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Assessing Patient Goals for Gender-Affirming Hormone Therapy: A Standardized Patient Case for Medical Students

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Abstract

Introduction: Inadequate coverage of transgender and gender-diverse (TGD) health in the UME curriculum contributes to the scarcity of competent physicians to care for TGD patients. Increasing TGD health skills–based curricula in UME can help address TGD health disparities. We developed a standardized patient (SP) case to assess TGD health skills–based competencies and attitudes among medical students. **Methods:** An interdisciplinary team, including individuals with lived TGD experience, developed the SP case that was completed by second-year medical students at the University of Pittsburgh School of Medicine in January 2020. After the TGD SP session, students and faculty completed a postsession survey to assess the degree to which the case met the learning objectives. Students were assessed via self-reports, faculty reports, and SP video evaluations. **Results:** Seventy second-year medical students, 30 faculty facilitators, and eight SPs participated in 2020. Students reported being significantly more prepared to care for TGD patients ($Z = -5.68$, $p < .001$) and to obtain a gender history ($Z = -5.82$, $p < .001$). Both faculty and students felt that skills for caring for TGD patients were important in medical education and agreed the case should remain in the curriculum. **Discussion:** The case effectively honed and assessed students' ability to collect a gender history and discuss goals for hormone therapy with TGD patients. It should complement ongoing curricula to effectively train medical students in TGD health care. Developing these skills in students directly addresses the barriers that many TGD patients experience in health care settings.

Keywords

Gender-Affirming Care, Gender Diverse, Gender History, Transgender, Clinical/Procedural Skills Training, Competency-Based Medical Education (Competencies, Milestones, EPAs), Gender Identity, LGBTQ+, Standardized Patient, Diversity, Equity, Inclusion

Educational Objectives

By the end of this activity, learners will be able to:

1. Identify a patient's name and pronouns with good rapport and sensitivity.
2. Obtain a comprehensive gender history from a patient.
3. Assess a patient's goals for gender-affirming hormone therapy.

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Introduction

Transgender and gender-diverse (TGD) patient populations have specific health needs and are at higher risk for cardiovascular disease, suicide attempts, and depression and more likely to experience lower cancer screening rates.[1] Despite clear health needs, TGD patients encounter multiple barriers when accessing health care, including hesitancy to seek care due to fears of provider discrimination and prejudice and lack of knowledgeable physicians with training in TGD care. Reduced accessibility of TGD-knowledgeable providers contributes to TGD patients needing to educate their providers on TGD health when accessing care.[1]

Despite recent attention to inclusivity in medical education, there remains inadequate coverage of TGD health in UME, which contributes to the scarcity of physicians prepared to care for TGD patients.[2-4] While the topic of lesbian, gay, bisexual,

transgender, and queer (LGBTQ+) health averages 10 hours of coverage during UME, less than 2 of those hours are specifically for topics of TGD health care across all 4 years of medical school.[4,5] Moreover, medical students' clinical skills, knowledge, and attitudes regarding TGD health are insufficiently assessed during training.[4] In 2014, the AAMC recognized this gap and published recommendations for implementing TGD care topics in curricula.[6] However, according to recent evidence, gaps in knowledge and clinical skills regarding TGD health care persist.[3] Evidence suggests that more exposure to TGD patients enhances medical student ability to care for TGD patients, and standardized patient (SP) cases are an important tool in preparing medical students for clinical encounters. To date, the curricular materials for a few SP cases on transgender health have been published, including a case describing how to obtain patient pronouns, a multimodal approach to addressing transgender health that includes didactics and an SP case, and a case allowing students to practice gender-inclusive communication.[3,7-9]

