

# Improving Students' Sexual History Inquiry and HIV Counseling with an Interactive Workshop Using Standardized Patients

Steven A. Haist, MD, MS, Charles H. Griffith, III, MD, MSPH, Andrew R. Hoellein, MD, Gregg Talente, MD, MS, Thomas Montgomery, MD, John F. Wilson, PhD

**Sexual history and HIV counseling are essential clinical skills. Our project's purpose was to evaluate a standardized patient (SP) educational intervention teaching third-year medical students sexual history taking and HIV counseling. A 4-hour SP workshop was delivered to one-half of the class. Four weeks later, all students engaged in an SP examination including one station on assessing sexual history taking and HIV counseling. Workshop participants scored one standard deviation higher on sexual history and HIV counseling items than nonparticipants. Our sexual history and HIV counseling curriculum was associated with students asking more thorough sexual histories and providing more HIV counseling.**

**KEY WORDS:** sexual history; HIV counseling; standardized patients; interviewing; teaching.

**J GEN INTERN MED 2004;19:549-553.**

The U.S. Preventive Services Task Force recommends that "all adolescent and adult patients should be advised about risk factors for HIV infection and other sexually transmitted diseases (STDs), and counseled appropriately about effective measures to reduce the risk of infections...."<sup>1</sup> Nevertheless, studies of medical students,<sup>2</sup> residents,<sup>3</sup> and practicing physicians<sup>4-6</sup> have documented that HIV risk behavior continues to go unidentified and that there is ineffective counseling on HIV prevention. The first step in assessing HIV risk is to obtain a thorough sexual history. However, physicians and trainees express difficulty inquiring about sexual history because of the sensitive and personal nature of this query.<sup>7,8</sup>

Published research on teaching sexual history inquiry and HIV risk assessment and counseling tends to be case series and descriptive, often using individuals as their own control group,<sup>6,9</sup> or using intermediary outcomes, such as perceived personal skill in taking a sexual history, rather

than measurement of actual skill.<sup>10</sup> Therefore, the purpose of our project was to more rigorously evaluate the effectiveness of a standardized patient (SP) educational intervention teaching third-year medical students effective HIV counseling and sexual history taking skills. Our hypothesis was that third-year medical students participating in our interactive sexual history-HIV counseling (SHHIVC) workshop would obtain more in-depth sexual histories and provide more in-depth HIV risk reduction counseling on an end-of-clerkship SP examination than students not participating in the workshop.

## METHODS

### Program Description

A 4-hour SP-based workshop was developed for third-year medical students in our ambulatory internal medicine clerkship. Based on principles of effective adult learning,<sup>11</sup> the workshop was designed to be interactive, with coached practice, feedback, and time for reflection. Students engaged in role-play exercises with SPs portraying various clinical situations where sexual history inquiry and HIV counseling are important. Specific learning objectives for the workshops were: 1) each student would learn to obtain an in-depth sexual history; and 2) each student would learn to provide HIV risk reduction counseling, including patient education regarding HIV transmission, infection prevention, and HIV testing.

There are 12 four-week rotations throughout the academic year and each rotation included 6 to 8 students. The workshop format consisted of students interviewing 4 different SPs for 15 to 20 minutes each. The SP scenarios included: 1) a 17-year-old girl presenting for an athletic physical; 2) a 27-year-old man requesting an HIV test; 3) a 34-year-old woman wishing to begin birth control pills; and 4) a 61-year-old woman presenting for an annual checkup. SPs were chosen to represent the adult lifespan so students would become comfortable obtaining detailed sexual histories from men and women of all ages. There were two different formats for the workshop: 1) one or two students individually interviewed each SP in front of the preceptor and the rest of the students, with immediate feedback being given to the interviewer; or 2) students individually or in pairs would rotate from exam room to exam room encountering the 4 SPs. The SP encounters comprised the first 2 hours of the workshop. The last 2 hours consisted of discussion with the workshop faculty preceptor on issues that arose in the encounters, as well as factual information on obtaining a sexual history, methods of birth control, STD prevention, HIV risk assessment, and HIV risk

---

Received from the Departments of Internal Medicine (SAH, CHG, ARH) and Behavioral Science (JFW), University of Kentucky College of Medicine, Lexington, Ky; Department of Medicine and Pediatrics (GT), East Carolina School of Medicine, Greenville, NC; and Department of Medicine (TM), University of South Alabama, Mobile, Ala.

