

The medical licensing assessment will fall short of determining whether a UK medical graduate behaves ethically

Abstract

UK medical graduates will soon need to pass the medical licensing assessment, which assesses skills and knowledge in ethics using multiple choice questions (eg single best answer questions) and objective structured clinical examination. However, educational leaders have recognised that these methods lack the sophistication needed to accurately assess medical ethics.

The reasons are two-fold. First, there may be a knowledge and practice gap in medical schools when it comes to preparing students for the assessment. To this end, this article shares peer advice about how best to use objective structured clinical examinations and single best answer questions for assessing medical ethics to help prepare students for the medical licensing assessment.

Second, the design of the assessment is unlikely to adequately measure graduates' ethical values and behaviour in real world scenarios. Further work is needed to design assessments that are sophisticated enough to examine candidates' ethical reasoning and their actual behaviour.

Key words: Assessment; Medical ethics; Medical licensing assessment; Objective structured clinical examination; Single best answers

Submitted: 20 October 2023; accepted following double-blind peer review: 9 November 2023

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Introduction

In medical schools throughout the world, students are taught medical ethics with the fundamental aim of helping them become doctors who will do the right thing for the right reasons. To ensure professional standards in ethics, assessors must ideally be able to measure students' attainment in the necessary skills, knowledge and behaviour that aligns with appropriate values. Medical schools' methods of teaching, learning and assessment in ethics are wide-ranging, based on various rationales, and often designed to fit within practical restraints.

In the UK, students graduating in the academic year 2024–5 will need to pass the medical licensing assessment before they can be listed on the medical register. This is a new requirement from the General Medical Council and should give added reassurance that those with a medical degree meet the expectations set out in *Outcomes for Graduates* (General Medical Council, 2020). It should also address the variation in assessment and standard-setting practices across UK undergraduate medicine (MacDougall, 2015).

The medical licensing assessment has two parts: the applied knowledge test and the clinical and professional skills assessment. The applied knowledge test will be assessed through single best answers. The clinical and professional skills will be assessed using objective structured clinical examination or objective structured long examination record. The medical licensing assessment will also replace the professional and linguistic assessments board test for overseas doctors wanting to practice in the UK.

In some medical schools, a student can pass their degree even if they fail the ethics assessment (Mattick and Bligh, 2006), which diminishes its value. The inclusion of ethics in the medical licensing assessment is vital because it signals its importance to students and doctors (Fenwick et al, 2013).

With the forthcoming medical licensing assessment, the Institute of Medical Ethics Assessment Working Group was convened in 2021 to review the guidance for medical

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OPEN ACCESS

How to cite this article:

Deans Z, Moorlock G, Trimble M. The medical licensing assessment will fall short of determining whether a UK medical graduate behaves ethically. *Br J Hosp Med*. 2024. <https://doi.org/10.12968/hmed.2023.0370>

schools on methods of assessment, especially single best answers and objective structured clinical examination. The group aligned itself with the Institute of Medical Ethics' core content of learning, which is:

'To equip students to identify ethical and legal issues in medical practice, have a critically reflective approach to those issues, and be able to give a reasoned justification of the actions they would take in line with the [relevant] knowledge, attitudes and skills.' (Institute of Medical Ethics, 2023).

The working group conducted a consultation across UK medical schools to find out how ethics were being assessed, how they should be assessed, and to seek views on how to use single best answers and objective structured clinical examinations for ethics. The consultation included a survey, a workshop and a deliberation process. A questionnaire was sent to all 44 UK undergraduate medical schools in the summer of 2021. A national workshop was held in March 2022, with the aim of exploring best practice in ethics assessment. The workshop was attended by 43 participants (nine in person, 34 online) from 18 medical schools, with representatives from the General Medical Council and the Medical Schools Council attending as observers. Participants included ethics educators and assessors, and medical students. Following the workshop, the working group discussed the points raised, especially in relation to the practical advice from participants about what works well in ethics assessments.

Together, the literature and consultation reveal problems not yet adequately addressed in medical education:

1. There may be a knowledge gap in medical schools in terms of using single best answers and objective structured clinical examinations for assessing ethics
2. The methods in the medical licensing assessment are insufficient for properly assessing ethics.

