Smartphones and EPAs for Final Year Medical Students

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The Alternative Assessment Challenge

This is an innovative solution that supports students' learning in authentic contexts with feedback provided to assist with the development of skills.

The School of Medicine (SoM) had multiple issues to grapple with in March-May of 2020: clinical placements were impacted across all five years, there were requests from NSW Health about final year medical students becoming a supplementary ("surge") workforce, and SoM needed to be sure that this year's graduates were demonstrably ready to be interns in 2021.

For these final year students, most of whom had lost placements, online webinar workshops were established and run from the main clinical schools. Further online teaching was provided and the students did their final examinations online. SoM had input to the NSW Health job specifications for the surge workforce, who would be known as 'Assistants-in-Medicine' or AiMs. SoM established a process whereby the students could volunteer to become AiMs: each student was carefully assessed to establish their suitability for the role.

Authentic Assessment Tasks

Ultimately, 86 students became AiMs and the remaining 34 continued as students. All remained as final year students: we decided to employ Entrustable Professional Activities (EPAs) as smartphone workbased assessments for both groups, using eportfolio software. This gave information about progress across the year: it aligned AiMs who were working and those who were contributing as students. The concept and utility of EPAs was explained to the students on several occasions – important because they replaced other more rigid assessments including miniCEX and OSCEs (see Glossary below).

EPAs are authentic tasks done as part of patient care; they represent common/repeated aspects of patient care that senior medical students are involved with and expected to be able to perform competently when they become interns. The 14 WSU EPAs map well to the 16 Graduate Outcomes of SoM. Using the smartphone MyProgress app, an important part of the MyKnowledgeMap e-portfolio system, we mapped different levels of complexity, components of the tasks, different levels of supervision from direct to indirect to usually independent (with a supervisor available). We have shown they provide a structure to facilitate feedback as a dialogue and generate actions towards tasks being

done better on the next occasion. They are formative and usually show progress compared to formal examinations such as vivas or OSCEs. Self-directed learning was reinforced because the students were required to ask for observation/supervision as required. Academic integrity was confirmed because the observer/supervisor details were required and the uploaded EPAs were date/time stamped. General student response was positive.

Effectiveness of the Assessment

EPAs have been useful also when performance is not up to the expected standard or not progressing, providing constructs for remediation. When reviewed across a clinical term or semester, they have provided information that can usefully contribute to term reports and semester assessment. Cohort use was analysed before the semester assessment (structured interviews rather than OSCEs, ICR4 2H). The students, including AiMs, were asked to discuss their learnings from two of their own EPAs. The few students not engaged were provided with scenarios to discuss. Remediation was required for six students.

Students were mostly supervised by junior doctors, registrars or consultants. Although greater supervision was needed for more complex tasks, such as management of a sick patient, students achieved a greater level of independence for most tasks over the six month Assistants in Medicine program. Qualitative remarks from supervisors were mostly positive. Students clearly benefitted from the program and showed better results from term reports.

Further development

The use of EPAs is continuing in 2021 for all year 5 students in both semesters. The application has been adapted for use by Year 3 students also.

Acknowledgements

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Further Resources

Video: Professor Stephen Tobin- Smartphones and EPAs for Final Year Medical Students

Glossary

AiM	Assistant-in-Medicine (final year medical student employed similar to intern)
EPA	Entrustable Professional Activity (medical education construct around clinical tasks). They enable feedback and progress about the task, rather than the student/doctor. There is significant literature from the last five years which SoM can now contribute to. Prof Tobin has previously published in this area including designing EPAs in post-graduate training.
ICR4	Integrated Clinical Rotation 4, the second semester of MBBS year 5.
MiniCEX	Mini Clinical Examination Encounter. A workplace assessment first described for physician trainees, usually done multiple times formatively. Sometimes used once as a small summative assessment.

MyProgress	English software/app related to MyKnowledgeMap eportfolio currently used in MD years 1-3.
OSCE	Objective Structured Clinical Examination (common medical education summative examination, criteria based).
SoM	School of Medicine

Useful links

Useful links are:

- WSU Assessment Guide – Authentic Assessment
- WSU Online Engagement and Teaching Hub – Authentic Assessment