Presented at the Southern Society of General Internal Medicine Meeting on February 21, 2003 in New Orleans, La and presented at the Society of General Internal Medicine 26th Annual Meeting on May 3, 2003 in Vancouver, Canada.

Address correspondence and requests for reprints to Dr. Haist: General Internal Medicine, University of Kentucky, J-503 KY Clinic, Lexington, KY 40536-0284 (e-mail: [sahaist@email.uky.edu](mailto:sahaist@email.uky.edu)).

reduction counseling. Issues specific to adolescent and geriatric patients were included.

Seven 4-hour SP workshops were developed for this clerkship. Workshop topics were chosen if they were believed to be inadequately addressed elsewhere in the curriculum, were common ambulatory problems, and were included as important areas of focus by Healthy Peoples Objectives 2010. The 6 other topics included: 1) preventive care and routine screening; 2) chronic pain; 3) depression; 4) domestic violence; 5) ethanol use and abuse; and 6) smoking cessation. Workshops were held during the first 3 days of the clerkship to provide students these skills before embarking on their ambulatory clinical experiences.

Time constraints made it prohibitive to conduct all 7 workshops for each rotation. The most general workshop (preventive care and routine screening) was conducted every 4 weeks with 3 of the 6 other workshops. Therefore, approximately half the class in the academic year received the SHHIVC workshop, and half did not. Student assignments for their third-year rotations were based on individual preferences. After assignment to rotational groups, workshops were staggered to be evenly distributed throughout the academic year. Students had an equal chance of participating in the SHHIVC workshop or any of the other 5 workshops given every other rotation. The only instruction the control students received on SHHIVC was an assigned course textbook reading, which was required of all students.

## Evaluation Methods

At the end of the clerkship, 3.5 weeks after the workshop, all students engaged in a 9-station SP examination on common ambulatory patient problems. One station on this examination focused on obtaining a sexual history and providing HIV counseling. The scenario chief complaint of the 28-year-old woman was "I am afraid I have a sexually transmitted disease." The students had 15 minutes to interview and counsel the patient. A case-specific checklist was developed by faculty and contained items thought to be important in addressing the clinical situation, including general interviewing and communication skills, following standards of usual educational practice in the SP literature.<sup>12</sup> The checklist consisted of 75 items, with 35 items specific for SHHIVC (see Table 1). The SHHIVC-specific items were developed based on the literature including Centers for Disease Control and Prevention recommendations for HIV counseling.<sup>13</sup> The SPs scored the items on a yes-no format, with one point being given for a "yes" on each checklist item for a total of 35 possible points. SPs were rigorously trained for 2 to 4 hours to consistently and convincingly portray the patient.

The overall score on the 35 SHHIVC checklist items was the outcome of primary interest. In addition, sub-analyses included various subscales within the 35 items: 1) sexual history inquiry, 11 items (e.g., specific sexual behaviors); 2) HIV/STD transmission education, 12 items

**Table 1. Checklist Items Specific to Sexual History and HIV Counseling with Subscale Designation**

SH Explains need to take a detailed sexual history (e.g., because of the STD concern...)
SH Number of partners in last year
SH Number of partners total
SH Men, women, or both
SH Asks about sexual behaviors
SH Asks about specific sex behaviors, oral sex
SH Asks about specific sex behaviors, anal intercourse
SH Condom use
SH Birth control of any kind
SH History of sexually transmitted diseases (STDs)
SH Student asks about specific STDs—At least 2—herpes, gonorrhea, etc.
ED Student explains that history of unprotected sex puts patient at risk for infections.
ED Discusses danger of intoxication leading to high-risk behaviors such as unprotected sex
ED Student explains BCPs may prevent pregnancy but will not prevent STDs
ED Student discusses myth that only certain types of people get STDs
ED Explains sexually transmitted diseases are transmitted through direct contact
ED Student explains transmission of HIV is through blood and bodily fluids
ED Discusses heterosexual transmission of HIV
ED Counsels about route of transmission by intercourse
ED Counsels about route of transmission of HIV for direct blood exposure, needles, and transfusions
ED Counsels about theoretical route of transmission, oral sex
ED Explains HIV may be transmitted but remain latent for many years
ED Discusses difference between HIV and AIDS
CU Recommends condom use
CU Describes why condom use is important if abstinence is not chosen
CU Asks whether patient feels comfortable discussing using a condom with partners
CU Discusses a woman's right to insist her partner use a condom
CU Describes how to use a condom
Test Discusses HIV testing
Test Discusses testing for GC and chlamydia
Test Discusses testing for syphilis and or hepatitis (B, C)
Test Assures the patient of the confidentiality of HIV test
Test Recommends HIV tests
Test Recommends GC and chlamydia testing
Test Recommends syphilis and or hepatitis (B, C) testing

