

Moving a summative assessment to remote delivery during COVID-19

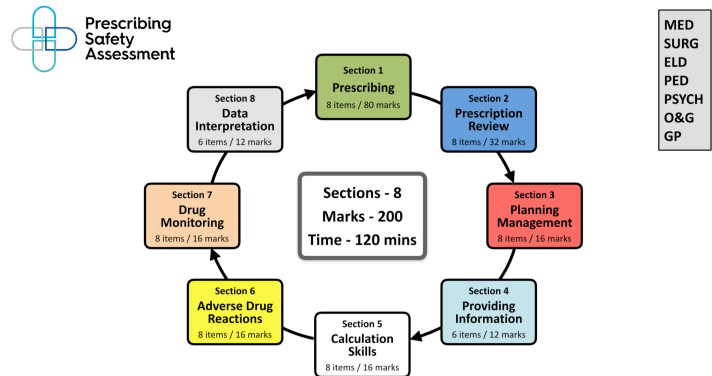
A case study of the UK Prescribing Safety Assessment

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Social distancing as a result of the COVID-19 pandemic presents significant challenges to the delivery of summative assessments, and yet the need for medical students to graduate is greater than ever. This case study describes how the UK Prescribing Safety Assessment has adapted.

Introduction

The [Prescribing Safety Assessment \(PSA\)](#) is a summative assessment of knowledge, judgement and skills related to prescribing and supervising the use of medicines in a modern healthcare system. It is run jointly by British Pharmacological Society (BPS) and Medical Schools Council (MSC). The PSA is delivered online and includes 60 clinical cases to be undertaken in 2 hours. There are 8 item styles (see figure) each requiring prescribing or other medicine safety decisions to be made. Its purpose is to enable final-year medical students and Foundation doctors to demonstrate that they have achieved the necessary competence to prescribe, and supervise the use of, medicines at the standard expected of a Foundation doctor in the NHS. It is taken by over 7,000 candidates/year.



Standard PSA delivery 2012–2020

The PSA is run on an interface owned by the British Pharmacological Society (BPS), designed specifically for running on-line assessments. All PSA items include feedback with detailed justifications so that the items may be used formatively (in practice papers with instantaneous feedback) or summatively (with scores reported by section only).

Candidates register on the PSA interface in order to access information about the PSA, instructional videos, four practice papers and a summative paper (within a password-protected assessment 'event'). Each PSA event is delivered live from a cloud-based server to the event location (normally a medical school computer laboratory) under invigilated conditions. Candidates have access to the online BNF throughout the assessment but are not allowed to access other internet resources. All candidate start/finish times, keystrokes and answers are recorded. Once any unrecognised answers have been reviewed, the system scores each candidate and a suite of reports are generated by the interface. Candidates obtain their results and download their certificate from the interface once results are approved for release.

COVID-19 in UK

When the UK went into COVID-19 'lockdown' in March 2020, two PSA2020 assessment days had taken place, but there remained a cohort of over 1700 candidates due to participate in events scheduled for May and June. For many candidates, the results of these events were required for graduation and career progression decisions. An emergency meeting of the PSA team on 24th March concluded that the PSA should continue to run on the pre-arranged dates, but instead of taking place at universities, it would be offered to candidates to sit in their own homes. All Medical

and Foundation schools with events scheduled for May and June were consulted and confirmed that they would take part.

Piloting remote delivery

BPS staff deliver a number of on-line assessments internationally. One of BPS's Canadian partners had an event scheduled for 15th April, which, due to social distancing rules, was delivered to candidates in their own homes. The BPS team organised and delivered the remote invigilation for this event, involving over 200 candidates. This experience of remote invigilation directly informed the ongoing plans for delivery of the PSA events.