In contrast to prior cases, we chose to focus on skill development rather than on assessing student knowledge and attitudes about gender-affirming care due to the paucity of available curricula in teaching clinical skills combined with the effectiveness of clinical skills training in supporting real-world clinical abilities.[3-5] Additionally, we decided to use a flipped classroom approach wherein students had access to some didactic material to read prior to the SP practice session, in order to optimize the use of classroom time. We focused on the skill of obtaining the patient's goals for gender affirmation, which is an intermediate skill between respectful gender-inclusive communication, obtaining patient honorifics such as name and pronouns, and providing gender-affirming care.[7-9] Specifically, our SP case contributes to the growing number of publications in *MedEdPORTAL* by providing a resource to be implemented within the preclinical years of medical school that allows students to practice their skills acquiring a gender history through a group case with a single SP rather than a one-on-one case. Other transgender curricula in *MedEdPORTAL* focus on educating residents, practicing interprofessional collaboration to provide TGD patient care, and teaching knowledge and skills to fourth-year medical students to care for the community.[8,10,11] Developing the skills presented in this case earlier in medical training directly addresses the barriers that so many TGD patients experience in health care settings, such as misgendering, feeling discomfort, or having providers who are not knowledgeable about TGD health.[1,2]

Increasing the number of skills-based resources can help medical schools improve their curricula to address TGD health. With this in mind, we developed, implemented, and analyzed an SP case where preclinical medical students were expected to develop the knowledge and skills necessary to engage in accurate medical history taking with a TGD patient inquiring about gender-affirming hormone therapy (GAHT). We wanted to focus specifically on the knowledge and skill needed to collect a gender history and obtain an individual patient's unique goals for GAHT, without any concern for a history of an illness script. The SP case portrayed a transgender person who was presenting to establish care for GAHT in the primary care setting, the goal for gender-affirming care as described within the recent iteration of the World Professional Association for Transgender Health standards of care.[12]

Methods

Curricular Context

The SP case (Appendix A) was implemented during the Advanced Medical Interviewing (AMI) course for second-year medical students at the University of Pittsburgh School of Medicine (UPSOM). AMI occurred in the spring semester of the second year of the preclerkship curriculum following the required Introduction to Medical Interviewing course for first-year medical students. Prior to this learning activity, the students received a 1-hour lecture during their Behavioral Health course on the topic of LGBTQ+ health and a 1-hour lecture during their Reproductive Biology course dedicated to transgender health, in addition to integrated coverage within other sessions. Students also developed their interview skills for taking a sexual history during their Introduction to Medical Interviewing course in a similar format as first-year medical students and built upon those skills as they applied to this case. This SP case was their first formal training on clinical skills necessary to interview and provide care to TGD patients, including taking a gender history.

In preparation for the SP encounter, students were expected to read the syllabus, which focused on gender and sexuality information broadly and as it related to the health care setting (Appendix B). At the beginning of their SP session, they were provided with a brief case scenario by their facilitator and tasked with obtaining a targeted history about the patient's gender story and goals for GAHT. Students received only the patient's legal name, which further simulated a real-world setting in that they needed to overcome the challenge of obtaining the patient's chosen name and pronouns at the start of the visit.

SP Session Logistics

Students completed this SP encounter as one of their weekly AMI sessions. Each AMI SP session was 3 hours, with three cases

per session. The three cases were independent of each other and intentionally did not overlap to strengthen students' abilities to interweave the interview skills they built upon throughout the course. Typically, two to three students per group practiced each case. Further explanation of the AMI format is included in Appendix A. This specific TGD SP occupied 1 hour during one AMI SP session. During that hour, students practiced the skills related to the TGD case learning objectives, as outlined earlier.

The TGD SP case (Appendix C) was first completed by second-year medical students in January 2020. Students were divided randomly into small groups of four to five students with one faculty facilitator and one or two SPs. The SP session occurred in person in the institution's small-group rooms. The SP and interviewer sat in two chairs at the front of the room. The remaining students observed and took notes while seated in a semicircle.

