

Patients' Attitudes about Rapid Oral HIV Screening in an Urban, Free Dental Clinic

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ABSTRACT

The 2006 Centers for Disease Control recommendations for routine HIV screening in all health care settings could include dental clinics an important testing venue. However, little is known about patients' attitudes regarding the routine use of rapid oral HIV screening at an urban free dental clinic. This pilot study seeks to evaluate the patient perspective on rapid HIV screening in this setting. In June 2007, patients at a free dental clinic in Kansas City, Missouri, were provided an attitude assessment survey prior to their dental visit. This dental clinic serves a diverse patient population consisting of approximately 37% white, 47% black, 6% Hispanic, 4% Asian, and 1% Native American uninsured patients. Results were analyzed for acceptance of testing and potential barriers. Of the 150 respondents, 73% reported they would be willing to take a free rapid HIV screening test during their dental visit. Overall, 91% of Hispanics, 79% of Caucasians, and 73% of African American patients reported they would be willing to be screened. Patients with a history of multiple prior screening tests for HIV were more likely to agree to oral rapid HIV screening in the dental clinic. The majority (62%) reported that it did not matter who provided them with the screening result, although some (37%) preferred their dentist above any other provider. Low self-perception of risk (37%) and having already received screening elsewhere (24%) were the main reasons for not accepting a free, rapid HIV screening. Overall, dental clinic patients widely accepted the offer of rapid oral HIV screening. Rapid HIV screening in the dental clinic setting is a viable option to increase the number of individuals who know their HIV status.

INTRODUCTION

THE CENTERS FOR DISEASE CONTROL AND PREVENTION (CDC) estimates that nearly 40,000 new HIV/AIDS infections occur annually in the United States.¹ An estimated 1.1 million persons in the United States are living with

HIV/AIDS, and 24%–27% of this population are undiagnosed and unaware of their HIV infection.^{1,2} Despite efforts to test high risk populations, as many as 30%–40% of patients already have immunologic AIDS when first diagnosed.³ New HIV/AIDS cases are growing fastest among minority women through het-

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erosexual contacts,⁴ and the rate of AIDS diagnosis among African Americans is 10 times greater than the rate of AIDS among Caucasians.¹

Increasing the number of individuals who know their HIV status is a Healthy People 2010 goal.⁵ Patients who know their HIV status are more likely to change high risk behavior.⁶ It has been estimated that approximately 25% of HIV-positive individuals who are unaware of their HIV status account for 55% of new infections.⁶ Increasing individuals' knowledge of their HIV status could significantly reduce the growth of the HIV/AIDS epidemic.^{7,8} One meta-analysis found that persons who know their HIV status reduce their high-risk sexual behaviors by 68%.⁶ Screening programs that use risk-based testing or clinical indicators for screening can delay HIV diagnosis.^{3,6,9} Moreover, early screening, diagnostic confirmation and linkage to care can significantly improve the course of the disease among those infected with HIV.^{3,10,11} Additionally, initiation of antiretroviral treatment early in the course of HIV disease is more cost-effective than when patients present with immunologic AIDS (CD4 counts less than 200 cells per microliter).^{12,13}

Screening and testing

Patients often visit health care providers in the years prior to their HIV diagnosis; thus, testing of all individuals as a part of routine medical care could aid early detection.^{3,14,15} Yet, before recent changes in CDC recommendations,¹⁴ routine HIV testing had not been a part of routine medical care.¹¹ Even when patients are tested through traditional methods, they often do not return for their results, delaying diagnosis.¹⁶

