

## Teens as Teachers: Improving Recruitment and Training of Adolescent Standardized Patients in a Simulated Patient Encounter

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### Abstract

**Background:** Studies in medical education have reliably established the importance of utilizing adolescents as standardized patients. Their realistic portrayals offer authentic learning experiences. Additionally, the curricula can offer the adolescent participants a meaningful educational opportunity.

**Methods:** The “Teens as Teachers” program was developed at the University of Connecticut, School of Medicine, to prepare second year medical students to interview, elicit a history and address issues related to risk behaviors in adolescent standardized patients. In addition, the program offers educational and mentoring opportunities for the teenaged participants.

**Results:** The twenty-four adolescents trained as standardized patients have worked with 359 second year medical students. Results reveal that the adolescents felt the training adequately prepared them for their cases, found the overall experience rewarding and 100% of the adolescents would return to participate if possible. 88.6% of medical students rated the cases authentic, 98.8% found them valuable, 94.2% were able to practice the skills learned during lecture and 96.8% received feedback from the adolescent standardized patients.

**Conclusion:** Utilizing adolescent standardized patients to teach interviewing skills to medical students can prepare them to elicit comprehensive histories and can be a beneficial learning experience for the teenaged participants.

**Keywords:** Adolescent patient instructors; Adolescent standardized patients; Medical education

### Introduction

The University of Connecticut School Of Medicine has implemented an adolescent SP program to help address the growing need for physician training that addresses adolescent health concerns and needs. Adequately training physicians in adolescent health and providing care to this population has multifaceted challenges partially due to the scarcity in the use of adolescent standardized patients (SPs) in medical education [1,2]. There has been a recent call for comprehensive reform to improve adolescent health care services, but the lack of professional medical consensus and clinical training standards for this diverse group posts an additional challenge [3]. The Institute of Medicine (IOM) report on adolescent health services highlights missed opportunities for strengthening primary care services for adolescents with an emphasis on access to care, behavioral health, and disease prevention [2,4,5]. Many professional organizations advocate for more teaching or mentoring in adolescent health for medical students [2].

As an effort to improve medical education in adolescent health, there has been a limited but increasing use of adolescent SPs for instruction or assessment [2]. In general, results suggest that adolescent SP programs may be beneficial for both medical students and adolescent SP participants, but these preliminary programs are

not without weaknesses. For example, one study showed that third-year medical students’ performance competence using adolescent SPs was lower for history-taking skills than professionalism and communication in an adolescent contraceptive case [2]. From the perspective of the adolescent SP, evaluations are generally positive and highlight the value of the programs for the acquisition of job skills, self-assurance, and the satisfaction in making an important contribution to society. The potential for negative effects on adolescent SPs often stems from the discomfort in role-playing, which can be remedied through appropriate introduction, training and debriefing methods [6-8].

Within the small body of research published on adolescent SP programs, most focus on single experiments; only one study was identified that evaluated an adolescent SP program over multiple years [1]. Furthermore, accompanying a growing diversity of the adolescent population, health disparities have been widening in this age group which carry implications for long-term health. The authors have not identified any studies describing an SP program that included adolescents from diverse racial and ethnic backgrounds.

Currently in its seventh academic year of offering an adolescent SP program for medical students, the University of Connecticut, School of Medicine (UCSCOM) has successfully established and integrated the use of adolescent SPs into the existing Clinical Skills Assessment Program (CSAP). This article will describe: (1) the development of the “Teens as Teachers” program at UCSOM; (2) demonstrate its success at improving the authenticity of the adolescent cases; (3) the learning

experience of the medical students and the adolescent SPs over seven years; as well as (4) lessons learned from this program.

