EDUCATION

# Teaching Sexual History Taking in Health Care Using Online Technology: A PLISSIT-Plus Zoom Approach During the Coronavirus Disease 2019 Shutdown

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## ABSTRACT

**Aim:** Cancellation of university classes during the coronavirus disease 2019 pandemic challenges teaching inperson sexual history—taking skills to medical, physician assistant, and nursing students. We used commercial online electronic services for medical students to learn sexual history—taking skills.

**Methods:** A total of 174 medical students viewed a lecture on sexual history taking and the PLISSIT model (Permission, Limited Information, Specific Suggestion, Intensive Therapy) and were then randomized into dyads. They arranged a time to meet online on Zoom with their partner, chose a simple sexual history case-history (male or female) from a small selection, and recorded the 5- to 6-minute sexual history within a 1-week time frame. Each student played a "provider" or "patient" and then switched roles with a new case. One of the course tutors, all sexual health practitioners, downloaded 10 videos randomly assigned to them asynchronously and viewed and commented on the interaction of each "provider" along with comments on what to improve in the sexual history. 2 weeks later after the remainder of the lectures in the course, a second, more complex set of 8 cases were provided, so students could move at their comfort pace and choose 1.

**Main Outcome Measure:** Students were required to make 1 online post and 1 comment on another student's post for each case, on the experience, and associated issues arising, positive or negative. All comments were downloaded and analyzed by theme.

**Results:** Major themes included developing comfort in using sexual language, using simpler sexual terms suitable for patients, feeling confidence and mastery, excitement using technology developing clinical skills, surprise watching their performances and body language, observation of how they appeared to the "patient," organizing sexual histories and incorporating PLISSIT model, ability to ask about context and relationships, and seeing the exercise as building on existing clinical skills training. Some expressed anxiety and nervousness, which by the second case had largely or completely dissipated.

**Conclusion:** A readily replicable, secure, cheap cloud-based model to integrate sexual history training asynchronously was provided, with tutors' comments, and student skills development, and performance evaluated. **Ross MW, Newstrom N, Coleman E. Teaching Sexual History Taking in Health Care Using Online Technology: A PLISSIT-Plus Zoom Approach During the Coronavirus Disease 2019 Shutdown. Sex Med 2021;9:100290**



**Key Words:** Sexual History Taking; Skills Training; Medical Students; Online; Zoom; Evaluation; PLISSIT; Internet

## INTRODUCTION

While sexual health is recognized as a crucial and integral part of modern medicine, fewer than half of medical schools teach any sexual health courses: when they do, they are likely to be electives, only a few hours, or largely limited to narrow areas in family medicine, obstetrics and gynecology, urology, or sexually transmissible infections.[1–5] Levi[6] and Capiello et al[7] argue that

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sexual and reproductive health form an important part of nursing practice, but barriers to teaching it in the curriculum include a need for creative curriculum tools.

In the United States, while 55% of medical schools formally teach sexual health in the curriculum,[1−5] 1 didactic weaknesses is that taking a sexual history is a skill that comes with a significant affective as well as a cognitive component. Discomfort with both sexual language and asking direct questions about sexual behavior can lead to poor sequencing of questions and gaps in the history. In inadequately trained clinicians, it can also lead to avoidance of taking a sexual history when it is indicated. Clinician discomfort is quickly translated, verbally and non-verbally, to the patient. Models of educational objectives such as Bloom's Taxonomy[8] emphasize 3 overarching educational domains: cognitive (knowledge), affective (emotional areas), and psychomotor (physical skills). In sexual history taking, affective issues such as discomfort may negatively impact the cognitive, and vice-versa, so both need to be simultaneously addressed as teaching domains.