The advent of highly sensitive and specific rapid finger-stick and rapid oral tests has allowed for increased HIV testing in non-traditional settings and in settings where clients are not as likely to return for their results.¹¹ Availability of the oral rapid test increases voluntary testing for HIV among high-risk groups.¹⁷⁻¹⁹ A recent meta-analysis has shown that clients are 1.5 to 2.2 times more likely to receive their results from rapid testing than from conventional

counseling and testing methods.²⁰ Another recent review of a large number of studies of rapid oral and blood HIV testing confirmed that most patients receive their results after rapid testing and that acceptance of rapid testing is highest among women in labor and delivery rooms.³⁷ In a recent multicenter trial, more than 56% of individuals accepted routine rapid HIV testing emergency departments.²⁸ Rapid testing has also been found to be the preferred HIV screening method when patients are offered rapid or routine serologic testing in a mobile sexually transmitted disease (STD) clinic.²⁹ Rapid testing has a positive effect on clinical outcomes and costs in areas where undiagnosed HIV prevalence is 0.2% or higher.¹⁰ Traditional primary care settings often fail to identify high risk patients and fail to offer testing even in the setting of known HIV trigger conditions.^{21,22}

CDC recommendations: dental clinics

In light of the 2006 CDC recommendations for routine HIV screening in all health care settings, dental clinics could serve as an important testing venue.^{14,23} Dental providers are well-positioned to participate in efforts to detect HIV early and provide information regarding prevention and treatment.²⁴ Moreover, with the advent of oral rapid testing, dentists could play a much larger role in reducing the HIV/AIDS epidemic,²⁵ especially as dental providers can be the first to notice signs and symptoms of HIV/AIDS.²⁵ Although little has been published regarding the use of rapid HIV testing in dental offices, one study determined that one third of dental educators would consider offering rapid, oral testing in their clinics.²⁶

Dentists' perceived barriers to testing dental patients include: lack of counseling skills, patient acceptance, time constraints, and lack of training with oral HIV testing.²⁶ The role of dental professionals in offering HIV rapid testing has been discussed among community health center leaders and dental health care professionals, but little is known about the patients' perspective.²⁷ There are no reported studies on the attitudes of patients who, regardless of their risk, are offered oral rapid HIV

screening during dental visits. This paper seeks to assess patients' attitudes regarding the routine use of rapid oral HIV screening at an urban free dental clinic.

METHODS

Participants

During the summer of 2007, patients who attended a free dental clinic operated by the Kansas City Free Health Clinic, a not-for-profit community-based organization that provides a variety of clinical and preventive services to the uninsured in the Kansas City metropolitan area, were asked to participate in an attitude assessment survey regarding HIV rapid screening in the dental clinic prior to their routine visit. The assessments were made available to 175 adult patients, accounting for approximately 15% of the total annual patient visits at this site. The assessment tool was provided to patients in the dental clinic waiting room by nonclinical staff. Patients were informed in writing that the survey was voluntary and was not a requisite for receiving dental care. Participating patients placed completed surveys in envelopes and returned them sealed, at their leisure, to the front office personnel. Surveys were collected from front office personnel at the end of the study period. No identifying information other than age, gender, race, ethnicity, and sexual orientation was requested.

Instrument

An assessment tool was developed to evaluate dental patients' perspectives on their willingness to undergo a free, oral rapid HIV screening test in conjunction with their dental care visits. The survey included items about history of previous testing, patients' willingness to accept rapid screening in the dental setting, common fears and attitudes about HIV testing, patients' preferences regarding result delivery, and possible reasons for not accepting an HIV rapid test, some of which had previously been reported in the literature.^{18,30}

RESULTS

Demographics

A total of 150 patients completed the assessment prior to their dental appointment, an approximate 86% response rate. The majority of respondents were African American and Caucasian women, representing 29.5% and 19.5% of the total, respectively (Table 1).

Acceptance of oral rapid HIV screening

In a forced-choice yes/no format, significantly more patients (73%) reported they would be willing to take a free rapid HIV screening test during their dental visit than

