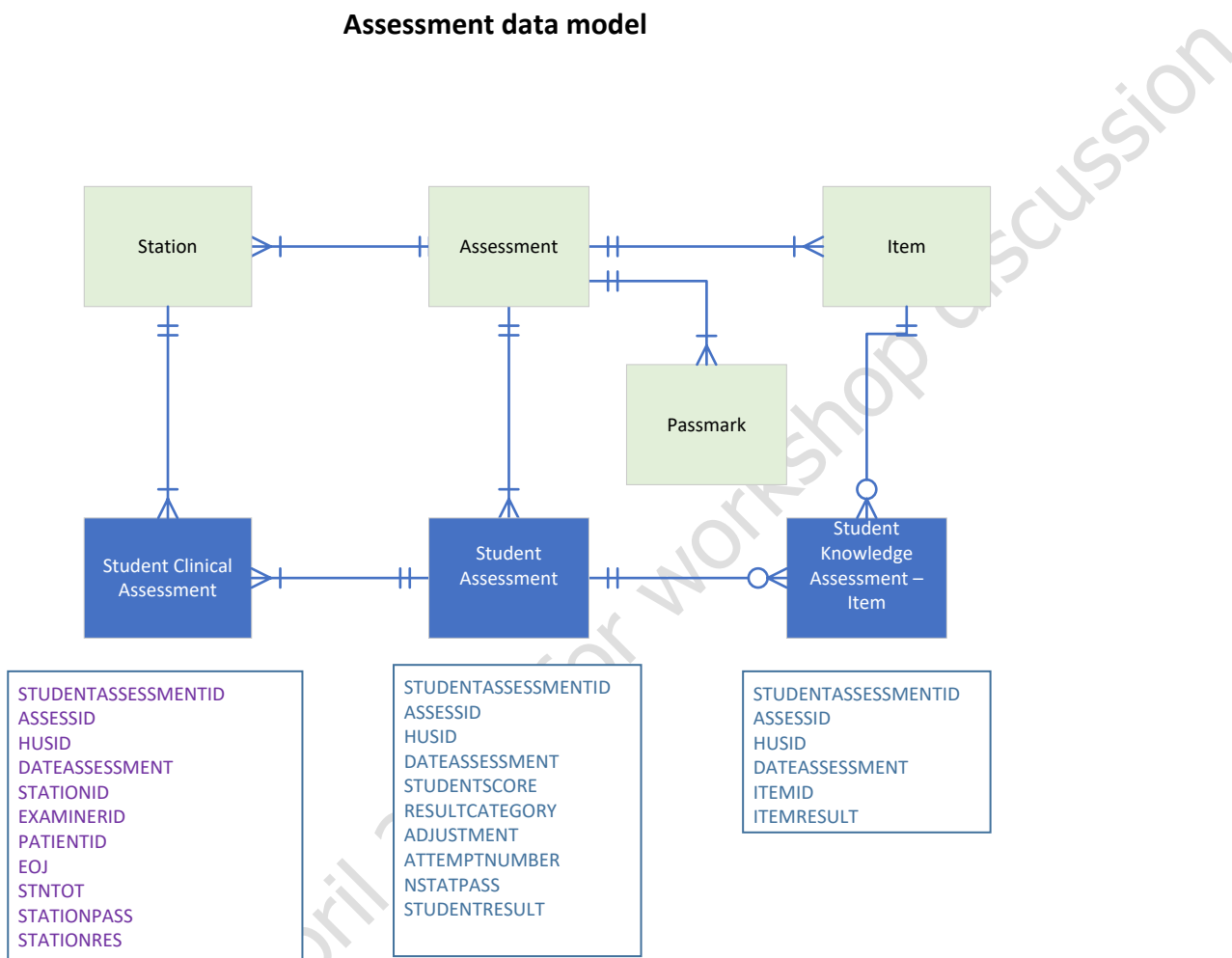
Benefits for schools

- 19** In addition to the sector benefits we would like to offer a school specific benefit: schools would be able to access their school assessment data linked to other UKMED data in the UKMED Safe Haven to run their own analyses without the requirement to submit a UKMED research application. The UKMED data includes assessments on entry to medical school such as UCAT and BMAT and subsequent postgraduate data including Royal College membership exams, ARCP and specialty training applications in ORIEL¹¹.
- 20** HESA assessment data could be used in place of the theory and skill scores currently collected from some UCAT consortium schools on an annual basis¹². So the return to UCAT from these schools would no longer be required as the proposed HESA would provide more complete coverage and greater granularity.