The Permission, Limited Information, Specific Suggestion, Intensive Therapy (PLISSIT)[9] model has been used to guide healthcare providers to respond to sexual health issues; this common approach, based on the concept of elicitation of a sexual issue followed by providing pertinent information, making specific recommendations, and if necessary referral to a specialist in sexual health, is only useful if the practitioner has the knowledge and understanding of sexual health issues and dysfunctions to elicit the limited information (and fill gaps) and is able to make an appropriate specific suggestion to the patient.

Going beyond providing very basic information, to form a hypothesis about a sexual problem is a more effective use of the practitioners time as they become better educated in sexual health. If a practitioner does not have skills to elicit a sexual issue or make a clinical hypothesis, the utility of the PLISSIT model is compromised. Eliciting sexual issues and problems requires the skill of taking a basic sexual history.

We call this combination of PLISSIT with teaching sexual history taking the PLISSIT-Plus model, as it enhances the sexual history taking skills of those using the PLISSIT model to inform the Limited Information and Specific Suggestion components, and may expand the Intensive Therapy that can be offered (eg, providing insight into contextual and relationship aspects of sexual dysfunction or modifying medication regimens that may cause iatrogenic dysfunction). The original PLISSIT model of 1976 assumed that sexual health clinicians were already expert in having sexual conversations. However, as sexual health curricula are now common across Western medical schools, we cannot assume that healthcare students have the comfort, vocabulary, and content to convey "Permission" or elicit and form a clinical opinion on the information provided by the patient. Nor may they be able to articulate their "Specific Suggestions." Communications and comfort skills presumed by the original PLISSIT model cannot be assumed in the curricula of the 2020s: without them, the PLISSIT model cannot reach its full potential.

While there is a body of literature on teaching sexual history taking,[10,11] many healthcare professionals are taught by the "blind leading the blind" method where students pair off and alternate as patient and clinician, using a provided sexual case scenario for the "patient," and a tutor observing the pairs and giving helpful advice. We have recently used a computer-based video method, the UfaceME app, which uses a prism-generated split screen to simultaneously video "clinician" and "patient," with medical students to train them in sexual history taking. The app allows them to review the video and rate and provide feedback to both parties.[12] Evaluation of this video- and rating-based app showed that students liked the approach and were very enthusiastic about the feedback that the method provided on their interviewing performance.

As the coronavirus disease 2019 (COVID-19) pandemic forced us to move from tutorial and skills-based face-to-face teaching to online or video teaching in medical schools, we can use this educational challenge to design a sexual health history taking and skills course that combines clinical models with the basics of taking a sexual history by health professionals and enhancing sexual history−taking skills that can be taught online.

The unanticipated need to teach online during the COVID-19 pandemic led us to teach sexual history taking to medical students at short notice on the Internet, using available commercial platforms. This produced an easily replicated and very-low-cost sexual health history−taking tutorial that provided both visual and verbal feedback to medical and other healthcare students, allowed supervised practice by their tutors/teachers, and provided for responses and helpful comments by peers. Our hypothesis was that sexual history taking in this format would be acceptable and logistically feasible, to students and faculty. We describe the format, its application, and its evaluation here.

## METHOD

We replaced face-to-face sexual history−taking tutorials with teaching based on the Zoom videotelephony and online chat services technology app. This enabled 2 students to simultaneously appear on a computer screen, taking a sexual history, with 1 playing the "patient" and 1 the "provider." All 174 students of the first-year medicine class were using their computers from home and were randomly assigned to dyads. The dyads selected cases and decided on a mutually agreeable time to practice the sexual history taking, which took about 15−20 minutes per case on average. Each first history was set at between 5 and 6 minutes for each student; the second tutorial, 2 weeks later, had sexual histories set at between 8 and 9 minutes. The PLISSIT model had been taught to the students, in a videotaped lecture, with examples, previously.