TABLE 1. PARTICIPANT DEMOGRAPHICS

<i>Gender</i>	<i>Participants (n = 150)</i>	<i>Percent</i>
Male	65	43.3
Female	85	56.7
Transgender	0	0
Total	150	100.0
<i>Age</i>		
18–24 years	21	14.1
25–34 years	41	27.5
35–44 years	41	27.5
45–54 years	32	21.5
55–64 years	13	8.7
65+ years	1	0.7
No answer	1	0.7
Total	150	100.0
<i>Race and Ethnicity</i>		
Caucasian	56	37.6
African American	68	45.6
Asian American	7	4.7
Native American	2	1.3
Hispanic	11	7.4
More than one race	4	2.7
No answer	1	0.7
Total	150	100
<i>Sexual orientation</i>		
Male heterosexual	54	36.0
Male homosexual	3	12.5
Male bisexual	0	0
Male other	1	2
Female heterosexual	64	42.7
Female homosexual	1	0.7
Female bisexual	1	0.7
Female other	1	0.7
No answer	25	16.7
Total	150	100

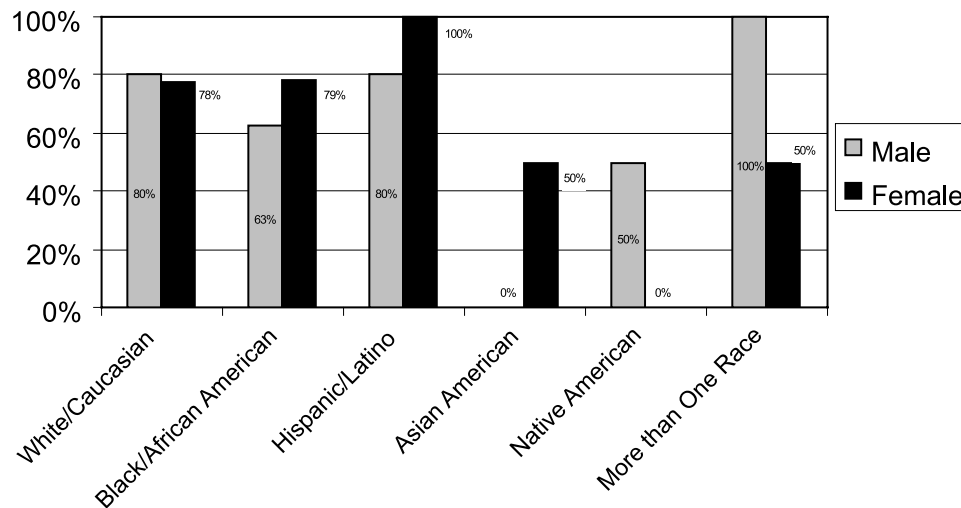


FIG. 1. Percent of respondents reporting willingness to take a free rapid HIV screening test during a dental visit by ethnicity/race and gender. $n = 141$; $p < 0.001$.

those who would not, $\chi^2(1, n = 141) = 29.97$, $p < 0.001$ (Fig. 1). More females (78%) than males (67%) reported they would be willing to take a free rapid HIV screening test during their dental visit. In terms of ethnicity and race, 91% (10/11) of Hispanics, 79% (41/52) of Caucasians, and 73% (48/66) of African Americans reported they would be willing to be screened, in contrast to the 0% (0/5) of Asian Americans who reported they were willing to be screened, $\chi^2(6, n = 103) = 17.392$, $p = 0.008$. All (100%) Hispanic females, 80% of Caucasian and Hispanic males, 79% of African American women, and 78% of Caucasian females reported they would be willing to take the screening (Fig. 1).

Prior and planned testing

When asked about prior testing, 61% of respondents reported having already had an HIV screening test. Respondents who indicated they had been previously screened for HIV more than once were significantly more likely to report willingness to taking an oral rapid HIV screening provided by their dentist (85%) than those who had been previously screened once for HIV (59%), $\chi^2(2, n = 138) = 7.063$, $p = 0.029$ (Fig. 2). There were 54 respondents who reported no prior history of HIV testing, of which, 74% reported they would be willing to take a free, rapid HIV screening test in the dental setting. Specifically, Caucasian respondents with no prior HIV screening history were more

likely to agree to rapid screening (53%) than African American (35%) or Hispanic (10%) respondents who also had never been tested, $\chi^2(4, n = 40) = 10.002$, $p = 0.04$. Given a choice of which type of rapid HIV screening test participants were willing to have, the majority (70%) reported they would be willing to take either oral or blood test, although 21% reported they would take an oral test only, and 9% reported they would take a blood test only.