SH, sexual history inquiry; ED, HIV and STD transmission education; CU, condom use counseling; Test, HIV and STD testing.

STD, sexually transmitted disease; BCP, birth control protection; GC, gonorrhea.

(e.g., explains transmission of HIV through blood and body fluids); 3) condom counseling, 5 items (e.g., discusses importance); and 4) HIV testing, 7 items (e.g., discusses confidentiality). A student's total score and subscale scores were derived from the number of yes responses scored by the SP divided by the number of possible checklist items for each outcome.

Analyses used regression approaches from the general linear model. Dependent variables in separate analyses

**Table 2. Comparison of Students Receiving the Sexual History-HIV Counseling Workshop to Students Not Receiving the Workshop**

	# Items	Mean Intervention Student Scores, % (SD) (N = 41 students)	Mean Control Student Scores, % (SD) (N = 44 students)	Effect Size	P
Gender, % female		31.7	52.3		.06
USMLE Step 1 scores		216.9 (20.2)	215.0 (16.1)	0.11	.64
GPA		3.39 (0.39)	3.45 (0.34)	-0.16	.48
Rotation		1, 3, 5, 7, 10, 12	2, 4, 6, 8, 9, 11		
Total*	35	64.1 (17.4)	51.4 (12.5)	0.85	.0002
Subscales*					
a. Sexual history inquiry	11	74.1 (19.8)	56.6 (13.0)	1.07	< .0001
b. HIV/STD transmission	12	53.5 (26.6)	33.9 (21.9)	0.81	.0004
c. Condom counseling	5	43.9 (26.2)	48.6 (16.9)	-0.21	.33
d. HIV testing counseling	7	81.2 (19.3)	75.3 (25.7)	0.26	.26
Nonsexual history/HIV items* (general information, etc.)	38	62.0 (13.7)	65.0 (19.8)	-0.18	.32
Interpersonal skills*	2	83.3 (15.6)	72.4 (12.9)	0.76	.0008

\* Least square means are predicted mean scores on standardized patient (SP) checklist items, as predicted by the regression equation, adjusted for other variables in the model (prior academic achievement [USMLE 1], student gender, rotation group number).  
STD, sexually transmitted disease; GPA, grade point average; USMLE, United States Medical Licensing Examination.

included scores on the 35 SHHIVC-specific checklist items and scores on each of the 4 subscales, controlling for prior academic achievement with USMLE Step 1 score, student gender, and rotation number (to exclude a rotation effect if better students were on certain rotation groups). To document that better scores on the SHHIVC checklist were not merely the result of better overall performance on the SP station, additional analyses considered scores on the 38 historical items on the checklist not specific for SHHIVC as the dependent variable (items such as name, review of systems). The hypothesis was students' scores should be no different on these 38 items for students receiving or not receiving the workshop, as these items represent general history taking skills not specific to the workshop.

## RESULTS

For academic year 2001-2002, 41 students received the SHHIVC workshop and 44 students did not. As presented in Table 2, students who received the workshop scored significantly higher on the 35 checklist items specific for SHHIVC, as well as on the subscales of sexual history inquiry and HIV/STD transmission. There were no significant differences for the subscales of condom counseling and HIV/STD testing counseling. In addition, no significant differences were noted on student scores on the nonworkshop-specific checklist items.