Sexual histories were selected from a panel of 4 1-page case histories for the first tutorial and 8 for the second tutorial. Each sexual case history was constructed by the course staff with equal numbers of male and female cases, to enable the student to select the gender of the case (because students had indicated that

discordant gender in cases made them more difficult for the "patient" and to make sure that there was a choice in case a particularly history contained triggering material). Sexual histories, which covered various different scenarios, were provided ahead of time in order for the "patient" to familiarize themselves with the case. Student "patient" and "provider" in any dyad could not choose the same case in which to be the "patient." It was understood that the "provider" would have seen the case, but the objective was to develop comfort in using sexual language and thinking through sexual terms and ask questions in appropriate language, *not* to make a diagnosis in either tutorial. The first history was a simple case, for example, a routine visit for contraceptive advice for a woman or for a sports medical history for a young man. The second tutorial case was more complex, involving a possible sexual dysfunction, and again, the objective was to take a sexual history, *not* make a diagnosis.

The dyads recorded the interviews using Zoom, and the 2 provider interviews (using a divided screen format which had both the "provider" and the "patient" images side by side on it) were downloaded to a secure university site. At a convenient time, the Sexual Health course tutor (20 tutors, a ratio of approximately 1:9 — all tutors were PhD or MD sexual health specialists with postgraduate clinical training) could download the history-taking video from the password-protected university Website and make comments on points that could be improved and points that were positive feedback for each "provider." Comments were usually a few bullet points or sentences. Each student also had to post a comment on a discussion board on the course Website (which was based on the Canvas learning management platform) on what they had learned during the experience and comment on another student's post, providing both feedback on the process and peer review. The course director monitored the discussion Website over the week it was open for comments and also responded to student comments, questions, and concerns. All students also got at least 1 set of comments or feedback from the course director as well as their tutor for each tutorial.

The second tutorial, with a more complex case and requiring a sexual history that also delved into sexual dysfunction and provided more time for the history, proceeded in the same fashion. 6 different histories were provided, 3 men and 3 women, in which psychological, physical, and in some cases pharmacologic potential issues were mixed. Because we wanted the tutorial to be without additional pressure and to allow a range of student competencies to develop without the stress of grading, students could terminate the history early if they ran out of questions or became uncomfortable. We also allowed the dyad to rerecord a history if they were unhappy with the sexual history, as the goal was to produce comfort and a sense of mastery in taking sexual histories. It was their choice which episode of the rerecordings to upload. The students had a week to organize and record the sexual history-taking videos.

## The Sexual Health Course

The sexual history taking occurred as 2 tutorials during the 6-week course, which, because of the COVID-19 pandemic, was taught fully online. It consisted of the videos and PowerPoint presentations of the previous year's lectures and PowerPoint presentations and panels. The course outline appears in Table 1. As not all the lectures in the course required lecture theater attendance (students could see them online rather than in-person, in their own time), they were routinely video recorded every previous year before 2020 for students not present in person. We estimate that each online sexual history tutorial would have taken approximately half an hour to an hour, perhaps longer if the student dyad was not happy with their first attempts and wanted to rerecord it.

**Table 1.** Syllabus of formal presentations of human sexuality course pre-COVID-19 shutdown

| | |
|---|---|
| Sexual health seminar I | Tag-team lecture |
| Sexual health seminar I cont. | Tag-team lecture |
| Sexual dysfunction and relationships | Tag-team lecture |
| Small group session I | Small group with tutors (sexual history)* |
| Sexual health seminar II | Tag-team lecture |
| Gender spectrum | Panel, transgender, and gender spectrum |
| Sexual history taking | Lecture |
| Small group session II (b) | UFaceME app exercise* |
| Female sexual health and dysfunction | Lecture |
| Male sexual health and dysfunction | Lecture |
| Contraception | Lecture |
| Sex trafficking | Panel, sex workers |
| Abortion | Lecture |
| Child sexual abuse | Lecture |
| Caring for survivors of adult sexual assault | Therapist and survivors |
| Small group session III | Small group with tutors (sexual history)* |
| Chronic illness and sexuality | Lecture |
| Sexuality and disability | Lecture |
| Panel discussion - sexuality and disability | Panel, differently abled people |
| Small group session IV | Small group with tutors |

*Replaced by Zoom online sexual history taking.