Assessment Data Entity

21 Figure 1 shows one model of these data

Figure 1



22 The tables below are an example of how school assessment data might be captured by HESA for inclusion in a GMC extract. They are included here as discussion purposes and are not an agreed or final specification.

23 The precise scope of the AKT component of the MLA has not been finalised. A number of options are being discussed. Some of these would combine MLA content, common to all schools, with some additional school specific content. As a result, we would like to explore the extent to which, and how, it would be possible to obtain item level data. Note that if the MLA – AKT is delivered on a GMC procured platform

then the GMC would already hold all the MLA - AKT item data and would be in a position to place these directly into UKMED.

- 24** Note the model below has not explicitly considered how data for resits and appeals will be processed. Ideally UKMED would only contain final data i.e. for valid attempts post any possible appeal.

Assessment

- 25** 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 CPSA type assessments.

| 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 |
| MLAAKT – | Percentage contribution of the assessment to the overall MLAAKT assessment. If the MLAAKT 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 MLA-AKT so the value will be 0. |
| MLACPSA | Percentage contribution of the assessment to the overall MLACPSA assessment. If the |

| Field | Description |
|------------------|--|
| | 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. |
| YEARPROG | The year of the student's programme the assessment is sat. |
| MANDATORY | Do all students on year of programme sit this assessment? |
| TOTALSCOREMETHOD | <p>For practical assessment of clinical and professional skills only.</p> <p>Method for deriving standard score – e.g.</p> <p>Is the standard error added to the total score? Is negative marking used?</p> |
| STANDARDSETTING | <p>For practical assessment of clinical and professional skills only. A HESA coding from will be developed to include items such as</p> <p>Standard setting method used, for example:</p> <p>Angoff,</p> <p>Borderline,</p> <p>Relative,</p> <p>Holistic</p> |
| YEARSTART | The first academic year the assessment was used. |

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

Passmark

26 This table captures passmarks 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. |

Station

- 27** A table describing each station used in any summative practical assessment of clinical and professional skills by the school such as objective structured clinical examinations [OSCEs]; integrated structured clinical examinations [ISCEs]; objective structured long examination records [OSLERs]; and other approaches. These summative assessments can be sat at any point in the programme.
- 28** Not all fields will be applicable to all schools. If schools require additional fields to describe their stations this table could be expanded.

| Field | Description |
|--------------|---|
| ASSESSID | Link to Table 1 so stations are mapped to a particular assessment. |
| STATIONID | Description. Stations that are changed substantially will require a new ID, minor revisions to question text will not. Consensus on what constitutes a substantial change will be required. |
| STATIONTITLE | Title for station. If the title for a given STATIONID has been modified this field will contain the most recent text. |
| STARTDATE | Date station first used |
| ENDDATE | Date station no longer used. Once a station has an ENDDATE there is no requirement to include it in subsequent returns. |
| DOMAINS | Domains assessed by station – e.g. communication, history taking, examination, and practical skills. |
| STOBJ01 | Description of objective the station assessed |
| STOBJ02 | Description of objective the station assessed |
| STOBJ03 | Description of objective the station assessed |

| Field | Description |
|-------------|--|
| STOBJ04 | Description of objective the station assessed |
| STOBJ05 | Description of objective the station assessed |
| MARKSCHEME | Values are Checklist Domain Other |
| TIMEALLOWED | Length of station in minutes. |

Item

29 A table describing the items used in each school's summative tests of applied knowledge. Item text is not requested in order to maintain test security. Schools using their own data in the Safe Haven would be able to interpret analysis provided the ITEMID is unique.

| Field | Description |
|------------|---|
| ASSESSID | Link to Table 1 so items are mapped to a particular assessment. |
| ITEMID | Description |
| ITEMSOURCE | MLA – common content MLA – school selected content from item pool Non MLA item |
| ITEMTYPE | Type of item from list: Single Best Answer of 5 Single Best Answer of 3 Very Short Answer Extended matching items/questions (EMI or EMQ) True/False (T/F) items Essay |

We are expecting school to submit results against table 4 or 5 but not both.