New challenges and mitigation strategies

Moving to remote delivery introduced a new set of challenges and mitigation strategies:

Challenge	Mitigation strategies
<p>Security of assessment content: Delivering assessments for candidates to sit in their own homes makes items more vulnerable to copying and sharing in digital format.</p>	<p>New features including locking screen grabs and watermarking items with unique candidate identifiers were introduced. Papers specifically intended for use in remote events were created to limit exposure of some items.</p>
<p>Assessment Regulations: Invigilated examinations in universities limit the opportunities for seeking unauthorised external help, either by conferring with others or accessing external resources (e.g. internet searches).</p>	<p>Invigilators observed candidates remotely via webcams using video-conferencing software. Candidates were reminded that standard examination regulations applied, and that professional conduct was expected, with appropriate fitness-to-practise considerations for cases of misconduct.</p>
<p>Technical issues: In an assessment centre it is possible to see and fix technical problems and make adjustments (such as changing machines, adding extra time). Remote-sit candidates may not have access to hardware of the appropriate specification or may have an unreliable internet service.</p>	<p>The risk of technical failure during remote delivery is a significant concern. Candidates were informed that they were responsible for their own environment and advised to identify a suitable venue, reduce the risk of interruptions and check their IT hardware, software and internet access prior to the event. Issues during the event were reported to invigilators who were supported by a central team at MSC/BPS.</p>
<p>Managing candidate communication: In an assessment centre, candidates can easily enter into direct communication with an invigilator, as well as having other visual cues, such as written start/finish times, clocks and notices in the exam hall.</p>	<p>Direct communication with an invigilator was facilitated by limiting each event to 50 candidates, with 1 invigilator/event. The invigilator acted as event host, and used the chat function, e-mail and the microphone to assist individuals and make group announcements.</p>

PSA remote delivery (11th May 2020)

Invigilators were provided with specific remote delivery guidance and oversaw groups of students by acting as host of a web-conferencing room. Once the candidates joined the call, they were directed to the assessment start page. The invigilator dealt with any technical issues, or, referred them to the central PSA team. When everyone was ready, the invigilator gave out the event password and the assessment began. If candidates experienced technical issues, such as slow

download speeds during the assessment, they contacted their invigilator via the chat function. The invigilator noted any problems, and if the issue warranted it, they were able to use their discretion to allocate individuals additional time.

The delivery of the remote PSA assessment day was very successful. Over 1700 candidates completed the paper as planned. To our knowledge, no candidates were prevented from taking part as a result of remote delivery. A small number of technical issues relating to local internet service and hardware capability were reported, however, the invigilator reports indicated that the majority of issues were dealt with swiftly, and if necessary, compensated for by allocation of additional time.

Candidate feedback

Candidate feedback is gathered after every PSA sitting. Candidate-reported issues specific to the remote conditions after the May 11th event included:

- candidates' own computers being of lower specification than university equipment (e.g. smaller screen size).
- slow internet speed causing lag times between questions, slow downloads of images and inability to access the online BNF.
- communication issues, including receipt of 'time remaining' announcements (via e-mail, using the chat function, or verbally).
- finding it more stressful and disruptive to be at home rather than in a controlled examination room.

Several candidates noted their appreciation of the fact that they were able to complete the assessment under lockdown conditions during the pandemic.

Psychometric analysis

A psychometric analysis was undertaken prior to results release, to provide reassurance that the remote delivery environment had not produced an unexpected change in paper performance or a difference in assessment standard. The analysis confirmed that the pass rate and Cronbach Alpha for these events were comparable to other 2020 events.

Discussion

Remote delivery of summative assessments is likely to become more commonplace, not only because of COVID-19, but also because of the trend for fewer large assessment centres in many Universities or other institutions. The change from face-to-face to remote delivery of the assessment forced the PSA team to respond quickly and decisively, and in doing so, several innovations that would not have been considered possible previously were adopted. Whilst it is recognised that remote delivery of assessments has some drawbacks and can never be as secure as face to face invigilated events, the advantages offered include the efficiency and flexibility to deliver the assessment regardless of location.

For further details:

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