The objectives of the tutorials were to develop comfort in discussing sexual topics and using sexual terms and language (affective component) and to take a sexual history from a patient (cognitive component). The final "test" and examination was an objective structured clinical examination (OSCE), with simulated patients, with 3 stations. Students were divided into triads, with each student serving once as the "provider," once as the scribe, and once as the observer, who was there to understudy the "provider" and to make suggestions to the "provider" if they ran out of questions or got stuck (we referred to this as the "ask-a-friend" option, to reduce stress for the students given their lack of

**Table 2.** Feedback and comments on a simple sexual history case, tutorial 1

| |
|---|
| 1) Many students were initially nervous about the thought of taking a sexual history but found that they were more comfortable than they thought and managed it fine. |
| 2) There was a continuum from discomfort to comfort in taking a sexual history, but with almost everyone noting that they got more comfortable as the interview progressed, and they realized that it was, essentially, in many ways similar to the Essentials of Clinical Management (ECM) histories they had already been taught to take. |
| 3) Some felt that the sexual content made the histories more difficult initially because this is often a stigmatized or taboo area. |
| 4) Following on from this, the language was difficult — and some thought it was a bit technical for the patient and wondered how to make it less so. |
| 5) Some also perceptively noted that being the "patient" was tense and were able to empathize with the difficulties that patients might face in raising sexual issues with their physician. |
| 6) The earlier training from ECM kicked in quickly and there was a positive transfer of this existing training. A sexual history is a variation on the histories students have already trained in! |
| 7) Context is important for a sexual history. Sexual issues usually appear in contexts that offer clues about what is going on — a relationship, change in medications, changes in partners, aging, stigma, conflict, and so on. Context is one's friend in taking a sexual history. |
| 8) A number of students looked at the video of the non-verbals of taking the history, and found out some useful things about how one appears to the patient. This is some of the best feedback one can get — uncomfortable circumstances often magnify body language. |
| 9) Too little time was a factor, especially for those who were the most comfortable and engaged. The intention was not for students to take a full history — it was to get you comfortable with the language and content. There will be plenty of time in the next tutorial which is more complex. |
| 10) This tutorial was also about getting fluent with the language, which may be new in one's clinical training ,and this tutorial was designed to get students more comfortable with the words and concepts. |
| 11) Sometimes, there is a temptation to apologize for questions about sexual health. There is no need to — students are learning several segues into sexuality-related questions and how to seamlessly integrate these into health histories. |
| 12) The technology does not make it easy, but telemedicine is the wave of the present COVID pandemic and the future, this is useful practice. Start by figuring where the camera lens is and talking to it, not where the "patient" actually is on screen. Nods and smiles also work on camera where appropriate. |
| 13) There is considerable depth of insight and care taken in these histories. We will continue to practice in environments where skills can be learned without anyone feeling a need to perform for grades. |

clinical experience). The simulated patients were a male, a female, and an assigned male at birth case.

## Data Collection and Analysis

The 20-hour Sexual Health course (Table 1) is mandatory, and data were collected from the entire cohort of first-year students. The Sexual Health course is the last course before the end of year (summer) break. We used anonymous data from the student comments on the Canvas course discussion board to assess the student reactions to the method, any issues that might have arisen, and their comments on the advantages and disadvantages of the method. A major study was previously approved by the University of Minnesota Institutional Review Board, numbers 00004500 and 00002750, to evaluate and publish an evaluation of all components of the Sexual Health course in 2019—2020. The study determined that this was a "not human subjects" study as all data and student feedback were anonymous or coded. If there were additional research questionnaires that were not normally part of the course or its evaluation (there were none in the component reported here), students had the right to decline them, with standard incentive payments provided for those who filled them out. The tutorials on taking sexual histories are a mandatory part of the curriculum in which evaluative comments are required, so there was no "consent" — this was the standard curriculum adapted and taught online and evaluated as usual, but where the COVID-19 shutdown provided an unexpected requirement to teach fully online.

