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Patient Satisfaction With Rapid HIV Testing in the Emergency Department

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Abstract

Objective—Patient satisfaction with HIV screening is crucial for sustainable implementation of the Centers for Disease Control and Prevention (CDC) HIV testing recommendations. This investigation assesses patient satisfaction with rapid HIV testing in the emergency department (ED) of an urban tertiary academic medical center.

Methods—After receiving HIV test results, participants in the Universal Screening for HIV Infection in the Emergency Room (USHER) randomized controlled trial were offered a patient satisfaction survey. Questions concerned overall satisfaction with ED visit, time spent on primary medical problem, time spent on HIV testing, and test provider's ability to answer HIV-related questions. Responses were reported on a 4-point Likert scale, ranging from very dissatisfied to very satisfied (defined as optimal satisfaction).

Results—Of 4,860 USHER participants, 2,025 completed testing and were offered the survey: 1,616 (79.8%) completed the survey. Overall, 1,478 (91.5%) were very satisfied. Satisfaction was less than optimal for 34.5% (10 of 29) of participants with reactive results and for 7.5% (115 of 1,542) with nonreactive results. The independent factors associated with less than optimal satisfaction were reactive test result, aged 60 years or older, black race, Hispanic/Latino ethnicity, and testing by ED provider instead of HIV counselor.

Conclusion—Most participants were very satisfied with the ED-based rapid HIV testing program. Identification of independent factors that correlate with patient satisfaction will help guide best practices as EDs implement CDC recommendations. It is critical to better understand whether patients with reactive results were negatively affected by their results or truly had concerns about the testing process.

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INTRODUCTION

Background

The Centers for Disease Control and Prevention (CDC) has recommended HIV screening for patients in all health care settings.¹ Patient satisfaction is crucial to sustaining the implementation of these recommendations. Further, patient satisfaction with an emergency department (ED) visit has been reported to increase the likelihood of returning for urgent care, adherence to discharge instructions, and the perception of high-quality care.²⁻⁴ Despite the importance of patient satisfaction with ED-based HIV screening, the screening must not interfere with assessment and treatment of the chief complaint and must not prolong the patient's stay.

Importance

For routine HIV testing to be successful in the ED setting, patients must be satisfied with the testing process. Testing satisfaction is critical in ensuring that patients with newly identified infection return for longitudinal care and that patients at high risk of infection continue to be amenable to appropriate retesting.

The main focus of the HIV screening literature has been the logistics of implementing such a program and the effect it has on ED providers; however, we are not aware of any published evaluations of the testing program from the patient's perspective.

Goals of This Investigation

We sought to assess the degree of, and factors associated with, patient satisfaction with the HIV testing process in the ED.

METHODS

Study Design

This study was conducted in the context of the Universal Screening for HIV Infection in the Emergency Room (USHER) trial (<http://clinicaltrials.gov/ct2/show/NCT00502944>). The objective of the USHER trial was to determine the rates of linkage to care for 2 approaches to providing routine HIV counseling, testing, and referral services in an urban hospital ED setting (see also Walensky et al, this Counselor versus Provider et al).⁵ This study was approved by the Partners Healthcare Human Subjects Committee (protocol number 2006P-000136).

From February 7, 2007, to June 27, 2008, a total of 4,860 patients were enrolled in the USHER trial. Sociodemographic data were collected at the baseline evaluation for each trial participant. During their ED visit, participants were randomly assigned to be offered HIV testing by either an ED provider or a dedicated HIV counselor.

Setting

The USHER trial was conducted at the Brigham and Women's Hospital ED, a Level I trauma center in Boston, MA.

Selection of Participants

USHER participants who were eligible for the survey were those who completed HIV screening. On receipt of rapid test results (before discharge), eligible participants were offered the satisfaction survey (available in both English and Spanish).

Methods of Measurement

Participants reported satisfaction as very dissatisfied, somewhat dissatisfied, somewhat satisfied, and very satisfied.

Data Collection and Processing

Regardless of who had administered the test and disclosed the result (ED provider or HIV counselor), the HIV counselor offered the paper-and-pencil survey and left the room while the participant completed it. To ensure anonymity, participants were instructed to place the form in an envelope and seal it before returning the envelope to a trial or an ED staff member.

Outcome Measures

The independent satisfaction survey comprised 5 questions written at a fourth-grade reading level. The survey questions concerned the participants' overall satisfaction with the HIV testing process, the overall ED visit, time spent on their primary medical problem, time spent on HIV testing, and the ability of the HIV test provider to answer all of their HIV-related questions. Participants rated their satisfaction with each of these topics on a 4-point Likert scale.

