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# COVID-19 pandemic prompts the development of a Web-OSCE using Zoom teleconferencing to resume medical students' clinical skills training at Weill Cornell Medicine-Qatar

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## INTRODUCTION

Web-Objective Structured Clinical Examination (OSCEs) were piloted for the Clinical Skills Assessment (CSA) exams in the USA two decades ago and were shown to be an acceptable way to conduct OSCEs remotely. The learners valued the process yet expressed numerous limitations.<sup>1</sup> In response to the COVID-19 outbreak in Qatar, medical schools stopped in-person teaching creating a hiatus in clinical instruction. The Clinical Skills and Simulation Lab (CSSL) team devised and piloted a Web-OSCE to determine its feasibility in this setting, and to evaluate stakeholders' experiences.

We describe the steps taken to create a Web-OSCE built on women's reproductive and sexual health which is part of the third year Obstetrics and Gynecology Clerkship curriculum, using Zoom teleconferencing. It mirrored the steps taken when conducting this activity in person; however, all communication relied on emails before the event, Zoom during the event with WhatsApp as a backup for connectivity between learners, Zoom hosts and faculty.

## METHODS

### Pre-Web-OSCE steps

#### Preparing students

CSSL provided by email a step-by-step instruction guide plus a pre-OSCE task for students to complete to ensure that they could access the OSCE on the day of the activity. A live Zoom session led by faculty reviewed the learning objectives, expectations and assessment and served as an open forum for students to ask questions in order to mitigate any anxiety surrounding the new modality.

#### Preparing simulated patients

Simulated patients (SP) were surveyed to assess their interest and technology capabilities to participate in Zoom activities. Interested SPs joined a Zoom meeting with staff members, who ensured they had adequate technical capability. SPs were selected and confirmed according to requirements of the case. Training notes and checklists were sent in advance to all. Observers helped capture the details of the encounter for SP checklist completion, as encounters were not recorded. Case training was done as normal, only in Zoom.

## Pilot OSCE

A dry run pilot OSCE was conducted with SPs, faculty and staff to ensure all stakeholders had the opportunity to become familiar with the Zoom technology and processes required to conduct the Web-OSCE. It highlighted potential challenges and tested the achievability of the desired learning objectives in the new medium.

## Web-OSCE steps

Figure 1 illustrates the journey of a learner and SP, from prebrief to debrief. All participants interact via Zoom teleconferencing using their own devices with audio/video capability and access to high-speed internet.

1. SPs and observers arrive before learners and are admitted by cohort 1. Cohost 2 renames them (SP1...Obs1...) while host ensures sufficient audio/video quality, conducts SP briefing and assigns them to their breakout rooms. Observers mute audio and turn off video while the student is in the breakout room.
2. Students are admitted by host into the main session to join and be briefed in briefing breakout room. Cohost 3 instructs students to log into the Learning Management System (LMS).
3. Cohost 2 confirms that SPs are ready and host moves students to breakout rooms (student 1 to SP1, and so on). The 30 min encounter begins. Cohost 2 keeps time following an activity operational plan (online supplementary appendix 1). Host broadcasts a 10 and 5 min warning via a written banner message into the breakout rooms while cohort 2 verbally announces into each breakout room. Host broadcasts a written message at the end of the encounter and joins each breakout room to move students to the postencounter area. SPs and observers turn on audio/video to discuss the encounter and prepare for the SP to give feedback.
4. Cohost 3 instructs students to log into the LMS to complete a subjective, objective, assessment and plan (SOAP) note which automatically submits to the faculty.
5. Cohost 2 confirms that breakout rooms are ready and host moves students back to the breakout rooms for 10 min face-to-face feedback. Host announces end of feedback and moves all back to the main room for



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- debriefing. SPs and observers have 40 min to complete the checklist and take a break before the next encounter.
- Cohost 3 instructs students to complete a feedback survey. Cohost 4 conducts a debrief with all students, before they leave the meeting.
  - After concluding all encounters, SPs and observers are moved to the main session room to reflect on their experience with cohost 4 and complete an online survey.
  - Observing SPs submit completed student checklists. Cohost 1 enters responses and comments. Each checklist is double-checked by a second party to ensure accurate entry.
  - Once write-ups are reviewed by faculty, scores are generated and released to students along with SP checklist and write-up feedback.

## RESULTS

The activity included nine students, three SPs, three observers, one host and four cohosts and took 4.5 hours to conduct. All SPs and students responded to the online survey.

All agreed that expectations were clearly communicated, staff and equipment contributed to a positive learning experience, the activity fostered a safe learning environment and, overall, it was a valuable learning activity. Eight respondents (88%) agreed/strongly agree (SA) that the objectives of the activity were met, and that feedback had been valuable. Comments included: 'it models the clinics and can be turned into telemedicine' and '... only downfall is that we cannot do a physical exam'. SPs expressed a need for role portrayal training time as much of the training had focused on using Zoom. They remarked that checklists needed to be modified for the new platform. All valued the practice sessions, Zoom tutorials, use of WhatsApp groups and time set for dry runs.



**Figure 1** The figure was illustrated by JV using Microsoft Office icons. These icons are free to use and there is no royalty nor copyright. SP, simulated patient.

## DISCUSSIONS

Devising and conducting a Web-OSCE over Zoom requires a team of meeting host/cohosts; an operational plan; a trained pool of SPs; access for all participants to reliable internet connections; and personal devices with built-in audio and video capabilities. Student, SP and faculty feedback was encouraging. We identified a need to teach telemedicine, learnt that checklists needed to be modified in rating appropriateness of student eye contact, since looking at a patient on screen means looking away from the camera. All the essential goals aside from physical exam skills could be assessed in the Web-OSCE. These included accurate history taking, communication and rapport building (ie, eye contact, active listening, and so on), critical reasoning based on elicited data and provided physical exam findings.

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