## Methods

### Program design and setting

UCSOM provides its medical students the opportunity to practice communication and physical examination skills during encounters with SPs as part of the Clinical Skills Assessment Program (CSAP) [9]. The CSAP provides formative and evaluative patient encounters across all four years of medical school [10]. In the 2008-2009 academic year, adolescent SP encounters were introduced via the "Teens as Teachers" program as part of a new Principles of Clinical Medicine II, Clinical Skills curriculum based on an expanded social history assessment addressing potential risk behaviors: Home, Education, Alcohol, Drugs, Diet, Sex, and Suicide (HEADDSS), a vital part of adolescent history taking and adolescent care [11,12]. The curriculum focuses on important communication skills and the HEADDSS rubric to train medical students in effective communication and interpretation of the nuances in obtaining a relevant and reliable adolescent social history.

All second-year medical students participate in adolescent SP encounters as part of the Principles of Clinical Medicine (PCM) as second years. The PCM course is the "doctoring course" at the UCSOM. Each session consists of an hour-long didactic on adolescent history taking and an encounter with the adolescent SPs (approximately 15-20 minutes), feedback from adolescent SPs at each encounter, and debriefing with faculty. Each encounter is recorded on a secured website (CAE – METI Learning Space). The SP encounters program within the CSAP is fully integrated into the undergraduate curriculum at UCSOM.

### Adolescent recruitment and training

The adolescent recruitment and training process has evolved since its inception in 2008, with a common goal to connect with adolescents from underserved urban areas who may not otherwise become familiar with the medical profession. In the first year of the program, the authors worked with a local community center which offered a variety of after school activities for adolescents. In the subsequent years, 2009 to the present, adolescent SPs in grades 9-11 were recruited from local urban high schools that specifically had health related thematic tracks. More specifically, these magnet high schools have dedicated curriculum exploring the health sciences. In both cases, whether community center or high school, the organizations publicized the opportunity and once interested students were identified, parental permission was obtained.

Orientation and training for adolescent SPs is provided at each recruitment site. The sessions involve an introduction to the program and discussion of goals. Integrated throughout the orientation and during the adolescents' later visit to UCSOM, information on general adolescent health is shared. The program goals are two-fold: (1) to improve medical students' adolescent history taking and interviewing skills; and (2) to provide a meaningful educational experience for the adolescent SPs. Subsequently, the orientation and training of the adolescent SPs involved: health information pertinent to the population, discussions on how to talk with their own physicians, and time with medical students outside of the CSAP encounters to discuss career paths, solicit advice and share contact information for future networking opportunities.

To prepare the adolescent SPs similarly to training for adult SPs, the adolescents are given a specific script about at-risk drinking (see detailed case description below) to learn and practice for their encounters with medical students. The script is discussed in detail with particular emphasis on the social history and the opportunity that role-playing provides. The goal is for the adolescents to portray the role accurately and consistently.

Another component of adolescent SP training is to learn how to provide formative feedback to medical students. While this concept was discussed and practiced during the training from the beginning of the program, it was enhanced in the 2009-2010 academic year. During this year, two new items were introduced: the adapted Structured Communication Adolescent Guide (SCAG) and a video developed by the authors. The adolescent SPs are trained on the basis of four communication domains (getting started, gathering information, adolescent alone – including lifestyle, and wrap up) adapted from the SCAG [11]. In addition, adolescent SPs are shown and asked to critique training videos created by UCSOM faculty, which demonstrate both good and poor facilitative behavior. As part of the training, the adolescent SPs utilize the adapted SCAG to discuss the type of feedback they would offer a student who performed like the ones in the videos.

On the actual days of the adolescent SPs encounter with the medical students, an additional dress rehearsal occurs prior to the beginning of the session. When the adolescent SPs are not participating in encounters with medical students (breaks are built into the schedule), they have the opportunity to observe their peer SPs from an observation room. This observation serves as additional training as they witness how others perform the role and provide feedback. In addition to encounters with medical students, adolescent SPs are provided lunch with medical students, a tour of the University of Connecticut Health Center, a small-group interactive educational session, certificates of appreciation, and a gift bag.