Primary Data Analysis

Survey results were stratified into 2 groups: very satisfied and less than optimally satisfied (ie, very dissatisfied, somewhat dissatisfied, and somewhat satisfied). We also report degree of satisfaction about the time spent with the participant on the HIV testing encounter and the ability of the person who offered and performed the HIV test to answer all of the participants' questions.

Independent correlates of satisfaction included demographic information (age, sex, race, ethnicity, and level of education), test delivery (HIV counselor versus ED provider), Emergency Severity Index score⁶⁻⁸ (range 1 to 5, a score of 1 or 2 indicating more acutely ill patients who require more resources), and HIV test results (nonreactive, reactive, or invalid).

Mantel-Haenszel statistics were calculated to examine the association between patient characteristics and likelihood of suboptimal satisfaction with HIV testing. Factors exhibiting statistically significant association with satisfaction outcome ($P < .05$) were included in the multivariate logistic regression model. The analysis was performed with SAS statistical software (version 9.1; SAS Institute, Inc., Cary, NC).

RESULTS

Of the 4,860 patients enrolled in the USHER trial, 2,025 (41.7%) completed the HIV testing process and were offered the satisfaction survey. Of these, 1,616 (79.8%) completed the survey. The mean age of participants who completed the questionnaire was 36.5 years; 64% were women and 41% were white (Table 1). The demographic distribution among the participants who did not complete the questionnaire was similar ($P > .05$; mean age 37.4 years; 66% women and 43% white) (data not shown). Overall, 1,478 (91.5%) of survey participants were very satisfied with the testing process; testing satisfaction was similarly high among most demographic groups (Table 1).

Results of univariate and multivariate logistic regression are shown in Table 2. Study participants with reactive test results were less than optimally satisfied 34.5% of the time compared with 7.5% of the time for those with nonreactive test results ($P < .001$; adjusted

odds ratio [OR] 5.97; 95% confidence interval [CI] 2.63 to 13.58). Less than optimal satisfaction was significantly more likely among participants who were aged 60 years and older (OR 2.48; 95% CI 1.42 to 4.34), were black (adjusted OR 1.66; 95% CI 1.04 to 2.67), were Hispanic (adjusted OR 1.80; 95% CI 1.03 to 3.16), or had been randomized to the ED provider arm of the trial (adjusted OR 1.50; 95% CI 1.00 to 2.24).

When we controlled for age, race, and HIV test results, we found that less than optimal satisfaction with the time spent on HIV testing was significantly more likely among participants tested by an ED provider (13%) than among participants tested by an HIV counselor (8%) (adjusted OR 1.73; 95% CI 1.20 to 2.51). The percentages of participants who expressed optimal satisfaction with the tester's ability to answer questions were comparable: 99.6% for HIV counselor and 99.5% for ED provider (data not shown).

LIMITATIONS

In the absence of an empirically validated instrument for assessing patient satisfaction with HIV testing in an ED, we developed our own measure of satisfaction. Expert clinicians and ED personnel reviewed the items to ensure content validity and assess face validity. To minimize response bias, the survey administrator was not present in the room while a participant completed the satisfaction survey, and to ensure anonymity, participants were asked to seal the completed survey in an envelope. The USHER trial is a single-center study and results might not be generalizable to other EDs. Finally, a participant's satisfaction with the testing process may have been heavily influenced by his or her satisfaction with the entire ED experience.

DISCUSSION

This study demonstrates results from a satisfaction survey completed by USHER trial participants—patients who visited an academic ED because of a medical complaint and also received an HIV test. Most of those who completed the survey were very satisfied with their HIV testing encounter. This finding is important because patient satisfaction is an essential component of the successful implementation of routine, voluntary HIV testing in the ED.

Although there are few published reports of patient satisfaction with HIV screening in the ED,⁹ our findings may be compared with the findings of ED studies of overall patient satisfaction and those of studies of satisfaction with HIV testing in other settings. Satisfaction with ED care has been reported to depend on age, income, information provided to patient, perceived promptness of treatment, language, and triage score.²⁻⁴ Satisfaction with the HIV testing process has been associated with the patient's comfort level with the health care worker, the adequacy of the time spent with the patient, and the health care worker's ability to answer questions.^{9,10}

Data from the USHER trial suggest increased frequency of test offer when counselors are used, resulting in the ability to test a greater number of patients (see also Walensky et al, this issue). Higher rates of patient satisfaction with HIV counselor-based testing further support the model based on the use of dedicated HIV counselors. Additional research is needed to elucidate why older adults and persons of minority races/ethnicity experienced less than optimal satisfaction with the HIV testing process.

