INNOVATIONS IN EDUCATION AND CLINICAL PRACTICE

Improving Physicians' HIV Risk-assessment Skills Using Announced and Unannounced Standardized Patients

Ronald M. Epstein, MD, Jeffrey C. Levenkron, PhD, Lisabeth Frarey, BA, Jay Thompson, Kathryn Anderson, MA, Peter Franks, MD

OBJECTIVES: To evaluate feasibility of and to validate a rating scale for two educational programs that use standardized patient-instructors (SPIs) in the office setting to improve physicians' HIV risk communication skills.

DESIGN: Pilot randomized trial of announced and unannounced SPIs.

PARTICIPANTS/SETTINGS: Twenty four primary care physicians in the Rochester, NY, area.

MEASUREMENTS: The Rochester HIV Interview Rating Scale (RHIRS), HIV test ordering, physician satisfaction questionnaire.

RESULTS: Physicians found the intervention useful, and predicted a positive effect on their future HIV-related communication. HIV test ordering and RHIRS scores increased similarly in both intervention groups. Announced SPI visits were more convenient and preferred by physicians. Cost for each SPI visit was \$75.

CONCLUSIONS: A brief office-based intervention using SPIs was feasible, well-accepted, convenient, and inexpensive. Announced SPIs were preferred to unannounced SPIs. Pilot results suggesting improvement in HIV-related communication should be confirmed in a larger randomized trial.

KEY WORDS: HIV risk assessment; standardized patients; medical education.

J GEN INTERN MED 2001;16:176-180.

Physicians' tendency to avoid discussions about HIV or to perform them incompletely¹⁻⁴ has been attributed to their discomfort discussing HIV risk behaviors and their lack of training in HIV risk

counseling.⁵⁻⁷ In one study, physicians often did not give patients the opportunity to express their concerns, and when they did, discussions tended to use vague language to discuss risk behaviors and to be abandoned at "awkward moments."⁶ However, when physicians viewed videotapes of their own ineffective communication behavior they were able to identify miscommunications and discuss possible ways to improve their HIV risk assessment.

Despite evidence that communication skills can be learned and that training can improve outcomes,⁸⁻¹⁰ educational programs to improve physicians' communication about HIV risk have met with limited success.^{11,12} Also, physicians may be disinclined to spend time and money attending conferences away from the office setting. Thus, we aimed to develop an educational program that included recommended principles for effective continuing medical education (active participation, clinical simulations, and academic detailing¹³) but did not require that the physician leave the office. Although previous work shows that standardized patient-instructors (SPIs) are effective in teaching clinical skills¹⁴ and evaluating sexual risk behaviors,^{12,15} until recently they have not been used to provide educational feedback in the office setting.

We conducted a pilot randomized trial of two brief, multi-component, office-based educational programs using feedback from SPIs to improve physicians' HIV-related communication skills. Assessments of practicing clinicians often use unannounced SPIs; the physician agrees to have an SPI come to the office, but is not told when this will occur. Educational programs normally use announced SPIs. Our goals were to determine whether these interventions were feasible, to assess whether our measure of HIV-related communication was valid, and to report preliminary data on the differences between using announced or unannounced SPIs.

METHODS

This study includes a descriptive feasibility component, validation of a new scale, and a pilot randomized trial. The research design is displayed in Figure 1.

Received from the Highland Primary Care Institute, University of Rochester School of Medicine, Rochester, NY (RME, PF); Department of Family Medicine, University of Rochester School of Medicine, Rochester, NY (RME, LF, KA, JT, PF); Department of Psychiatry, University of Rochester School of Medicine, Rochester, NY (RME, JCL); and Institut d'Estudis de la Salut, Barcelona, Spain (RME).

Address correspondence and reprint requests to Dr. Epstein: Department of Family Medicine, University of Rochester, 885 South Ave., Rochester, NY 14620 (e-mail: ronald_epstein@urmc.rochester.edu).

FIGURE 1. Research design.

Sample

We recruited practicing community-based general internists and family physicians in the Rochester, NY, area until 24 agreed to participate. The specific focus on HIV was not revealed.

Intervention

SPIs were trained to portray a generally healthy 33-year-old patient with headaches and fatigue and underlying concerns about HIV. Participating physicians received an initial SPI visit, an educational seminar, and a follow-up evaluation. Physicians were randomly assigned to announced and unannounced visits. Announced SPIs conducted the visit in-role for 15 minutes, then elicited physician self-evaluation and gave 15 minutes of verbal feedback. Unannounced SPIs gave feedback a few days later by telephone and letter. The 90-minute educational

seminar on HIV risk assessment included discussion, video trigger tapes, and role playing. Physicians who could not attend the seminar were sent video and written materials to review. All follow-up SPI visits were unannounced a mean of 16 weeks following the first visit and did not include feedback. All visits were audiotaped using hidden microphones.