At the beginning of the TGD SP case, the faculty facilitator of the small group presented students with a case scenario and relevant information, including the patient's legal name, age, and chief complaint (Appendix D). The students were asked to elicit a targeted history from the SP, who presented as a new patient at a primary care outpatient clinic seeking GAHT. Each TGD SP session was recorded for review. Of note, it was standard practice to record these sessions; therefore, students were used to the presence of a camera mounted on a tripod.

These sessions were conducted using a pedagogical practice called the Primary Teaching Method (Appendix E).[13] Although we use the Primary Teaching Method at our institution, the SP case is translatable to any teaching style used at other academic institutions. Faculty facilitators who participated in the AMI course were prepped prior to the start of the course on how to implement the Primary Teaching Method during their sessions with students. Use of this case is not dependent on implementation of the Primary Teaching Method, but we have included a brief description of the method here and in Appendix E as a guiding point for those interested in using our method.

To start the interview, one student volunteered as interviewer while the remaining students observed. Each student spent an average of 10 minutes interviewing the SP. Each student had the opportunity to time out from the encounter or was timed out by the facilitator. During these time-outs, the facilitator conducted a standardized feedback process wherein the student was asked how the encounter was going and then received feedback from their peers and facilitator. Students could resume their interview briefly to implement the feedback they had received. At the conclusion of their interview, the student asked the SP for specific feedback. Then, another student took on the role of student interviewer. This process continued until the allotted time ended. On average, each interviewing student spent a total of approximately 20-25 minutes in the interviewer role, including feedback time. At the end of the AMI session, students received individual written and verbal feedback from the SP and facilitator about their performance that day.

SP Recruitment and Materials

SPs in the UPSOM program were recruited from the community through word of mouth, job postings, and partnerships with local organizations with aligned missions and values. All SPs were considered temporary employees of the university. They received training regarding standards and principles of SP work prior to interacting with learners.

For this role, we invited 30 trained and qualified SPs from our pool of 130 SPs to participate. SPs were chosen to portray the case based on their interest, their lived experience related to gender identity and expression, and/or their ability to convincingly portray the age of the patient. Information about sexual orientation and gender identity was not collected as part of routine employment practices at the university; thus, while our intention was to solicit involvement of TGD individuals, we were unable to ascertain the TGD status of participating SPs. Each SP was allowed to choose the gender identity they were most comfortable portraying. Our program encouraged SPs to incorporate their lived experiences and backgrounds into their portrayals of patients, so SPs were provided only with the patient profile (Appendix C) and not any additional, in-depth details. We intentionally gave our created patient the identity of transgender, which could also include some nonbinary identities as defined by the Human Rights Campaign,[14] to be broad and allow our SPs to elect their own identity preference while portraying the patient.

Fifteen SPs read through the case and participated in a 3-hour training session in December 2019. The onboarding consisted of a 1-hour introduction to AMI and being an SP, a half-hour overview of the TGD case, and a 1-hour role-play session to practice being the patient with the case developers. The overview of the case included discussion of the importance of SP comfort in speaking about gender identity and expression, and the 1-hour role-play focused on (1) communicating about gender identity and expression, (2) how to address student biases regarding whether someone "looked like" a TGD person, and (3) refining SPs' individual characters to incorporate lived

experiences into the case. Subsequently, the developers solicited feedback from the SPs and used it to guide future iterations of the case.

All participating SPs received a case package (Appendix C) prior to their AMI sessions with students. The package included the name and demographics of the patient they were portraying, their chief complaint, the learning objectives, and the case summary featuring detailed information regarding the patient's past experiences with health care, their gender history, and standardized responses to student behaviors and language.

Learner and Facilitator Assessments

After the TGD SP session concluded, each student completed a self-report survey (Appendix F), and each facilitator completed a faculty observer report (Appendix G) in Qualtrics. SPs also completed an objective video rater assessment report on student and facilitator performance (Appendix H) through video recording review. The survey questions assessed the degree to which the case met the established learning objectives, ease of use, and quality of the case.