This article shares advice from the consultation process in relation to using single best answers and objective structured clinical examinations for assessing ethics. It also suggests bolstering national guidance to ethics educators on designing these forms of assessments.

Further, while the authors recognise the strengths of the medical licensing assessment for ethics, they issue a note of caution. First, single best answers are suitable only for assessing a graduate's basic knowledge of ethics. Second, objective structured clinical examinations (and similar methods) are far more suitable for assessing how well an individual performs in test conditions, but still fall short of capturing the nuances and realities of moral decision making and evaluating the ethical behaviour of a graduate. Evidence from the literature and consultation points towards a need for a more sophisticated form of assessing ethics.

Assessing medical ethics

Desired outcomes of ethics education

Ethics education is driven by the need for practising doctors to work ethically. Ethics educators help students develop knowledge and skills for behaving morally and exercising 'clinical ethical competence' (Mitchell et al, 1993). For example, through ethics education, students may become better at identifying the moral dimensions of a clinical scenario, including the context; assessing the rationale behind certain positions or decisions; reflecting on their own values; and understanding the pressures they may be subject to. The aim is for them to become doctors who make legally and morally justifiable decisions.

Assessing ethical knowledge and behaviour

Assessing a medical student's ethical competence involves testing their learning through all levels of Miller's 'knowledge–competence–performance–action' pyramid (Miller, 1990) (Figure 1). Students should develop sound knowledge of ethical and legal principles (knowledge), sound knowledge of how these principles apply in clinical practice (competence), habituate acceptable behaviour (performance) and act ethically (action).

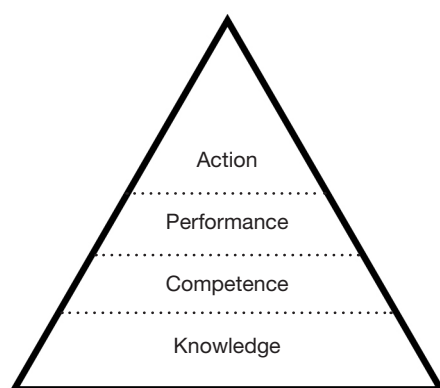


Figure 1. Miller's 'knowledge-competence-performance-action' pyramid. From Miller (1990)

As Campbell et al (2007) put it, 'knowledge is needed for habituation, to shape the mould within which a student behaves so that there emerges action of a kind that is clinically appropriate and effective'.

It is known from the literature that medical schools use a variety of assessment methods, including single best answers and objective structured clinical examinations (Wong et al, 2022; Deckers, 2023). The consultation showed that the rationale for this variety was in part because the different elements of Miller's pyramid lend themselves well to different forms of assessment. In 2006, UK medical schools were using essays, multiple choice or extended matching questions, objective structured clinical examination, single best answers, portfolio and viva (Mattick and Bligh, 2006). Eleven years on, the most common method of assessing ethics in UK medical schools was reportedly multiple choice questions or single best answers (Brooks and Bell, 2017).

Some foundational aspects of medical ethics, such as guidance on principles, are suitable for assessing and can be tested fairly reliably with single best answers or multiple choice questions. There are also practical considerations for using multiple choice questions (including single best answers) as they are regarded as time efficient, especially when there are few staff available to assess medical ethics properly (Deckers, 2023), and may conform to the exam format used for other subjects (Brooks and Bell, 2017). Foundational knowledge in ethics is essential but insufficient for testing moral action or 'competence', which are best tested using more complex assessments and essays, which require open-ended answers.

Objective structured clinical examinations are considered good for testing 'performance' or 'shows how' (Brooks and Bell, 2017). Here the student is able to behave in an ethically acceptable way in a controlled setting and can demonstrate the ability to make the right decisions and exhibit the right behaviour. However, as Mitchell et al (1993) explained, the objective structured clinical examination is not a test of whether that student behaves like this in more natural conditions, it only suggests that they have the ability to do so.