Less than optimal satisfaction with the testing process among those with reactive results (34.5%) may be more reflective of the test outcome than of the testing process. Although the immediate priority is to deliver the preliminary HIV diagnosis, patients who are satisfied with this process may be more likely to link to care, a critical step toward good patient outcomes. Less than optimal satisfaction may have resulted from the diagnosis, the testing

and the delivery of results, or a combination of these factors. Because the ED is a challenging environment in which to deliver reactive HIV test results, our findings merit future studies. The participants' perceived experience is especially important, given the level of stress associated with both HIV testing and a visit to the ED. The factors associated with patient satisfaction are important in balancing efforts to implement CDC's recommendations for routine HIV screening and the need to maintain patient flow and provide first-rate care in an ED.

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Table 1

Demographic distribution and satisfaction with the HIV testing process among participants in the USHER trial who completed the satisfaction survey.

Variable	USHER Participants, No. (%) (Total), N=1,616	Optimal Satisfaction, No. (%), n=1,478	Less than Optimal Satisfaction,* No. (%), n=138
Age, y, mean (SD)			
<60, 34.5 (11.85)	1,491 (92.3)	1,371 (92.1)	118 (7.9)
≥60, 65.0 (4.09)	122 (7.5)	103 (84.4)	19 (15.6)
Sex			
Male	585 (36.4)	523 (89.4)	62 (10.6)
Female	1,024 (63.6)	950 (92.8)	74 (7.2)
Race			
White [†]	645 (40.8)	596 (92.4)	49 (7.6)
Black [†]	389 (24.6)	345 (88.7)	44 (11.3)
Hispanic	451 (28.5)	416 (92.2)	35 (7.8)
Other	96 (6.1)	89 (92.7)	7 (7.3)
Education			
≤High school diploma	596 (37.0)	543 (91.1)	53 (8.9)
Some college	485 (30.1)	446 (92.0)	39 (8.0)
College degree	343 (21.3)	314 (91.5)	29 (8.5)
Graduate degree	187 (11.6)	173 (92.5)	14 (7.5)
Test results			
Nonreactive	1,542 (98.0)	1,427 (92.5)	115 (7.5)
Reactive	29 (1.8)	19 (65.5)	10 (34.5)
Invalid	3 (0.2)	1 (33.3)	2 (66.7)
Test delivery			
ED provider	434 (26.9)	383 (88.2)	51 (11.8)
HIV counselor	1,182 (73.1)	1,095 (92.6)	87 (7.4)
ESI score[‡]			
2	3 (0.2)	3 (100.0)	0
3	1,192 (74.2)	1,084 (90.9)	108 (9.1)
4	360 (22.4)	334 (92.8)	26 (7.2)
5	51 (3.2)	47 (92.2)	4 (7.8)

ESI, Emergency Severity Index (range 1 to 5, a score of 1 or 2 indicating more acutely ill patients).

* Indicated by a response of somewhat satisfied, somewhat dissatisfied, or very dissatisfied.

[†] Not Hispanic/Latino.

[‡] No scores of 1.

Table 2

Factors associated with less than optimal satisfaction among USHER trial participants.

Variable	OR (Crude)	95% CI	Adjusted OR	95% CI
Age, y				
<60	1.00	Ref	1.00	Ref
≥60	2.14	1.27–3.62	2.48	1.42–4.34
Race				
White*	1.00	Ref	1.00	Ref
Black*	1.55	1.01–2.38	1.66	1.04–2.67
Hispanic	1.02	0.65–1.61	1.80	1.03–3.16
Other	0.96	0.42–2.18	1.42	0.60–3.32
Education				
≤High school diploma	1.00	Ref		
Some college	0.90	0.58–1.38		
College degree	0.95	0.59–1.52		
Graduate degree	0.83	0.45–1.53		
Test results				
Nonreactive	1.00	Ref	1.00	Ref
Reactive	6.53	2.97–14.38	5.97	2.63–13.58
Test Delivery				
HIV counselor	1.00	Ref	1.00	Ref
ED provider	1.68	1.16–2.41	1.50	1.00–2.24
ESI Score[†]				
3	1.17	0.41–3.31		
4	0.92	0.31–2.74		
5	1.00	Ref		

USHER, Universal Screening for HIV Infection in the Emergency Room.

* Not Hispanic/Latino.

[†] No scores of 1 or 2.