The students' self-assessment survey asked them to evaluate their pre-/postcase ability to take a comprehensive gender history and to provide affirming care to gender-diverse patients. The survey also asked students to assess their understanding of health care barriers and disparities faced by TGD patients as impacted by completing the case. The use of a retrospective pre-/postcase self-assessment encouraged students to more accurately reflect on their comfort after having learned the gender-affirming interview skills in the case.

For objective feedback aligned with the TGD community's expectations for care, video footage was assessed and rated by TGD or TGD-allied (i.e., supporters of the community) SPs who rated student ability during the SP encounter and facilitator ability in addressing students' performance during pre-/postcase discussions or time-outs relative to case objectives. Because the student-SP encounters were in small groups, only the student initiating the encounter was responsible for asking name and pronouns; however, for students who did not initiate the encounter, raters were asked to identify whether they verified name and pronouns. For an objective measure of sensitivity in history taking, raters were asked to report common microaggressions experienced by the TGD community when receiving health care by using microaggression scales that we adapted.[15,16] SPs also provided their input on students' behaviors, affirming language, and ability to meet the case learning objectives. For each student encounter, raters also recorded whether faculty preceptors or medical student peers displayed microaggressions during feedback or advice to the student interviewer.

Data from both students and video evaluators provided information about student preparedness to offer sensitive and nonjudgmental care for TGD patients, as well as about how effectively the case allowed students to learn these skills. SPs were compensated for the time spent reviewing.

Case Development and Feedback

Individuals on the case development team identified as at least one of each of the following categories: a medical education expert, a physician with TGD health care expertise, or an individual with lived TGD experience. We emphasized the importance of engaging local impacted parties with lived TGD experience when developing, implementing, and evaluating the case. Feedback from our participating TGD community members guided the case adjustments at every stage of development, including those made for future iterations of the case after its official implementation in 2020.

Statistical Analysis

Student, faculty, and SP evaluations were statistically analyzed using IBM SPSS Statistics version 27.0. To minimize underreporting of microaggressions, the summary statistics were calculated utilizing denominators representing the number of responses to the individual question, or valid responses, rather than the total number of people who attempted the survey. The Wilcoxon signed rank test was used to compare student self-reported preparedness in clinical skills in caring for TGD patients before and after the SP case. Qualitative information about the encounters was collected via open-ended survey questions. Two independent raters familiar with the development of the case evaluated the qualitative data. Faculty and student comments were grouped into categories, and frequencies were calculated.

Results

Seventy second-year medical students, 30 faculty facilitators, and eight SPs participated in the TGD SP case in 2020.

Student Self-Report

Seventy-nine percent of students ($n = 55$) completed the postcase self-report and survey. After participating in the TGD case, students reported being significantly more prepared to care for TGD patients ($Z = -5.68$, $p < .001$) and to obtain a gender history ($Z = -5.82$, $p < .001$). Furthermore, students felt significant improvement in their ability to understand the health care challenges faced by gender-diverse patients

($Z = -5.19$, $p < .001$). Regarding their medical education, the majority of students felt it was important that they be trained to care for TGD patients (91%, $n = 50$) and to take a comprehensive gender history (95%, $n = 52$). Eighty-four percent of students ($n = 46$) reported that the case should be adopted into the curriculum for future students. In the open-ended responses, one student wrote that "it's really important that medical providers can use the right language and ask the right history questions for transgender/non-binary populations" and that "this case really helped teach both of those skills." Another student emphasized that medical students "don't get enough training on this topic as it is, so any exposure is more helpful than none."

Faculty Observer Report

One hundred percent of faculty ($n = 30$) completed the postcase observer report. Of those, most had received prior training on TGD patient care (67%, $n = 20$). Similar to students, the facilitators reported that medical school training should include skills for caring for TGD patients (97%, $n = 29$) and specific education on how to gather a gender history (90%, $n = 27$; Table 1). The majority of faculty felt that the case should be implemented in the curriculum for future students (80%, $n = 24$).