### Content of SP role

Adolescent SPs portray one of two cases as a 16 or 17 year old adolescent seen for an annual physical. The doctor asks the parent(s) to leave the room for a private discussion with the adolescent. The chief concern is that s/he has come in for an annual well-child check/physical exam. The first case involves a teen who is a regular marijuana user (smoking marijuana three to four times per week), drinks (mixed-drinks) at parties on the weekends or when hanging out with friends, has gotten drunk before, and has gotten sick in her/his neighbor's yard a couple of times. S/he has never tried other drugs like methamphetamines, heroin, or cocaine. The second case involves a cigarette-smoking adolescent who has never smoked marijuana. S/he started smoking cigarettes over the past two weeks due to stress and school and experiences related to her/his home situation. At the visit, s/he now smokes half a pack per day and also drinks at parties (both beer and "hard alcohol"). S/he has gotten drunk once but hated how it felt; therefore, more recently s/he has "only" had one or two drinks at parties. S/he has never tried other drugs like methamphetamines, heroin, or cocaine.

### Medical students

Medical students see the adolescent SP in pairs; one student is the primary interviewer tasked with obtaining the expanded social history and the second student is tasked with observing the interaction,

checking for thoroughness and engagement. At the conclusion of the interview, the adolescent SP, utilizing the adapted SCAG, provides feedback to the interviewing student. In addition, the observing student offers her/his comments and finally, during the small group debriefing session, the faculties who have observed the encounter from another room provide an assessment.

In the next encounter, the roles are reversed to allow each student an opportunity to take the history as well as observe and give feedback. Each encounter is also videotaped so that the medical student can review his/her work for self-evaluation.

### Instruments

Medical student self-reported experiences of the adolescent SP program:

Medical students are asked to complete a series yes/no and qualitative questions regarding components of the encounter including: (1) the authenticity of the adolescent cases; (2) the ability to practice HEADDSS lecture techniques; (3) whether feedback from adolescents was received; (4) the quality of the adolescent feedback and; (4) the overall value of the session over a period of time of seven academic years from 2008-2009 to 2014-2015.

### Adolescent SP self-reported experiences

Starting in the 2011-2012 academic year, adolescent SPs completed an eight-item scale reflecting experiences for various components of the program; prior to 2011, such information was collected only informally. Four items on experiences in orientation session, quality of lecture on adolescent development, quality of the UCSOM lecture, and overall experiences were rated on a 4-point scale from “Just Okay” (1) to “Excellent” (4). The remaining four items included feeling prepared

to act out the part of the adolescent SP, understanding what the SP was supposed to do, having lunch with medical student, and being able to give medical student feedback were rated on a 5-point Likert scale from “Strongly Disagree” (1) to “Strongly agree” (5). Finally, adolescent SPs were asked whether they would be interested in participating in the program the following year (if they were not graduating seniors).

### Analysis

Frequency distributions (percentage, mean, standard deviation) for all items to measure both medical student and adolescent SP experiences were reported for each year of the program. Qualitative responses were also recorded and summarized. Differences in scores were calculated across items and trends in responses were calculated across each year of the program.

### Results

#### Medical Student Experiences

Summary measures representing medical student self-reported experiences on the “Teens as Teachers” program is presented in Table 1. The majority of medical students provided positive feedback for each of the primary components of the adolescent SP encounter. On average, among a total of 359 second year medical students (from 2008-09 to 2014-15), 88.6% reported that the adolescent cases felt authentic; and 98.8% reported the session worthwhile. Variations of ratings were observed, for example, 94.3% of the medical students in 2009-2010 reported that their adolescent SP encounters felt authentic, but in 2010-2011, only 77.1% did so.