Results reporting

Participants' preferences for who they would like to provide the results of their oral rapid screenings were also assessed. The majority (62%) reported that it did not matter who delivered the result when options were offered such as: their dentist, their personal physician, dental assistant, trained counselor or other, $\chi^2(1, n = 100) = 30.316$, $p < 0.01$. However, when "doesn't matter" was excluded, respondents were most likely (37%) to identify "my dentist" over a personal physician (24%), dental assistant (3%), trained counselor (11%), letter in the mail (13%), or other (13%). Six participants wrote in other responses, two of which were "dentist and/or personal physician." One requested a relative, another requested results by phone, one was ambiguous about result reporting, "I'll do whatever you want me to," and one wanted self-directed access to the result of screening.

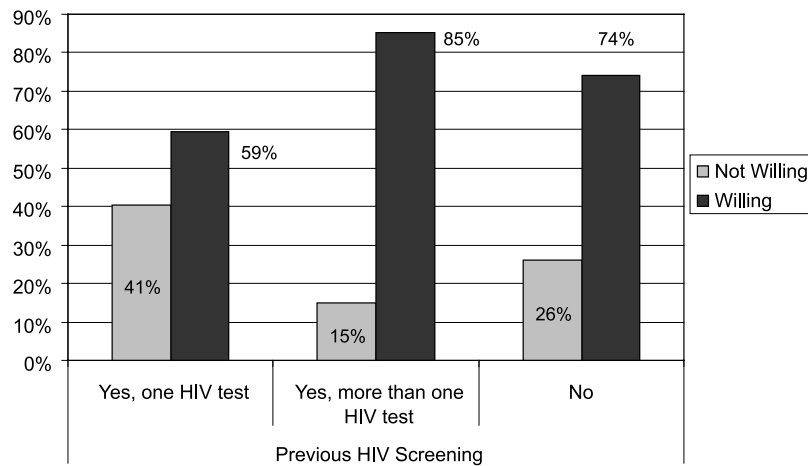


FIG. 2. Percent of respondents reporting willingness to take a free rapid HIV screening test during a dental visit by HIV screening history. $n = 138$; $p = 0.029$.

Factors leading to unwillingness to take screening

The 38 respondents (27%) who reported not wanting a free oral rapid HIV screening test in their dental office were asked to identify their reason(s) for refusing HIV screening. Six respondents (17%) indicated they would have been in too much dental pain to be tested at that time. Two respondents (6%) indicated they would fear being "treated differently" if they agreed to a screening. Two respondents (6%) reported that the rapid test was not accurate, one respondent (3%) identified fear of "other people finding out their results" as a barrier in being screened, and another respondent indicated that the HIV rapid test would lengthen the appointment. Other than the two respondents that indicated that they would be generally be treated differently, none of the respondents specifically indicated that a fear of knowing their HIV status, the dental staff knowing their status, or that the rapid test is not anonymous were reasons they would not accept testing in the dental office.

Of the 38 respondents who chose not to accept testing, 86% identified "other reasons" for not being willing to be screened, and 29 respondents wrote responses. These responses were then organized by category or theme. One third (37%) reportedly did not perceive themselves to be at risk, 24% reported having been already or recently tested, 13% reported that they did not feel comfortable in that setting,

10% reported plans to get tested at a later time, and 13% gave uncategorized or unique responses (e.g. "Cause I don't want to," "Just don't want to," "Not Ready," and "Don't have a reason").

DISCUSSION

In this pilot study, the majority of dental clinic patients responded favorably to the offer of a free rapid oral HIV screening test. Although other literature about patients' attitudes in the dental setting is lacking, these findings are consistent with patient attitudes assessed in other venues. Results from college campuses,¹⁹ emergency departments,²⁸ STD clinics,²⁹ jails,^{17,18} and labor and delivery rooms³¹ indicate that patient acceptance of rapid HIV screening is high.