## DISCUSSION

Third-year medical students receiving our 4-hour interactive workshop on SHHIVC scored significantly higher on end-of-clerkship SP examination checklist items specific for SHHIVC than students not receiving the workshop. Effect sizes were substantial, with students receiving the workshop scoring approximately a standard deviation

higher on overall SHHIVC items than students not receiving the workshop, and 0.75 to 1 standard deviation higher on subscales of sexual history inquiry and counseling about HIV/STD transmission. The SP examination was conducted 3.5 weeks after the workshop and after students had engaged in a variety of ambulatory clinical experiences, suggesting skills learned in the workshop were retained for at least 1 month.

Our study is unique to the literature on educational interventions to improve SHHIVC because of our use of a control group and demonstration of better clinical skills in the intervention group compared to the control group. Even though our study was not strictly randomized, each rotation of students had the same chance of receiving the SHHIVC curriculum. While other studies have evaluated the effectiveness of an SHHIVC curriculum, they lacked this stronger and more rigorous design.<sup>14</sup> Other studies in this area have tended to be case series and descriptive, with individuals receiving the intervention serving as their own control.<sup>6,9</sup> In addition, other studies report mainly intermediate outcomes such as perceived personal skill in taking a sexual history,<sup>10</sup> or belief in the efficacy or acceptance of the educational intervention.<sup>5,15</sup> In contrast, our study observed actual sexual history inquiry and HIV counseling as a function of receiving or not receiving the educational intervention. It was reassuring that the workshop participants and nonparticipants scored no differently on the 38 items not specific to the workshop. This finding further supports the positive impact of the SHHIVC workshop.

Students who received the workshop asked or performed 64% of SHHIVC items on the corresponding SP station checklist as part of the end-of-clerkship examination, compared to 51% of items asked by the control students. One might consider even intervention students' performance to be suboptimal. However, checklists on SP exercises are

meant to represent a range of possible questions and behaviors one might ask or perform in a clinical situation and, in general, one does not expect the examinee or clinician to perform every item on the SP checklist. Indeed, receiving credit for 64% of the checklist items compares favorably to performance on similar SP examinations by residents<sup>3</sup> and practicing clinicians.<sup>16</sup> For example, Curtis et al. noted residents asked only 29% of sexual history items and 10% of HIV risk behavior counseling items on an SP exercise.<sup>3</sup> Ramsey et al. noted practicing primary care physicians asked 59% of "essential" history items on an SP exercise involving 14 to 16 SPs.<sup>11</sup> Conversely, Roberts et al. noted students performed well on an SP exercise in obtaining informed consent for HIV testing<sup>17</sup> and, indeed, our students scored highest on the HIV testing/counseling subscale that included consent issues (78.1% of items on this subscale performed by our students). Therefore, it appears students are generally capable in broaching issues of consent for HIV testing, but are less effective in counseling on behavior change or HIV transmission.

Several limitations to our study should be kept in mind when interpreting our results. First, our study represents findings from one medical school and one academic year, and may reflect idiosyncrasies of our curriculum or our students. For example, our preclinical curriculum contains some focused instruction on sexual history inquiry in our medical interviewing course. Findings might be different at medical schools with greater or lesser emphasis on SHHIVC during the preclinical years. Second, we have neither measures of our students' actual clinical experiences with HIV or STDs, nor controls for the relative emphasis their clinic faculty preceptors placed on detailed sexual history taking or HIV counseling during this clerkship or the instruction they received during previous clerkships. Nevertheless, considering 40 to 50 different ambulatory preceptors supervised these 85 students during this academic year, it seems unlikely that a preceptor effect could have influenced our findings. Third, our outcome of interest represented performance on an SP exercise. Future studies should consider measuring student performance with actual patients in clinic. Fourth, the 35-item checklist we used is based on literature review and expert recommendations, rather than on evidence connecting its use to clinical outcomes. Further work needs to be done to clarify the reliability and validity of the instrument. Fifth, reliability testing was not available. However, if the SPs were not reliable, one would not expect differences between the intervention and the control groups. Sixth, one of the four SPs used for the SHHIVC workshop also portrayed the SHHIVC case used during end-of-clerkship SP examination during three of the six rotational groups (5, 7, and 12). However, the effect sizes between rotational groups 5, 7, and 12 and the control group were no different than the effect sizes between rotational groups 2, 4, and 10 and the control group. In addition, the SHHIVC workshop was delivered using two different formats. Separate analyses were not performed for the two formats because of the

limited number of subjects in the first year of this study. And, finally, the assignment of students to the intervention and control groups was not randomized, so there could have been differences in unmeasured and uncontrolled variables that may have affected our skills measures.