Video Rater Assessment and Outcomes

SP video review revealed greater variability in medical students' and facilitators' abilities to care for TGD patients. Only half of the interviewing students ($n = 35$) inquired about the patient's pronouns, and 29% of them ($n = 20$) also required SPs to correct their pronoun usage after they were informed of the patient's pronouns (Table 1). Students demonstrated greater ability to obtain a gender history, with 93% of student interviewers ($n = 65$) successfully obtaining the patient's gender history. Seventy-one percent of these students ($n = 50$) accurately assessed the patient's goals for GAHT.

The most common microaggressions were students misgendering the patient during the SP encounter or during pre-/postcase discussions or time-outs (43%, $n = 30$) and making assumptions about the patient's intended gender-affirming transition goals (13%, $n = 9$; Table 2). Of the nine instances of making assumptions, most (56%, $n = 5$) related to the assumption that the patient would be pursuing surgery to complete their transition, even if the patient made it clear they only wanted to explore hormone therapy. There also tended to be a focus on sexual practices/orientation and reproductive goals (33%, $n = 3$), as well as assumptions made that this patient had used off-market treatments previously (11%, $n = 1$). No instances were identified in which experiences of discrimination were dismissed or minimized, nor did students question the patient's motives for transitioning.

Sensitivity, defined by use of the adapted microaggression scale, during the SP encounter varied. SP reviewers noted 17 student microaggressions during time-outs with faculty and peers, as opposed to during the actual encounter with the SP. Of 10 reported misgendering events, only 30% were pointed out, and most corrections were by student peers. Four facilitators (13%) misgendered the patient during time-outs, even after learning

Table 1. SP Video Review of Medical Student Ability ($N = 70$)

Behavior During Interview	Observed No. (%)
Learning objectives	
Did the student initiate the encounter (i.e., first interviewing student)?	38 (54)
Did the student(s) inquire about the patient's chosen name?	32 (46)
If already asked by the previous participant, did the student confirm the patient's name?	33 (47)
Did the student(s) inquire about the patient's chosen pronouns?	35 (50)
If already asked by the previous participant, did the student confirm the patient's chosen pronouns?	17 (24)
Did the SP need to correct any of the students to use chosen name and/or pronouns?	20 (29)
Did the students assess the patient's goals for gender-affirming therapy (e.g., ask what changes they hope to see from therapy)?	50 (71)
Did the students obtain the patient's gender history?[a]	65 (93)
1-2 questions	38 (54)
3-4 questions	20 (29)
5+ questions	7 (10)
Unacceptable behaviors	
Did the interviewing student misgender the patient or use legal/dead name after being corrected?	14 (20)
Did the SP portray anxiety or discomfort during initial introductions? (If participating student did not go first, select N/A.)	27 (39)
Did the SP portray anxiety or discomfort over the course of the simulated encounter with this participating student after initial introductions?	34 (49)
If yes to previous two statements, did the student(s) respond appropriately to put the patient at ease?	37 (53)

Abbreviation: SP, standardized patient.
[a]Includes rewarding students by giving information for skills well done by them. Components of a gender history can include (1) when the patient identified that their gender was incongruent from their birth sex; (2) what their journey has been like so far; (3) what strategies they have used so far to affirm their gender, which can include social transition elements (name, pronouns, clothing) or previous medical/surgical care; (4) how these strategies have helped them; (5) what additional aspects of gender-affirming care would be helpful; and (6) if something is identified per question 5, asking about whether/how this incongruence can still be bothersome for them.