Discussion board textual data were subject to thematic analysis by reading each comment, recording the main points in the response, and developing themes that covered the content of the comment. Senior authors read through the discussion posts and tabulated the main themes that emerged. Quotes that best illustrated these themes were selected by authors.

## RESULTS

The Sexual Health course outline is presented in Table 1. After thematic analysis,[13] quoted examples of the themes from student comments appear in Tables 2 and 3.

The data in Tables 2 and 3 show that students largely were excited by this online format, unfazed by the electronic medium (more unfazed than some of the tutors!), and able to focus on comfort rather than competitiveness by having it ungraded. These tutorials, however, had to have a backing of didactic material,

**Table 3.** Feedback and comments on a more complex sexual history case, tutorial 2

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|---|
| 1) Some students thought they talked too much and asked fewer open-ended questions. |
| 2) Others felt that they got better at the open-ended questions. |
| 3) Much more comfort, greater knowledge. Still need to work on comfort. |
| 4) Very helpful to rehearse different scenarios. |
| 5) Helps to get the expressions and phrases right. |
| 6) The questions flowed better. |
| 7) Moved from asking questions to letting patients speak for themselves: feel comfortable enough to listen. Got a better balance of give and take in information with patient. |
| 8) The PLISSIT model is a very useful basis for organizing a clinical session. |
| 9) Realized that in real life, there will be a time crunch with multiple issues. Trying to fit issues to the time limit is stressful but realistic. |
| 10) Wanted more time than 8 min. |
| 11) Need more examples of "good" interviews, for example the AMSA portfolio of good sexual health interviews, to watch. |
| 12) Felt more comfortable with the "Permission" asking/receiving process (it works both ways!) |
| 13) Wanted a sex health/therapy elective in clinical years |
| 14) How do we make eye contact online? |
| 15) Need to know what needs to be legally "notified" to authorities if it is disclosed. |
| 16) Noticed more about body language, fidgeting. |
| 17) Was able to add positive aspects of posture, smiles, nods, uh-huhs, non-verbals |
| 18) Was able to meet patient where they are emotionally as well as information. |
| 19) Needed to go back to the lectures to integrate information and history taking. |
| 20) Sexual history taking is becoming "normalized." |
| 21) I realize that I am starting to make patients comfortable. |
| 22) It is still taking me a while to be completely comfortable with this. |
| 23) Now beginning to start to translate some of the jargon into lay terms. |
| 24) I'm getting able to ask what "have sex" means. |
| 25) I am getting able to navigate while withholding judgment. |
| 26) I felt comfortable enough to choose the more complicated clinical scenarios. |
| 27) I can make smooth transitions in taking a history. |
| 28) It isn't weird talking about sex if you don't make it weird! |
| 29) How much information is limited information? |

including lectures and panels, to match the content material. Making this an exercise in comfort in a difficult clinical context allowed the students to address affective, as well as cognitive issues, and their interaction. The data also demonstrate having the PLISSIT model as a base for adding clinical skills, instead of assuming that those skills existed or would follow, adds clinical skills strength to the PLISSIT model — a strength that we describe as "PLISSIT-Plus" and benefits from being taught together.

In the themes of comments for the first tutorial, 2 weeks into the course, students indicated initial nervousness but found as it progressed that they were more comfortable than they thought, although there was clearly a continuum of levels of discomfort. Students gained insight that it was also difficult for the *patient* to talk about sex. Skills learned in Essentials in Clinical Management were positively generalized, although there was an initial tendency to want to apologize for sexual questions. Students looking at the video noted their non-verbal communication, much of which they were unaware of and which may be exacerbated by stress, and found the visual feedback helpful. Using sexual language was reported as difficult but fluency developed. Insight into the issues and levels of comfort and discomfort developed fast: some students found that 5 or 8 minutes was too short a time and would have liked more. There were issues with doing the interviews online, such as eye contact, but many made the connection that telemedicine is an emerging skill that would be as important as inperson histories. They were advised to put a colored dot around or next to the camera lens and to use that as the "eye" of the patient.