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 |
| STUDENTSCORE | Student's overall raw score on assessment or total score for all stations on a clinical exam. |
| RESULTCATEGORY | Type of pass: 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 1 st , 2 nd etc attempts at the exam. Attempt number may be reset following an appeal/mitigating circumstances. |
| NSTATPASS | Total number of stations passed, if applicable. |
| 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. |

Student Knowledge Assessment – item

Item level data for knowledge assessments. These may not be required depending on the final format of the AKT. Candidates' answers are not requested in order to maintain test security.

| Field | Description |
|---------------------|---|
| STUDENTASSESSMENTID | Id for this student on this assessment. |
| ASSESSID | Assessment identifier |
| HUSID | Student identifier |
| DATEASSESSMENT | Date student sat assessment |
| ITEMID | Item identifier |
| ITEMRESULT | 1= item correctly answered; 0 = incorrect Include adjustment for negative marking. |

Student Clinical Assessment

30 This table holds station level data for the summative practical assessment of clinical and professional skills, one row per station attempted by the student. An assessment will consist of multiple stations. Not all fields will be applicable to all schools.

| Field | Description |
|---------------------|--|
| STUDENTASSESSMENTID | Id for this student on this assessment. |
| ASSESSID | Maps to assessment table |
| HUSID | Student identifier |
| DATEASSESSMENT | Date of assessment |
| STATIONID | This will map to Station table |
| EXAMINERID | Unique identifier for the examiner for the station on the candidate's attempt. |
| PATIENTID | Unique identifier for the patient for the |

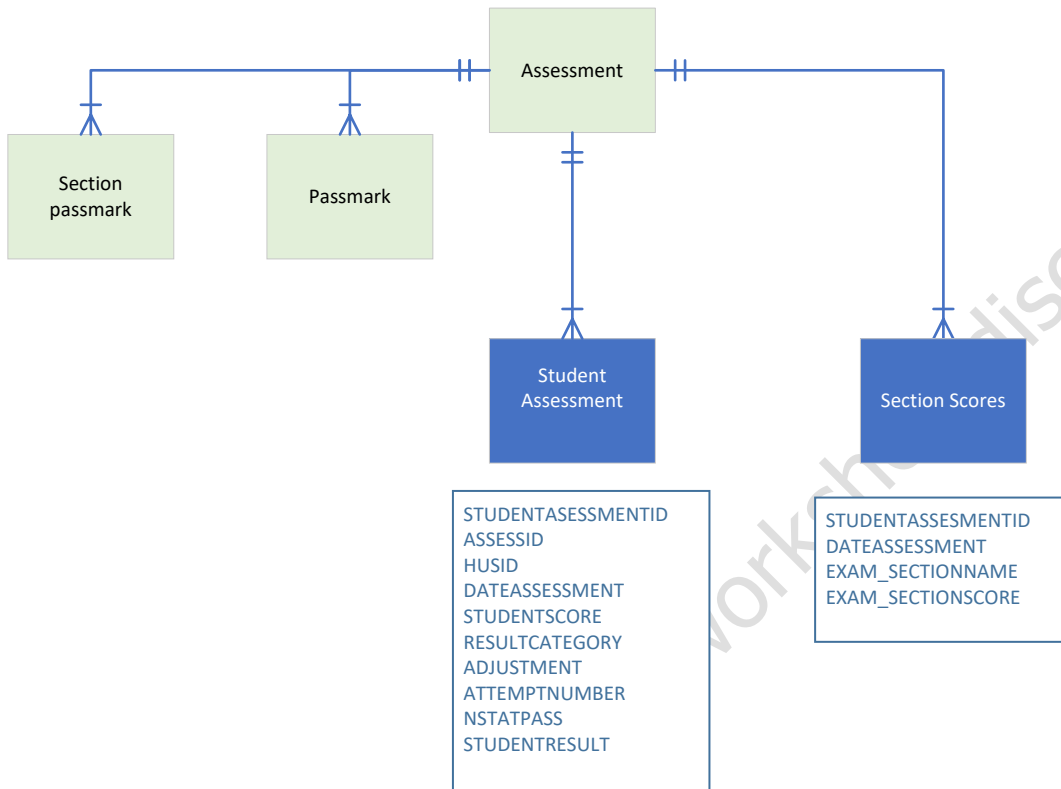
| Field | Description |
|-------------|--|
| | station on the candidate's attempt. |
| EOJ | Does not count to individual result. Applies to the borderline standard set Examiner Overall Judgement, if applicable. |
| STNTOT | Total score for the objectives |
| STATIONPASS | Borderline score to pass the station, if applicable. |
| STATIONRES | If STNTOT is greater than or equal to STATIONPASS then it is a pass for this station, if applicable. |