Table 2. Standardized Patient Video Review of Microaggressions by Medical Students ($N = 70$)

Behavior	Observed No. (%)
Were assumptions made about whether or not the patient would be making gender-affirming transition choices (e.g., surgery)?	9 (13)
Were experiences of transphobia or discrimination denied, minimized, or dismissed?	0 (0)
Did the student deny their own personal acts of transphobia, if present?	0 (0)
Did the student make assumptions about a "universal" transgender experience?	3 (4)
Did the student question motives for the patient's gender identity or reasons for transition (e.g., "a phase," "you're too old")?	0 (0)
Did the student suggest the patient was being defensive or sensitive when talking about their transgender experience?	0 (0)
Did any student misgender the patient during the session?	30 (43)
Did the student avoid or change the topic when discussing gender identity, gender history, or transition goals?	1 (1)
Did the student make references to the patient as "fascinating" or exotic?	1 (1)
Did the student ask invasive questions (e.g., focus on sexual behaviors, HIV status, genitalia, etc.)?	2 (3)
Did the student voice discomfort or disapproval of the patient's gender identity?	1 (1)
Did the student use overtly transphobic language (i.e., transphobic slurs)?	0 (0)
Did the student verbally or nonverbally demonstrate discomfort specifically due to the patient's gender identity?	5 (7)
Did the student demonstrate nonverbal or indirect assumptions or biases?	4 (6)

the patient's name and pronouns while observing students' performance.

Thirty-percent of medical students ($n = 21$) were recognized as affirming by SPs beyond the basic requirements; strategies for affirming included identifying the patient's discomfort, identifying the encounter as a safe space for gender expression, validating past negative health care experiences, and asking the SP to let them know if the SP felt uncomfortable so that they could change their behavior.

Case Feedback and Adjustments

Throughout the development of the case, we adjusted the scenario and language based on feedback from community members who were part of the design team. Examples of suggested changes early in the case-writing process included simplifying the learning objectives to ensure the focus was on skill development rather than on teaching students specifics about hormone and screening guidelines, creating a more realistic patient vignette that better simulated TGD individuals' personal and health care experiences, and improving the postcase SP evaluations. During a feedback session, one SP reaffirmed the importance of emphasizing in the case the harm of gendered and gatekeeping language used by providers:

> Having a doctor assume things about one's gender or sexual identity without talking to the patient about them first can immediately put a patient on the defensive, because they may no longer feel safe coming out to the doctor. If I, for example, had a medical professional use this type of assumptive language in the room with me, I would be afraid that by coming out as a transgender person would lead to them denying me service, even if I went in seeking help for a completely unrelated reason.

Discussion

Our SP case offered second-year medical students the opportunity to specifically learn and practice the skills related to obtaining a gender history for the purpose of GAHT. Given the results from the student and faculty reports about the impact of the case on student preparedness for and understanding of TGD health care, the case achieved the intended purpose of improving students' comfort in obtaining a gender history, building rapport, and assessing patient GAHT goals. By targeting these clinical skills at this early stage in medical student training, students can learn to interview TGD patients sensitively and effectively and elicit relevant information about their gender-affirmation goals and history.

By involving—and compensating—our TGD and TGD-allied SPs in the case development, we were able to meet our goal of creating an innovative curricular intervention that would contribute to the improvement of TGD patients' health care experiences with physicians. The TGD and TGD-allied SPs who contributed to the case development and implementation by reviewing the video recordings observed a handful of microaggressions and areas for improvement in student skills. The most common microaggressions observed were misgendering and assuming the patient's gender-affirmation and health goals. Interestingly, students self-reported a greater degree of confidence in their skills than they demonstrated during the session based on their video evaluations. Specifically, by focusing on interview skills, our SP case contributed mainly to two of the AAMC competency domains: (1) Patient Care and (2) Interpersonal and Communication Skills.[6] However, there remain six domains and more than 20 professional competencies recommended that are necessary to enhance proficiency in caring for TGD patients.[6] Thus, this case should complement additional ongoing curricula—including education about hormone

therapy, health screenings, and mental health for gender-diverse patients—to effectively train medical students in TGD health care.