Feedback item	2008-2009 (n=74)	2009-2010 (n=70)	2010-2011 (n=40)	2012-2013 (n=87)	2013-2014 (n=88)	2014-2015 (n=87)	Total (N=359)	Average response rate (%)
Thought adolescent cases were authentic	87.80%	94.30%	77.10%	87.40%	93.20%	92.00%	89.30%	88.60%
Able to practice lecture techniques	90.50%	92.90%	100%	90.80%	96.60%	100.00%	93.60%	94.20%
Received feedback from adolescent	86.50%	98.50%	100%	98.90%	100%	100%	96.60%	96.80%
Found session valuable	100%	100%	96.30%	98.80%	98.70%	98.80%	99.00%	98.80%

Table 1: Medical student feedback of the "Teens as Teachers" adolescent SP program, 2008-2015=(359).

Qualitative comments provided by medical students expanded on some of the strengths and weaknesses of the program. Some students were unsatisfied with the quality of the adolescent encounter itself, finding interactions “awkward with multiple people in the room”, but other students commented on the value of interviewing adolescent SPs in pairs (of medical students). However, a majority of medical students commented their positive experiences. Multiple medical students commented on the high quality of the feedback they received from the adolescent SPs, particularly in more recent years of the program: “The adolescents were extremely effective in their roles and gave wonderful feedback (it was almost as if they had been fully trained on MIRS).”

### Adolescent experiences

Beginning in 2011-2012, the adolescent SP program was evaluated from the perspective of the adolescent SPs. Overall, for the past three years, the 24 adolescent SPs rated their experiences highly - the mean overall experience for the three years of the program was rated 3.8 out of 4 (Table 2). More specifically, the adolescent SPs’ mean rating for whether they felt prepared to act out the part of the adolescent SP was 4.8 out of 5; and 92% of adolescent SPs responded “strongly agree”, the highest rated category, when asked if they understood what they were supposed to do. Despite a small sample size (mean n = 8 per year), every adolescent SP in each year rated the orientation/training as good to excellent and agreed that they felt well prepared to portray the role.

Additionally, all adolescent SPs stated they would be interested in returning the following year to participate except for those who were graduating seniors. When asked what they found most valuable about the program, qualitative responses included small group sessions and working with the medical students directly. The most consistently

appreciated component of the program was having lunch with the medical students. The adolescents enjoyed the candid discussions and encouragement offered. In many cases, medical students provided the adolescents their email addresses for on-going correspondence with the adolescent SPs.

Scale ratings <sup>a,b</sup>	Feedback item	2011-2012 (n=6)		2011-2012 (n=6)		2011-2012 (n=6)		Overall n=24
		Mean	SD	Mean	SD	Mean	SD	
b	Orientation session at your high school	3.7	0.5	3.7	0.4	3.4	0.5	3.6
a	Felt prepared to act out the part of the adolescent patient	4.7	0.4	4.8	0.4	4.9	0.4	4.8
a	understood what I was supposed to do	4.7	0.8	5	0	5	0	4.9
b	Quality of lecture on adolescent development	3.3	0.7	3.8	0.4	3.4	0.7	3.5
b	Quality of lecture at the Unconn Health Centre	3.5	0.8	3.7	0.4	2.9	1.4	3.4
a	Enjoyed lunch with medical students	5	0	4.9	0.3	4.9	0.4	4.9
a	Able to give medical; students feedback	4.8	0.4	5	0	4.9	0.4	4.9
b	Overall experience	3.5	0.5	3.9	0.3	4	0	3.8
	Total	4.2	0.5	4.4	0.3	4.2	0.5	4.2

a5-point Likert scale (5=Strongly agree; 4=Somewhat agree; 3=Agree; 2=Disagree; 1=Strongly disagree)

b4-point Likert scale (4=Excellent; 3=Very Good; 2=Good; 1=Just okay)

Table 2: Adolescent SP evaluations of the "Teens as Teachers" Experience, 2011-2014.

### Changes in the views of medical student and adolescents

Since adolescent SPs began providing feedback on the "Teens as Teachers" program in 2011-2012, only three full years of data are available to evaluate how adolescent SPs' views differed year-to-year. In general, adolescent SPs rated the program similarly in each year. No significant differences were identified due to small sample size. Medical students also provided consistent results (across five years of the "Teens as Teachers" program, with the exception of 2010-2011, when the consensus regarding the authenticity of the adolescent cases dropped below 80%.