Development of the Rochester HIV Interview Rating Scale (RHIRS) and the Standardized Patient-Instructor Manual for Teaching Interviewing About HIV Risk

Although checklists exist for rating patient-physician communication, none specifically assess physician effectiveness in HIV counseling based on empirically derived criteria. For this study, we used results from published studies in which videotapes of actual HIV risk discussions were reviewed to identify barriers to and facilitators of patient-physician communication about HIV, to develop a new scale. The Rochester HIV Interview Rating Scale (RHIRS) (Table 1) groups 12 key physician communication skills that were observed to be related to effective HIV risk assessment into 3 areas: general interviewing skills, process skills (how HIV risk information is gathered), and content skills (what HIV risk information is gathered). Each of the 12 skills is rated on a 5-point Likert-type scale, a score of 5 representing complete and highly effective use of the skill and a score of 1 representing no demonstration of the skill. The training manual, method of feedback, and scoring criteria were adapted from an existing scale developed by Levenkron et al. for teaching "The Risk Factor Interview".¹⁶ Validity was tested by applying the items to videotaped encounters between community physicians and real patients. Items were clarified and refined with the input of SPIs during the training process.

Table 1. Rochester HIV Interview Rating Scale (RHIRS)*

Section I: General Interviewing Skills

- I. 1. Helping the patient tell the story: nonverbal and verbal facilitation, noninterruption.
- I. 2. Organizing the interview: explicit agenda, eliciting patient concerns
- I. 3. Relationship-building: eliciting patient's perspective, nonjudgmental language, racial/cultural barriers, empathy, physician involvement and availability

Section II: HIV-Related Process Skills

- II. 1. Opening the inquiry into HIV risk: context, rationale, open-ended inquiry, nonjudgmental language
- II. 2. Facilitating further discussion of HIV risk: facilitating comments, silence, eliciting concerns, appropriate open- and closed-ended questions
- II. 3. Using clear language: good syntax, no leading questions, clarifies vague statements
- II. 4. Negotiating potentially awkward moments: using silence, return after digression, empathy, humor, acknowledging awkwardness, persevering.
- II. 5. Facilitating behavior change: assessing patient motivation, barriers, developing a plan

Section III: HIV-Related Content Skills

- III. 1. Eliciting context and antecedents of risk behaviors: e.g., anonymous, bars, etc.
- III. 2. Sexual partners: number, gender of partners, partners known to be at risk or infected
- III. 3. Sexual activity and behavior: specific sexual behaviors, frequency of condom use
- III. 4. Drug and alcohol use: history of illicit drug use, alcohol use, attempts to cut down

* All items rated on a 1–5 Likert-type scale.

Training of Standardized Patient-instructors

Four SPIs (two males and two female) were used in the study. One female SPI had to leave the study for personal reasons and was replaced. In a series of training sessions (12 hours) using role-play and video review, the SPIs were trained to portray a generally healthy 33-year old patient with headaches and fatigue. When questioned in an open-ended, nonjudgmental way, the SPI was programmed to reveal underlying concerns about his/her risk for HIV. The patient's concern was heightened by the recent death of a friend from AIDS. With further questioning, the SPI would disclose a history of unprotected sex and/or drug use. SPIs were trained to give physicians cues to their concerns and to disclose them only if the physician persevered with the inquiry, responded with interest, and was non-judgmental.

Using the RHIRS, SPIs rated physician skills in practice interviews and videotaped encounters. The group reached consensus about definitions and interpretations of the criteria. Then, the SPIs were trained to give effective feedback using videotaped role-plays in group practice sessions (8 hours).

Data Collection

We gathered information on physician age, practice location, gender, specialty, and years in practice. Follow-up physician surveys rated the impact of the SPI feedback and seminar materials, whether physicians would participate in similar studies in the future, and SPI detection. There was space for narrative comments. SPIs completed the RHIRS immediately following each visit. In addition, each interview was scored by an independent rater blinded to whether the visit was announced, unannounced, initial, or follow-up. Twelve visits were scored by a second rater; agreement between the two independent raters was 0.96.

Data Analysis

The main outcome variables were total RHIRS scores and ordering of HIV tests. Baseline and post-intervention total RHIRS scores and scores between groups were

compared using *t* tests. McNemar's test was used to compare baseline and post-intervention HIV test ordering.

RESULTS

Twenty-four physicians agreed to participate. The mean age was 40. Four (16%) were female, 17 were internists, 6 were family physicians and 1 practiced both medicine and pediatrics. Two were in rural, 15 were in suburban, and 7 were in urban practices. They had been in practice a mean of 11 years. During the study, one physician moved out of the area, and technical problems precluded analysis of 6 audiotapes; thus, results from 23 physicians and 17 audiotapes were analyzed.