A strength of our case implementation is the large size of our institution's SP program and the number of course facilitators. We were able to train and collaborate with TGD and TGD-allied SPs for this case specifically. However, our broad SP program and available facilitators could limit the generalizability of results given that not every medical school will have access to a similarly diverse population of SPs or large number of faculty to assist with case implementation. We recommend institutions adapt the case to their available resources and preferred student interviewing teaching method. For example, SPs could be trained to lead and grade sessions in place of faculty facilitators. Furthermore, the case could be adapted to a 1:1 format to accommodate limited faculty and SP availability via an objective structured clinical examination. The case could also be adapted into other health care trainee settings such as nursing and physician assistant programs. Similar considerations for case adjustments regarding facilitator and SP availability should be applied to these non–medical school educational environments. Another adaptation that could be considered by other institutions implementing the case is to adapt the case description and SP training materials (Appendix C) to encompass other gender-diverse identities as represented by their SP population or desired gender history taking training for students. Other limitations include the lack of faculty training for the SP case. Our results revealed that facilitators also misgendered the patients during sessions, which supports the need for improved faculty development in TGD health care to strengthen their ability to educate and train students. Most facilitators self-reported prior education about TGD health care, but the specifics of their education were not elucidated in the survey. Ensuring effective facilitator training is necessary not only for the success of the case but also to ensure that the learning environment during the SP training session is one that conveys support for LGBTQ+ medical students who may be participating in the learning encounter.

After we initially launched the case in the second-year curriculum, we received feedback from students, faculty, and SPs that implementing it earlier in student education would be more appropriate, given both the simplicity of the case and the need for earlier skills-based training in gender affirmation. Thus, the following year, we moved the SP session to the first-year medical student Introduction to Medical Interviewing course, which used the same format as AMI but had a focus on the fundamentals of clinical interviewing. By encountering the case at this early stage, students could learn the importance of inclusive and affirmative care while interviewing diverse patients and could strengthen their gender history taking skills early in their training. While other institutions have been able to successfully recruit only TGD individuals to be SPs, we did not collect the gender identity information of SPs for the portrayal of the TGD patients.[17] Although this may have had implications regarding student interpretation of gender identity, we focused on ensuring TGD individual involvement throughout the development and evaluation of the case. Individuals with TGD experience developed the case, were involved in SP training, and reviewed the video footage as part of the evaluation process. We also trained SPs on how to navigate biases that could arise regarding what a TGD person might look or sound like during the case portrayal. We encourage institutions unable to have only TGD individuals as SPs for this case to involve TGD individuals at all parts of the case implementation to support accurate implementation. Lastly, as language evolves, it is important to ensure that the case reflects respect for the personhood of TGD individuals. The language in the original case has been slightly modified to reach this goal and may need to be modified for future use.

While our 2-hour case met its intended learning objectives, it is evident that students require significantly more training to establish competency in TGD health. Future directions for the case include adapting it to fit more advanced educational settings to educate clinical medical students. The case could be adjusted to focus more on the provision of hormone therapy and health screening for gender-diverse patients, for example. Additionally, educators can alter the patient's age to provide students with an opportunity to learn more about caring for gender-diverse pediatric and adolescent, or geriatric, patients. The flexibility of the case allows for its implementation in multiple settings depending on a program's desired TGD health care skill development for medical students.

Appendices

A. AMI Course Description.docx

B. Student Syllabus Prereading.docx

C. TGD SP Case.docx

D. Faculty Guide TGD SP Case.docx

E. Primary Teaching Method Schematic.docx

F. Postsession Student Self-Report Survey.docx

G. Postsession Faculty Observer Survey.docx

H. SP Video Evaluation Survey.docx

All appendices are peer reviewed as integral parts of the Original Publication.

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Ethical Approval

The University of Pittsburgh Institutional Review Board deemed further review of this project not necessary.

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