For the second tutorial, which came in the fourth week of the course, on a more complex history of dysfunction, there was a clear expression of feeling more comfortable and being able to master the detail. People felt that they got better at open-ended questions, although a few thought that they talked too much. Give-and-take dialog with patients was established, giving patients time to speak for themselves. Students wanted to see examples of "good" interviews, so videos from the American Association of Medical Colleges and AIDS Education and Training Centers portfolios[14,15] were recommended on the course site. More attended to the non-verbal and the verbal detail after watching the first tutorial feedback. Adding positive non-verbal elements such as nods, smiles, and uh-huhs developed. Students noted that they were beginning to be able to navigate while withholding judgment and being able to meet the patients emotionally where they were. A number stated that they were feeling confident enough to choose some of the more complex case scenarios, and beginning to move from medical jargon into translating into lay terms. Getting into detail, such as being able to ask what "having sex" might mean behaviorally, emerged with the increased comfort, and people started making more smooth transitions as they began to integrate the course material into preliminary clinical hypotheses. One student observed in the discussion, "It isn't weird talking about sex if you don't make it weird!" Overall, the level of increased comfort and the ability to focus on the clinical detail without anxiety was clear in the comments in the second tutorial.

There were also organizational and methodological issues highlighted, such as perhaps allowing a more flexible length of time for the history, rare electronic recording issues, older software on the students' computers, or downloading problems, and so, giving enough time over a week for scheduling and uploading was important. There were a few inevitable connectivity

problems given the large number of students and heavy Internet use during the pandemic. For a large medical school with an intake of up to 180 students per year and expert, helpful, and dedicated IT support staff and facilities, this was logistically and educationally a great success. In situations without such support, there could conceivably be logistic and technical challenges. The insight and indeed enthusiasm of the students taking part in this clinical skill—building exercise was clear in the standard small group (on Zoom) end of course debriefings, which took place after the OSCE.

No details about the students were available, but based on pubic data on the cohort, the student median age was 24 years, range 22—31, with 45% men and 55% women. On student course evaluations, there were 2 relevant questions: "The 2 online tutorials made me feel more comfortable taking a sexual history" (5-point Likert scale, where 1 = strongly disagree and 5 = strongly agree), mean = 4.3, and "The 2 online tutorials were useful for practicing online sexual history taking," on the same scale mean = 4.4.

## DISCUSSION

These data are based on teaching sexual history taking online to first year medical students. The sample consisted of the entire class, and we report the design, organization, application, and student response to this novel method of teaching sexual history taking. As this was in the last courses scheduled before the end of academic year break, where students transition into second year, they had already been exposed to the "Essentials of clinical management" courses, which involve learning how to interact with patients, how to carry out simple examinations, and provider communications skills. We presented taking a sexual history not as a unique skill but as a special form of patient history that may cause discomfort or avoidance by both patient and clinician.

One of the most difficult steps of skill building for sexual health professionals, taking a sexual history, can be taught via the Internet. While in this example the "blind leading the blind" approach of having sexual health students alternate "patient" and "provider" roles was used, 3 subsequent sexual history OSCE (data not provided here) showed that standardized patient interviews are equally possible online. In fact, teaching sexual history taking online allows for asynchronicity: for participants to negotiate their own times (although they perform the exercise online together), practice until they are comfortable with downloading their interview, and also allows the tutor to observe and comment in their own time. In traditional face-to-face groups, in practice, tutors can listen to only 1 dyad at a time, and the students do not have the comfort of proceeding at their own pace, which is essential to achieving comfort in an intensely affective area of clinical practice. This is also enhanced by allowing students to choose their own case histories at the level of complexity at which they feel comfortable and to avoid possibly triggering cases.