The intervention was well received, and physicians' ratings of the intervention were generally positive (Table 2). Physicians favored announced visits, which they thought provided immediate feedback, were convincing, and did not involve deception. The cost of each SPI-physician visit was estimated to be \$75, excluding recruitment and training costs.

Twenty-one tapes of baseline interviews were available for analysis. Baseline RHIRS scores were similar in the announced (mean, 28.7; SD, 7.4) and unannounced (mean, 28.5; SD, 8.3) groups (difference, 0.2; 95% confidence interval [CI], -6.6 to 7.0). Baseline HIV test ordering was also similar in the announced (7/11) and unannounced (7/12) groups. Physicians who ordered HIV tests on the first visit had higher total scores on the RHIRS (*R*, .48; *P* = .02). Small numbers precluded determination of relationships between demographic characteristics of physicians and RHIRS scores.

The post-intervention RHIRS scores for the 19 tapes available for analysis were similar in the announced (mean, 37.6; SD, 5.5) and unannounced (mean, 36.8; SD, 10.1) groups. The 17 tapes for which both baseline and post-intervention interviews were available showed a mean improvement of 7.5 points (from 30.4 to 37.9; 95% CI, 2.7 to 12.2). Overall, HIV test ordering was similar in the announced (10/11) and unannounced (11/12) groups and statistically significantly increased compared with baseline HIV test ordering (McNemar's test, *P* = .02).

Table 2. Follow-Up Questionnaire: Effects of the Intervention

Question	Not at All (%)	A Little (%)	Somewhat (%)	Significantly (%)	Very Helpful (%)
Was the SPI visit and feedback helpful? <i>n</i> = 23	0 (0)	3 (13)	6 (26)	9 (39)	5 (22)
Was the seminar helpful? <i>n</i> = 19	0 (0)	1 (5)	5 (26)	11 (58)	2 (11)
Will the program have an effect on your practice? <i>n</i> = 23	1 (4)	7 (30)	7 (30)	5 (22)	3 (13)
Do you feel more comfortable asking patients about HIV risk? <i>n</i> = 23	3 (13)	5 (22)	5 (22)	7 (30)	3 (13)
	Yes (%)	No (%)	Maybe (%)		
Would you participate in another educational intervention that uses standardized patients in your office with a seminar? <i>n</i> = 21	14 (67)	1 (5)	6 (29)		
...in your office without a seminar <i>n</i> = 21	16 (76)	2 (10)	3 (14)		
...in a classroom setting? <i>n</i> = 19	6 (32)	9 (47)	4 (21)		

Five (45%) of the 11 physicians with unannounced first visits and 16 (70%) of 23 reported on the post-intervention survey that they detected the SPI. Physicians with closed practices (48%) reported that new patients were conspicuous. Also, the two SPI scenarios were felt to be too similar. There were no significant differences or trends in RHIRS scores between physicians who detected the SPIs and those who did not.

DISCUSSION

A novel program using SPIs to provide on-site assessment of and feedback on physicians' HIV risk assessment skills proved to be feasible, inexpensive, convenient, fun, and well accepted by physicians. The SPIs were realistic and their feedback raised physicians' awareness of and willingness to change their communication about HIV. Physicians expressed interest in participating in future office-based clinical education programs.

This study represents the first time that the RHIRS has been used. Preliminary validity of the RHIRS was supported in several ways. Content validity is based on the results of our prior qualitative work, which documented effective and ineffective HIV-related communication behavior.⁶ RHIRS scores were similar whether or not the physicians knew that the SPI was not a real patient, either because they were in the unannounced group or because they detected the SPI; thus, their HIV-related communication behaviors are not "an act." The RHIRS scale proved useful to guide feedback to physicians about HIV-related communication. Further evidence for the validity of RHIRS scores was provided by correlations between the RHIRS and HIV testing, an important outcome of HIV-related communication. However, we believe that both HIV testing and RHIRS scores are necessary outcome measures, as testing without adequate counseling may not change HIV risk behaviors.

Interventions using announced SPIs were easier to schedule, did not involve deception, allowed for immediate rather than delayed feedback,¹⁷ and used less SPI and administrative time than unannounced visits. Physicians subjectively reported that their behavior in the simulation reflected their usual practice, and identification of the SPI did not affect RHIRS scores. Thus, we believe that using announced SPIs is superior for this type of educational intervention, and warrants further study in a larger randomized trial.

