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Works-in-Progress

Development and use of a Virtual Objective Structured Clinical Examination L'élaboration et l'administration d'un examen clinique objectif structuré virtuel

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In the setting of COVID-19, postgraduate medical training programs have faced significant challenges in consistently providing required training experiences including clinical exposures, didactic teaching and formal assessments. These challenges are multifactorial. Elective clinics and procedures have been severely restricted or cancelled completely. Preceptors new to virtual care may not fully integrate learners into these encounters. Didactic teaching and formal assessments have also been impacted by restrictions on even small group gatherings.

As a result, programs have shifted didactic teaching sessions to online platforms such as Google Meet or Zoom. Even with these adaptations, curriculum delivery has been disrupted during this transition. Formative examinations planned for the spring within programs have either been cancelled or delayed with the hope of rescheduling. At a national level, all high-stakes Royal College, College of Family Practice and

Medical Council of Canada examinations planned for the spring have been postponed.

Objective standardized clinical examinations (OSCE) are an established method of assessing clinical skills and application of medical knowledge. These examinations typically involve a series of timed, simulated encounters (stations) with standardized patients (or parents, in pediatrics) in the presence of an examiner. A typical OSCE requires close physical proximity between participating learners, examiners, standardized patients and program staff. While some OSCE stations may assess physical examination or procedural skills, many focus on skills not requiring close contact, including taking a history, clinical reasoning, and communication with patients and families. We propose that these types of interactions could be replicated using online teleconference systems (e.g. Zoom), and therefore would allow for trainees to undergo formative assessment

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(assessment for learning) while adhering to group gathering restrictions. We are undertaking an assessment of the feasibility and acceptability of conducting an OSCE using an online videoconference system (VOSCE). We hypothesize that a VOSCE will be acceptable to trainees, examiners and program staff (program directors and program administrators), and will be seen as similar to traditional in-person formative OSCEs. Identified challenges or negative experiences with the VOSCE are predicted to be primarily related to factors intrinsic to the technology used to host the VOSCE

We are modifying two existing OSCEs for a pediatric subspecialty program (Pediatric GI) and general pediatrics residency training program, with administration first to three trainees in pediatric GI and subsequent scaling up to the larger general pediatric residency cohort. Surveys were developed for residents, faculty examiners, and program staff based on the Technology Acceptance Model (TAM) with questions on perceived ease of use, perceived usefulness, attitude toward use, and perceived risk with 5 point Likert scale responses.¹ Surveys will be developed on Google Forms and distributed electronically after completion of the VOSCE, with unique surveys for learners, examiners and administrators for the previously validated 4 TAM categories. Purposeful sampling of resident examinee participants, faculty VOSCE examiners, and program VOSCE administrators will provide at most 37 survey respondents ($n = 22, 12$ and 5 respectively). Implied informed consent to participate will be provided through survey completion. Demographic

information to be collected includes years of residency training, clinical practice or OSCE administration experience. We plan to complete an ANOVA to determine if these variables predict participant responses to the questions about their experience with the VOSCE. Surveys also solicit free text comments. These will be reviewed and notable comments will be summarized. This study has received approval by our university research ethics board.

To the best of our knowledge this is the first published report of a VOSCE for postgraduate medical trainees. We look forward to sharing the feasibility and acceptability of this formative assessment strategy with other medical educators in this unique time, and have offered our experiences locally and nationally to medical education programs.

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Reference

1. Park SY. An analysis of the technology acceptance model in understanding university students' behavioral intention to use e-Learning. *J of ET&S* 2009; 12(3): 150–162. Available from www.jstor.org/stable/jeductechsoci.12.3.150 [Accessed on May 11, 2020].