### Discussion

Results from UCSOM's experiences with the "Teens as Teachers" program clearly reveal positive experiences for both adolescent SPs and medical students. Each group increased their knowledge of adolescent healthcare. It is well established that practice with adolescents portraying realistic cases is beneficial for medical students to develop those skills [12]. Teaching and assessment of communication between medical students and adolescents is important because the adolescent years play such a large part in determining future health outcomes [1]. A recent study by Macdonald et al. [12] found that the use of adolescent SPs was an excellent teaching and learning tool for improving medical student confidence and performance. They also found that residents who were exposed to adolescent SPs as undergraduate medical students exhibited significantly higher communication skills in adolescent encounters compared to residents who received no structured feedback during their medical training [12].

"Teens as Teachers" has been a valuable program at UCSOM from the viewpoints of both medical students and adolescent SPs. Medical students expressed their beliefs that the program was beneficial from the aspect of importance as well as execution. Students ranked both the lecture components as well as the clinical scenarios highly; they believed that the cases portrayed were realistic and that the feedback provided by the adolescent SPs was valuable. The literature substantiates this claim, finding that feedback from the patient's perspective resonates with medical students more so than from a clinical instructor [1,12].

In addition to the qualitative responses provided in the results, medical students suggested they were happy to communicate with a "real" adolescent:

"It was very useful hearing direct feedback from an adolescent about their comfort level with me."

As for the adolescents, many provided qualitative feedback showing their appreciation for working with medical students and suggested the program was fulfilling its primary aim:

"I improved my speaking skills and learned more about how to talk to my doctor."

Finally, School administrators who were present for all trainings and the actual sessions also expressed positive views of the program and the importance of having adolescents participate.

Despite its continuing success, the "Teens as Teachers" program is still evolving and is not without limitations. One of the initial limitations, which is also supported by the literature, is that some of the adolescents were reticent to give feedback or gave very vague

feedback like “you did okay” [13]. In response, a large part of the program has become dedicated to increasing the quality of feedback skills amongst the adolescent SPs. Training and practice has been integrated both during the orientation (with time to provide feedback to peers and faculty) and during the actual encounters with the medical students (hence the time allotted for observation). The enhancements have proved successful in addressing the adolescent SPs modesty or ambiguity in providing feedback.

Another limitation that the authors are currently addressing is the absence of the actual SCAG response feedback from the adolescent SPs. These forms were completed by the adolescent SPs and utilized to provide feedback, however, there only intermittently collected and shared with the medical students. In the future, more specific instructions and oversight will ensure that this data is properly recorded and distributed.

The “Teens as Teachers” also suffers from the same limitations that many doctoring courses have, namely the brevity of the individual experiences provided within the curriculum. “Teens as Teachers” is a one-week session carried out only once per academic year. The lessons and skills taught during this session should be reinforced in other rotations and clinical experiences throughout medical school.

A final limitation is that “Teens as Teachers” is a program unique to UCSOM; although many of the issues we encountered are likely common among all SP programs, our individual idiosyncrasies may impact generalizability.

## Conclusion

Overall, “Teens as Teachers” has a future focus on retrieving high quality outcome satisfaction data from adolescents, as well as producing high quality feedback data for the medical students to improve their communication skills. Adolescents can be successfully trained as SPs and to provide high quality feedback to medical students and faculty [1,2,12]. Medical students positively rate the exposure to and quality of adolescent SPs to practice history taking skills and participating adolescents appreciate the exposure to medical education. Future focus will be placed on optimizing adolescent recruitment efforts (working with high school schedules, weather), maintaining a consistent group of adolescents to facilitate training and mentoring within a group, and standardizing training and evaluation that enables valid feedback to be received from both adolescents and medical students.

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