Can Multiple Mini Interviews Work in an Irish Setting? A Feasibility Study

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Abstract

Multiple Mini Interview (MMI) is a new selection tool for medical school applicants. Developed at McMaster University in 2004 it comprises a series of interview stations designed to measure performance across a range of competencies including communication skills, team work, and ethical reasoning. In September 2012, 109 First Year Medical students underwent the MMI. It consisted of 10 stations. The median total score, out of 150, was 100 (min 63, max 129). Cronbach Alphas for the 10 individual stations range from 0.74 to 0.80. Overall Cronbach Alpha of MMI items was 0.78. Staff and student feedback was positive. The outline cost per student was estimated at €45. This study demonstrates that it is feasible to hold a MMI with acceptable levels of reliability and stakeholder approval in an Irish setting. Further work is ongoing to establish the concurrent and predictive validity of MMI in this cohort of medical students.

Methods

All students enrolled, for the first time, in First Year Medicine, NUI Galway, September 2012 were eligible. Ethical approval was granted by NUI Galway Research Ethics Committee. Participation was voluntary. Volunteers were entered into a draw for an iPad. Funding was granted by WestREN (http://westren.nuigalway.ie/). Interviewers and administrators were recruited from the School of Medicine, Nursing and Health Sciences and Western Training Programme in General Practice. Nine senior-cycle medical students, nine role-players, nine medical students and three administrators. An MMI cycle consisted of ten, seven minute stations, with one interviewer per station. Material for the stations was provided by Dundee Medical School and blueprinted against the Irish Medical Council’s eight domains of professional practice. Minor station modifications were made to ensure authenticity in an Irish setting. Five stations involved an interviewer, a role-player and the candidate. The other five stations were interview based (one interviewer: one candidate). Each station was scored across three domains and one global rating scale. Domain scores ranged from 0-5. Each station had a written description with full descriptive scores. Global score were on a five point scale ranging from unacceptable to excellent performance. The MMI circuit ran over two days and 109 students underwent a debriefing lecture. In addition students obtained individual written feedback on their performance. Post MMI student and interviewer evaluation was collected anonymously by electronic questionnaire, entered into SPSS and analysed.

Results

There were 241 eligible students. Of these, 109 students (45% of class) completed the MMI comprising 41 males, 68 females. There were 64 (58.7%) EU nationals and 45 (41%) were Non-EU which is reflective of class norms. There were 49 interviewers, nine role-players, nine senior-cycle medical students and three administrators. An MMI cycle consisted of two parallel circuits. The MMI cycle was repeated 6 times to accommodate up to 120 students. Each station was scored out of 15. The median total score, out of 150, was 100 (min 63, max 129). Cronbach Alphas for the 10 individual stations range from 0.74 to 0.80. Overall Cronbach Alpha of MMI items was 0.78. Feedback was returned by 71 students (65% response rate). Ninety per cent either agreed or strongly agreed that the content of the MMI was relevant to their understanding of the practice of medicine (see Figure 1). To put that in context of the students who had undergone a traditional selection interview (n=30) only 60% thought that the issues raised during the interview were relevant, correspondingly only 38% (n=47) of students who had taken an admission test (such as the HPAT) (n= 47) thought the issues covered in the test was relevant. There was no significant difference in these opinions based on student gender or nationality.

Students rated the suitability a number of selection tools on a five point Likert scale ranging from very unsuitable to very suitable (see Figure 2). MMI was considered almost a par with academic achievement as suitable grounds for selecting medical students MMI 73%; Academic achievement 79%; whereas the other tools were less favoured. Student feedback was collected on the best and worst aspects of the MMI. Representative favourable feedback is that MMI allows for a more wholesome picture of the candidate. A criticism was that the time allocated for each station is too short. I didn’t really have time to think of the issues asked. Another criticism was that interviewers might be subjective rather than objective in marking applicants. There was a 49% (n=24) response rate to online interviewer feedback. Three quarters of interviewers felt that MMI was relevant to the practice of medicine and that the stations reasonably tested candidates ability. Almost two thirds thought that the content was sufficiently important to student warrant inclusion in a selection test. The majority of respondents (79.83%) thought that an MMI would be a useful addition to medical student selection in Ireland (see Table 1).

Interviewers felt that the main advantage of MMI was its ability to assess candidates actual performance objectively and consistently in tasks that are relevant to performing as a clinician (n=4). A second advantage was that it was a good assessment of non-cognitive and inter-subjective skills (n=4). As one interviewer put it: The MMI seems to provide a ‘best of all’ option in terms of selection methods by striking a balance between

Discussion

MMI is a newer tool that is gaining popularity in North America, Australia and the United Kingdom. It is a tool that is gaining popularity in Canada, the United Kingdom, Australia, and the United States. It has been applied in both undergraduate and graduate medical programs as a selection tool. Its use has spread to dental, health sciences, pharmacy and veterinary programs. The average number of stations is 10, each lasting 8 minutes and generally with one interviewer per station. The aim of this study was to establish the feasibility of running a MMI in an Irish setting. It was found that it was feasible to hold a MMI in this setting with acceptable reliability and validity.
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objectivity, aptitude, and "the human factor. However MMI was considered expensive in terms of personnel, time, and resources (n=3); with the potential for enhanced inequity in student selection due to potential for preparation and grade schools" (n=4) and the potential exists for quieter or international students to underperform. The MMI can struggle to allow for cultural and language differences" (n=3); with the "human factor" (n=3). Our funders and we also sincerely thank all those who helped with this study; in particular we wish to thank the Clinical Science Institute, NUI, Galway. Correspondence: M Kelly

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References


Discussion

Medical student selection is a complex and emotive issue. At its heart is a sense of social responsibility to select, fairly and equitably applicants, is estimated at €145 per person. Received no payment, we estimated costs based on typical OSCE rates for licencing exams (see Table 2). The total cost excludes the costs of investing in software support and station development. The cost per applicant, based on 125 applicants, is estimated at 145 per person.

Economics are an important aspect of feasibility as MMIs are labour intensive and potentially costly. Our estimated costs do not include the cost of the eight domains of professional practice, thus ensuring both face and content validity. Feedback from students indicated that the test achieved an acceptable level of approval amongst this stakeholder group. Interviews were overwhelmingly supportive of MMI as a selection tool. This is in keeping with reports from MMI feasibility studies internationally which also note stakeholder approval.

The real question is whether MMI would be implementable on a national level. The main determinant of this is the numbers of places available in medical school, coupled with the ratio of applicants called to MMI for places offered. For example with approximately 450 undergraduate places a ratio of 3:1 would imply 1,350 applicants are called to MMI. Such numbers would be best accommodated via a central process. It may be possible to shortlist applicants by rank ordering them either on Leaving Certificate or Leaving Certificate/HPAT combined scores. The timing of release of Leaving Certificate results would necessitate hosting the MMI in late August. Scheduled MMI dates could be announced by the CAO at the time of application to medicine, with advice for all applicants to keep these dates available. Invites to MMI could be made via the CAO system, once Leaving Certificate/ HPAT results were available. The use of OMIS software in the marking of MMI would facilitate a quick turnaround of final offers to medicine. MMIs require time, effort and commitment on the part of medical schools. One may ask is it worth it? Reforms to entry and selection to medical school in Ireland have provoked debate and are under review. \( ^{11} \) Attraction in medical school in Ireland is low and therefore those enrolled are highly likely to graduate.\(^{11} \) Therefore is it not a necessity to employ the best available tools to ensure we enrol, educate and graduate the most suitable candidates? We contend that the use of MMIs is worthy of further consideration in the Irish context.

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