It is encouraging that both intervention groups displayed learning, (increased RHIRS scores and HIV test ordering) particularly in light of previous studies which concluded that continuing professional education has limited effects on physician behavior.¹⁴ However, a larger study is necessary to confirm these findings and determine the clinical significance of the change.

We did not achieve a representative sample of practitioners, as participation was voluntary. We interpret with caution the observed improvements in physicians' HIV risk

assessment behavior and similarity between the two study arms because of the small sample size and high SPI awareness rate. Because we wished to evaluate physician skills in assessing a patient with indirectly expressed risk for HIV, it was difficult to design a second role that was different enough from the first role, and yet would measure the same skills.

In an era when time and financial pressures make it difficult for primary care physicians to leave the office to attend continuing medical education programs, a brief office-based intervention using standardized patient-instructors was well accepted, convenient, and inexpensive. Our finding of increase in both the RHIRS and HIV testing provides support for the use of clinical simulations, office-based education, active learning, and "academic detailing" as essential components of effective continuing education.¹³ Since physician motivation is essential, it is also encouraging that those who participated enjoyed taking part in this competency-based clinical education program in their offices and would be interested in doing so in the future.

The authors gratefully acknowledge the generous support of The Robert Wood Johnson Foundation Generalist Physician Faculty Scholars Program and the Rochester Community Individual Practice Association.

REFERENCES

1. Lewis CE, Freeman HE. The sexual history-taking and counseling practices of primary care physicians. *West J Med.* 1987;147:165-7.
2. Gerbert B, Bleecker T, Bernzweig J. Is anybody talking to physicians about acquired immunodeficiency syndrome and sex? A national survey of patients. *Arch Fam Med.* 1993;2:45-51.
3. Wenrich MD, Curtis JR, Carline JD, Paaauw DS, Ramsey PG. HIV risk screening in the primary care setting. Assessment of physicians skills. *J Gen Intern Med.* 1997;12:107-13.
4. Russell NK, Boekeloo BO, Rafi IZ, Rabin DL. Unannounced simulated patients' observations of physician STD/HIV prevention practices. *Am J Prev Med.* 1992;8:235-40.
5. Gerbert B, Bleecker T, Maguire BT, Caspers N. Physicians and AIDS: sexual risk assessment of patients and willingness to treat HIV-infected patients. *J Gen Intern Med.* 1992;7:657-64.
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. Epstein RM, Christie M, Frankel R, Rousseau S, Shields C, Suchman AL. Understanding fear of contagion among physicians who care for HIV patients. *Fam Med.* 1993;25:264-8.
8. Levinson W, Roter D. The effects of two continuing medical education programs on communication skills of practicing primary care physicians. *J Gen Intern Med.* 1993;8:318-24.
9. Maguire P, Fairbairn S, Fletcher C. Consultation skills of young doctors: I—Benefits of feedback training in interviewing as students persist [published erratum appears in *Br Med J.* 1986 Jul 5;293(6538):26]. *Br Med J.* 1986;292:1573-6.
10. Maguire P, Faulkner A, Booth K, Elliot C, Hillier V. Helping cancer patients disclose their concerns. *Eur J Cancer.* 1996;32A:78-81.
11. Lewis CE, Freeman HE, Kaplan SH, Corey CR. Impact of a program to enhance the competencies of primary care physicians

- in caring for the patient with AIDS. *J Gen Intern Med*. 1986;1:287-94.
12. Bowman MA, Russell NK, Boekeloo BO, Rafi IZ, Rabin DL. The effect of educational preparation on physician performance with a sexually transmitted disease-simulated patient. *Arch Intern Med*. 1992;152:1823-8.
13. Davis DA, Thomson MA, Oxman AD, Haynes RB. A systematic review of the effect of continuing medical education strategies [see comments]. *JAMA*. 1995;274:700-5.
14. Levenkron JC, Greenland P, Bowley N. Teaching risk-factor counseling skills: a comparison of two instructional methods. *Am J Prev Med*. 1990;6:29-34.
15. Rabin DL, Boekeloo BO, Marx ES, Bowman MA, Russell NK, Willis AG. Improving office-based physicians prevention practices for sexually transmitted diseases. *Ann Intern Med*. 1994;121:513-9.
16. Levenkron JC, Greenland P, Bowley N. Patient-instructor manual for teaching the Risk Factor Interview. *Soc Behav Sci Doc*. 1987;17.
17. Ende J. Feedback in clinical medical education. *JAMA*. 1983;250:777-81.

YOU'RE INVITED TO VISIT

The SGIM Website

Portal & Pathway

to Professional Effectiveness & Satisfaction
offering

Knowledge – Networking - Career Development

Featuring links to resources & tools
including meetings, publications, job listings, funding
sources, Residency & Fellowship directories, government
agencies,
& search engines

Located at <http://www.sгим.org>