Alternative model

- 31** If schools consider returning Student Knowledge Assessment – item and Student Clinical Assessment too burdensome, an alternative would be providing section scores. This alternative model is shown in figure 2.

Figure 2

Assessment data model alternative



33 For Postgraduate exams some Medical Royal Colleges and the Prescribing Safety Assessment (PSA) are able to return these scores to the GMC in our annual exam data collection. For example for the GP AKT exam we receive scores for the following sections: clinical medicine, evidence interpretation and organisational questions. for PSA we receive scores for the following sections: section 1 prescribing, section 2 prescription review, section 3 planning management, section 4 providing information, section 5 calculation skills, section 6 adverse drug reaction, section 7 drug monitoring and section 8 data interpretation.

Section Scores

| Field | Description |
|---------------------|---|
| STUDENTASSESSMENTID | Id for this student on this assessment. |
| ASSESSID | Maps to assessment table |
| HUSID | Student identifier |
| DATEASSESSMENT | Date of assessment |
| EXAM_SECTIONNAME | The name of the exam section. |
| EXAM_SECTIONSCORE | The name of the exam section. |

Section Passmark

34 This table captures section 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 |
| EXAM_SECTIONNAME | The name of the exam section. |

| Field | Description |
|-------------------|---|
| EXAM_SECTIONSCORE | The name of the exam section. |
| SECTIONPASSMARK | Pass mark for sitting to allow calculation of score relative to pass. |
| SECTIONMAXSCORE | Maximum possible score – to allow scores to be converted to percentage if required. |
| SECTIONSTATIONREQ | Number of station passes required to pass exam. Only applicable to clinical exams. |

Assessment data within the overall Data Futures Model

- 35** Data on the type of assessment and the structure (Assessment, Passmark, Station and Item) would be captured as a type of curriculum data (as in not student specific data).
- 36** The student's assessment outcomes (Student Assessment, Student Knowledge Assessment – item and Student Clinical Assessment) would be associated with a Student Course Session within the Data Futures model. This would allow an understanding of what assessments student have undertaken, and their performance within the standard reporting schedule of Data Futures.

Timescales

- 37** We are seeking to agree an initial specification by August 2019. So we need to begin discussing a possible specification, on an exploratory basis, in parallel to the GMC's work on the structure of the MLA. Data collection would commence in the academic year 2020/21. Data would be collected by HESA and included in the extract they provide to the GMC. The frequency and timings for HESA to provide GMC with this data extract are yet to be determined.

References

- ¹ <https://www.gmc-uk.org/education/reports-and-reviews/medical-school-reports>
- ² <https://www.ukmed.ac.uk/>
- ³ <https://www.gmc-uk.org/education/reports-and-reviews/progression-reports>
- ⁴ <https://www.hesa.ac.uk/innovation/records/reviews/student-201920-data-futures-specification-consultation#id-51352-module-marks-courses-regulated-general-medical-council-closing>
- ⁵ <https://www.hesa.ac.uk/collection/c18051/a/courseaim>
- ⁶ <https://ukmacs.wordpress.com/about/>
- ⁷ <https://www.gmc-uk.org/education/standards-guidance-and-curricula/projects/medical-licensing-assessment>
- ⁸ http://www.foundationprogramme.nhs.uk/sites/default/files/2018-07/UKFP%202019%20EPM%20Framework%20Final_0.pdf
- ⁹ https://www.ukmed.ac.uk/accepted_applications
- ¹⁰ <https://www.hesa.ac.uk/collection/c16051/e/rsnend>
- ¹¹ https://www.ukmed.ac.uk/documents/UKMED_data_dictionary.pdf
- ¹² 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.