Achievement at the apex of the pyramid (action) is much harder to assess because of the complexity and nuance of ethical action in real world settings. Does the individual act ethically? Does the graduate do the right thing for the right reasons? Neither single best answers nor objective structured clinical examinations will be able to test a student's commitment to particular values, their sensitivity to the nuances of the situations they find themselves in, or their skills in navigating ethical concerns in daily clinical practice. It is also important to note that there is no definitive measure of what right action is, even within the values defined by the General Medical Council.

In Brooks and Bell's (2017) report, 45% of UK medical schools used work-based assessments to assess the 'doing' or 'action' at the apex of Miller's pyramid. As Wong and Cheung (2003) described, medical schools' assessments of moral action include portfolios, satisfaction questionnaires, peer opinions and the critical incident technique developed by Newble (1983).

Peer advice on writing single best answers and objective structured clinical examinations for ethics

The consultation and literature indicated that there may be some gaps in UK medical school curricula in terms of preparing students for the medical licensing assessment. A survey indicated that only 91% of responding medical schools had any formal test for ethics (Brooks and Bell, 2017). The most common practical examination was the objective structured clinical examination, but only 55% of medical schools used this method (Brooks and Bell, 2017). To this end, the authors share peer advice on helpful approaches to writing single best answers and objective structured clinical examinations.

Start with the learning outcomes

The intended learning outcomes are the foundation of any assessment, so first, it is important to decide which learning outcomes are to be measured in the assessment. Second, define the assessment criteria, which are a set of descriptions of what is expected from students, expressed on a scale ranging from failure to excellence. Third, write the single best answers and objective structured clinical examinations in a way that will test whether the student has achieved the intended learning outcomes, and to what extent. Formative assessments and feedback are more effective for learning when students understand how the learning outcomes are aligned with the assessment (Al Kadri et al, 2011). For further reading on designing an objective structured clinical examination to measure specific criteria, see Daniels and Pugh (2018).

Choose the method based on what will be assessed

Single best answers are more suitable than objective structured clinical examinations for assessing foundational knowledge, eg legal principles and key cases within healthcare, relevant ethical concepts, and principles. Single best answers can also be designed to assess higher-order cognitive skills, as described by Pugh et al (2019).

The objective structured clinical examination is well suited for assessing students' professional skills and knowledge and is regarded as an authentic form of assessment. The objective structured clinical examination can test the student's recognition of, and response to, the everyday ethical challenges they may encounter during clinical placements and the foundation years.

Ensure that questions are appropriate to the stage of the course

Objective structured clinical examinations and single best answers should be aligned with year level intended outcomes. Assessments can draw on the material and skills learned from the previous years and be applied in the context of the current year. In this way, objective structured clinical examinations and single best answers can become increasingly advanced. For example, in year 1, the assessment may test knowledge of basic principles, and in year 2 the same knowledge could be tested for more complex scenarios.

In contrast, some medical schools adopt progress testing, a method of recording students' knowledge longitudinally over the course of their degree. Progress testing monitors students' (first year students through to final year students) learning at regular intervals over the course of their programme. It is students' knowledge and scores that change over the course of the programme, rather than the level of assessment. Schuwirth and van der Vleuten (2012) give more information on progress testing.

Consider the value of formative objective structured clinical examinations

Students value formative objective structured clinical examinations because they can be helpful, for example, to prepare for clinical placements (Farahat et al, 2016). These examinations can also lead to improved performance in summative objective structured clinical examinations (Chisnall et al, 2015; Lien et al, 2016). However, since this is not always the case (Alkhateeb et al, 2019), objective structured clinical examinations should also be considered for formative assessments.

Write single best answer and objective structured clinical examination questions as a team

Writing assessments as a team can help in sharing and division of work. Moreover, if the team is multidisciplinary, the context and wording of the single best answers and objective

structured clinical examinations are likely to be more accurate and authentic. Ask colleagues to review the questions. This might include the external examiner, colleagues from other disciplines and previous candidates (Lowe, 1991).

Write all single best answer and objective structured clinical examination questions in one day

Setting aside time to write, especially when combined with a team approach, is an efficient way to develop questions for both single best answers and objective structured clinical examinations. Writing items in one sitting facilitates a balanced assessment.