This study adds to the existing literature regarding the acceptance of rapid HIV screening in novel settings. The population sampled was representative of this free clinic's patient population, which comprises uninsured adults who live in zip codes with a locally high prevalence of HIV.³² The racial and ethnic characteristics of the dental clinic patient population in the 6 months prior to the assessment were as follows: 37% white, non-Hispanic, 47% black, non-Hispanic, 6% Hispanic, 4% Asian, 1% Native American, and less than 1% for all other races. The dental clinic's gender demo-

graphic was 60% female and 40% male during the same period, with about 90% of the patients distributed between the ages of 18 and 65; all of these demographics closely match the demographics of the respondents in this study.

Respondents were receptive to either oral fluid rapid screening or finger-stick rapid HIV screening. Other researchers have summarized some of the patient-centered barriers to HIV screening, like fear of knowledge of HIV status, the providers' knowledge of the patient's status, time factors, and confidence in testing accuracy.³⁰ These fears did not emerge in significant numbers here.

Patient-reported factors for not accepting a free rapid oral HIV screening were minor. The issue of concurrent dental pain as a reason not to test was only reported by six respondents. No respondents indicated that fear of the dental staff learning their status was a factor in not accepting rapid HIV screening. Only two individuals indicated that rapid testing accuracy was the factor why they did not want to be screened. Respondents' written reasons for not testing predominantly addressed their perception of their low-risk status or they had been recently tested in another setting.

Providing HIV screening results to dental patients has been discussed as a concern among the dental community because of providers' comfort level with the HIV screening process, providing results and patients' acceptance of HIV screening at their dental visit.²⁷ The results of this assessment indicate that the majority of dental patients did not care who gave them their rapid HIV screening results. Yet, if forced to choose among a variety of results reporting scenarios, the majority reported wanting their dentist to provide the results.

These results, when combined with other studies about provider-level barriers such as time constraints, lack of training and reimbursement,³³ indicate that the barriers to routine rapid testing in all health care settings may rest within the health care and dental care establishments,²⁶ and not within the patient population. The CDC's 2006 recommendations to implement routine, opt-out testing in all health care settings might begin to alleviate some of the logistical and policy-level bar-

riers reported in a recent meta-analysis.³³ Items such as elimination of separate written consent (opt-out), incorporating HIV screening into routine testing panels, and elimination of pretest counseling could make it easier to implement HIV screening into more health care settings.¹⁴

Discussions about dental clinics and dentists' roles in screening their clients for HIV have already begun in editorials, among community health centers and within the dental research community.^{27,34,35} The dental community can look to model rapid testing programs from other outpatient health care settings like emergency rooms, general medicine clinics or health centers for feasibility and implementation strategies.³⁶ Community-based organizations and health centers that already have the infrastructure to provide training to dental staff, have HIV linkage-to-care programs, and in some cases HIV primary care clinics, would be ideal locations to develop models of implementation that could be shared with public and private dental care systems.²⁷ Stand alone dental practices that choose to implement oral rapid HIV screening could partner with local HIV/AIDS service organizations which may be able to serve as referral centers for medical care and social services. Issues such as the elimination of a separate consent process and elimination of pre-screen counseling should reduce the impact of staff time and personnel associated costs.²⁷ Reimbursement issues for rapid testing in the dental setting has been discussed among community health center leaders, but standardized coding and billing procedures are still in development.²⁷

Limitations

This study was constructed to evaluate 15% of the dental patient population at a single site. A majority of patients (86%) agreed to complete this survey, the reasons and demography of those not accepting the survey were not assessed. Future studies will require larger sample sizes and perhaps multiple sites in different geographic and socioeconomic areas. Future studies could combine an attitude as-

assessment with an actual offer of a free oral rapid screen to determine if intent to be screened is consistent with follow-through screening in the dental clinic.

This study indicates that most patients are willing to be screened for HIV in the dental clinic environment. Using the new guidelines for HIV screening, dental clinics in areas with a high prevalence of HIV could incorporate rapid oral HIV screening into their practices. Addressing the educational, technical, and financial needs of dentists interested in joining the battle against HIV through rapid testing is needed in order to make HIV testing a routine part of all health care settings.

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