The public availability of videoconferencing platforms such as Zoom and teaching platforms such as Canvas, with cloud storage where physical environment is typically owned and managed by a hosting company or academic institution, permits online teaching and feedback even in institutions without large information technology resources. This is not as complex as the UfaceME app,[12] where participants use a portable number-pad device to describe their viewpoints of the interaction to get immediate feedback for analysis, compare viewpoints, examine how the viewpoints are arrived at, and explore the viewpoints' consequences for the participants' relationship. However, Zoom does allow for (i) low cost, (ii) simple "at-home" application, (iii) asynchronous training, (iv) individualized tutor feedback for each participant, (v) the ability of the tutor to view the videos in their own time, (vi) integration of the linguistic, cognitive, and affective aspects of sexual history training, (vii) student choice of case history to match their comfort level and/or gender and avoid triggering, (viii) discussion boards to mirror tutorial discussion and give peer support and review, and (ix) opportunity to practice until they are happy enough with the case history video to submit it. All of these are designed to reduce discomfort and enhance the organization of sexual history—taking skills.

While there have been sexual health curricula that make use of electronic technology previously,[16] with the technology available nearly 2 decades ago, evaluations indicated that video-based dramatizations consistently received lower evaluations than interactive role playing in small group workshops.[17] By 2020, however, there has been a significant increase in the sophistication, coverage, and speed of electronic media. It is inevitable, as we face the COVID-19 pandemic and the strong growth of telemedicine, that further methodology and evaluation of electronic approaches to teaching skills in sexual medicine will emerge. Development of an app to teach sexual history—taking skills has already demonstrated acceptability and utility.[12] The faculty, support staff, and students have, we believe, been able to demonstrate that teaching sexual history taking skills online is not only possible but may even have advantages over the traditional inperson approaches. We encourage further replication, innovation, and evaluation of teaching sexual history skills in sexual health online.

### Strengths and Limitations

These data have the strength of being a whole medical school class and not a sample, thus representing the entire range of medical school students in the process and the discussion comments. The method of setting up online sexual history taking, and the evaluation, was relatively simple, owing to the short notice of teaching online. It can make possible the involvement of experienced clinicians who otherwise would not be on university or adjunct staff because they can choose their own time to see the videos. A future strength, given that the COVID-19 pandemic may impact healthcare teaching for months or years,

is the ease of replicating this approach with different groups of healthcare providers, in different geographical areas, or using different sexual vignettes (including randomizing gender of dyads or vignettes). Tailored sexual health knowledge, attitude, and comfort assessment tools such as the SHEPS[18] have already been developed for such evaluations. A major limitation is that this exercise could not be compared with the "standard" face-to-face teaching method in small groups with the same cohort, as this was not an experimental study but rather an uncontrolled "natural experiment" in teaching arising from the COVID-19 shutdown.

## CONCLUSIONS

The development of sexual history—taking skills using an online interview and interaction app appears to offer several advantages over the traditional inperson tutorial. Taught in the context of the PLISSIT model, sexual history—taking skills with a provided case history have the advantages of letting students practice and see their practice sessions and if they wish, rerecord them. These occur in their own time. They get a focused asynchronous evaluation from an experienced tutor who may not otherwise be able to make scheduled class tutorial times. Discussion boards for small groups of about 20 students (that would occur in a small group tutorial setting) can allow for anonymity, discussion of any problems, questions or difficulties arising from the exercise, and peer support and review and advice of the sort that health science students typically share when together but cannot easily do so during a shutdown or with limited time and staff.

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Michael W. Ross: Writing - Original Draft, Formal Analysis, Conceptualization, Methodology, Investigation, Resources, Writing - Review & Editing, Funding Acquisition, Project Administration; Nicholas Newstrom: Conceptualization, Resources, Writing - Review & Editing; Eli Coleman: Conceptualization, Resources, Writing - Review & Editing.

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