Find a structure that works

Once you have some basic structures for single best answers, these can be replicated. For example, a question that successfully tests an ethical principle can be rewritten in different contexts. Alternatively, a question may be adjusted and adapted with increasing complexity for senior students, perhaps by offering multiple true–false options, or including complex multiple choices (Pugh et al, 2019).

Do not use a single best answer if there is an ambiguous response

An ambiguous response can arise from ambiguity in the question. For example the term ‘principle’ may refer to Beauchamp and Childress’ four principles approach or to ethical principles more generally. Ambiguity can also arise from a double statement in the stem of the question. The clinical example Lowe (1991) gave is: “causes of hyponatraemia and hyperkalaemia include” – does the stem mean hyponatraemia and hyperkalaemia occurring together, or is it referring to causes of hyponatraemia and of hyperkalaemia, separately?.

Embed ethics in a medical scenario for an objective structured clinical examination

Rather than setting out to write an objective structured clinical examination completely pertaining to ethics, consider writing objective structured clinical examination stations where an ethical element is assessed as part of a clinical scenario. In such a station, most of the available marks relate to clinical factors, with some marks available for ethical and legal knowledge and judgement. For example, the station might require the student to communicate a diagnosis of acute hepatitis to a patient and include the need for contact tracing. As well as assessing clinical intended learning outcomes, this station would allow the student to be tested on ethics learning outcomes (respect for autonomy, prevention of harm to others, legal requirements and limitations of confidentiality). Assessing in this way presents ethics in realistic contexts.

Be imaginative

Senior students can be involved in writing stations for more junior years. Images can be included, for example an X-ray of a fracture in a child suggesting non-accidental injury. There are also variants on the objective structured clinical examination, for example the objective structured video examination for which students are presented with a recording of a doctor–patient interaction and asked questions relating to the clip. However, to help students prepare for the medical licensing assessment, it is important to frame questions according to the standard objective structured clinical examination and not deviate too much from the structure.

Conclusions

In medical schools throughout the world, the methods of teaching and learning, and of assessment, are wide-ranging, based on various rationales, and often within practical restraints. Single best answers and objective structured clinical examinations are popular choices for assessing ethics in UK medical schools. The proposals for the medical licensing assessment are to some extent in line with the way ethics is currently assessed in UK medical schools. Nevertheless, it is likely that there are knowledge gaps in some medical schools, as studies indicate not all UK medical schools use these methods of assessment for ethics.

Key points

- UK students graduating in 2024–5 will need to pass the medical licensing assessment, measuring skills and knowledge in relation to ethics, before they can be listed on the medical register.
- Different methods are used to assess medical ethics in UK medical schools, with multiple choice questions and objective structured clinical examination among the most common.
- Not all medical schools currently use single best answer questions and objective structured clinical examinations for medical ethics, so there may be a knowledge and practice gap for students taking the medical licensing assessment.
- A newly designed medical licensing assessment is needed that can examine candidates' ethical reasoning and their actual behaviour.

Therefore, they may not be in the best position to help students prepare specifically for the medical licensing assessment.

The inclusion of ethics in the assessment is significant and will go some way in assessing graduates' knowledge and abilities. However, it will fall short of determining whether a UK medical graduate behaves ethically. Thus, the challenge for the General Medical Council is to develop the assessment to accurately test whether candidates meet its expected outcomes. To succeed, the assessment methods need to properly assess graduates' ethical behaviour, be administratively straightforward and acceptable to candidates. This would merit dedicated and substantial pedagogic research into the best ways to assess ethical behaviour among medical students and graduates and could be accompanied by national assessment guidance on how to design such assessments.

Meanwhile, ethics educators in the UK must continue to teach ethics and assess students' practice, and prepare them for the medical licensing assessment.

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Conflicts of interest

The authors declare that there are no conflicts of interest.

Acknowledgements

This article is based on work carried out by the Institute of Medical Ethics Medical Ethics Assessment Working Group, and the authors would like to thank the following other members for their contributions: Michael Dunn, Carwyn Hooper, Kirsty Foster and Chantal Patel. The authors would also like to thank the workshop participants and survey respondents for their contributions.

Declaration of funding

The Institute of Medical Ethics provided funding for a workshop and paid the article processing charge for this article.

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