Nevertheless, despite these limitations, we conclude that our SHHIVC curriculum, delivered in an interactive fashion using SPs, was associated with students being able to ask more thorough sexual histories and perform more thorough HIV counseling. Our findings suggest focused instruction on certain clinical skills delivered in an interactive fashion will result in better skills than can be obtained by chance patient encounters in clinical settings.

---

*Supported in part by a Pre-doctoral Primary Care Internal Medicine Training Grant funded by the Health Resources Services Administration (HRSA D16 HP 00038-01).*

*The authors will provide the standardized patient materials (cases and checklists) and the Sexual History and HIV Counseling Student and Instructor References to any clerkship or residency program directors requesting the materials.*

## REFERENCES

1. U.S. Preventive Services Task Force. Counseling to Prevent HIV Infection and Other Sexually Transmitted Diseases. Available at: <http://www.ahrq.gov/clinic/uspstf/uspstfstds.htm>. April 2003.
2. Cook RL, Steiner BD, Smith AC, et al. Are medical students ready to provide HIV-prevention counseling? *Acad Med.* 1998;73:342-6.
3. Curtis JR, Paauw DS, Wenrich MD, Carline JD, Ramsey PG. Internal medicine residents' skills at identification of HIV-risk behavior and HIV-related disease. *Acad Med.* 1994;69:S45-S47.
4. Wenrich MD, Curtis JR, Carline JD, Paauw DS, Ramsey PG. HIV risk screening in the primary care setting: assessment of physicians' skills. *J Gen Intern Med.* 1997;12:107-13.
5. Epstein RM, Levenkron JC, Frarey L, Thompson J, Anderson K, Franks P. Improving physicians' HIV risk-assessment skills using announced and unannounced standardized patients. *J Gen Intern Med.* 2001;16:176-80.
6. Epstein RM, Morse DS, Frankel RM, Frarey L, Anderson K, Beckman HB. Awkward moments in patient-physician communication about HIV risk. *Ann Intern Med.* 1998;128:435-42.
7. Temple-Smith MJ, Mulvey G, Keogh L. Attitude to taking a sexual history in general practice in Victoria, Australia. *Sex Transm Infect.* 1999;75:41-4.
8. Merrill JM, Laux LF, Thornby JI. Why doctors have difficulty with sex histories. *South Med J.* 1990;83:613-7.
9. Fitzgerald M, Crowley T, Greenhouse P, Probert C, Horner P. Teaching sexual history taking to medical students and examining it: experiences in one medical school and a national survey. *Med Educ.* 2003;37:94-8.
10. Vollmer S, Wells K, Blacker KH, Ulrey G. Improving the preparation of preclinical students for taking sexual histories. *Acad Med.* 1989;64:474-9.
11. Davis D, O'Brien MAT, Freemantle N, Wolf FM, Mazmanian P, Taylor-Vaisey A. Impact of formal continuing medical education: do conferences, workshops, rounds and other traditional continuing education activities change physician behavior or health care outcomes? *JAMA.* 1999;282:867-74.
12. Gorter S, Rethans J, Scherpier A, et al. Developing case-specific checklists for standardized-patients based assessments in internal medicine: a review of the literature. *Acad Med.* 2000;75:1130-7.

13. Centers for Disease Control and Prevention. Revised guidelines for HIV counseling, testing and referral. *MMWR*. 2001;50/No. RR-19:1-57.
14. Torgerson CT. Educational research and randomized trials. *Med Educ*. 2002;36:1002-3.
15. Stanton M, Anderson D, Szerlip HM. Teaching the sexual history: a tutorial approach. *Acad Med*. 1997;72:430.
16. Ramsey PG, Curtis JR, Paauw DS, Carline JD, Wenrich MD. History-taking and preventive medicine skills among primary care physicians: an assessment using standardized patients. *Am J Med*. 1998;104:152-8.
17. Roberts LW, Geppert C, McCarty T, Obenshain SS. Evaluating medical students' skills in obtaining informed consent for HIV testing. *J Gen Intern Med*. 2003;18:112-9.