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HIV testing in the dental setting: perspectives and practices of experienced dental professionals

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ABSTRACT

The dental setting is a largely untapped venue to identify patients with undiagnosed HIV infection. Yet, uptake of rapid HIV testing within the dental community remains low. This study sought to better understand the experiences of dental professionals who have administered the test and how these experiences might inform efforts to promote greater uptake of rapid HIV testing in dental settings. Qualitative interviews were conducted with United States dentists ($N = 37$) and hygienists ($N = 5$) who offered rapid HIV testing in their practices. The data revealed both the impeding and facilitating factors they experienced in implementing testing in their setting, as well as the reactions of their staff, colleagues, and patients. Overall, participants viewed rapid HIV testing favorably, regarding it as a valuable public health service that is simple to administer, generally well accepted by patients and staff, and easily integrated into clinical practice. Many had experience with a reactive test result. Participants described facilitating factors, such as supportive follow-up resources. However, they also cited persistent barriers that limit acceptance by their dental colleagues, including insufficient reimbursement and perceived incompatibility with scope of practice. The widespread adoption of routine HIV testing amongst dental professionals will likely require an expanded notion of the proper scope of their professional role in overall patient health, along with greater support from national dental organizations, dental education, and dental insurance companies, especially in the form of sufficient reimbursement.

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Oral health; preventive screening; HIV

Introduction

The 2006 Centers of Disease Control (CDC) guidelines recommend routine HIV testing of United States (U.S.) adults in outpatient healthcare settings. The U.S. Preventive Services Task Force's "A" rating makes testing reimbursable under the Affordable Care Act (U. S. Preventive Services Task Force, 2012, 2013; "Patient Protection and Affordable Care Act. Pub. L. No. 111-148, §2702, 124 Stat. 119, 318-319," 2010). These actions are aligned with the National HIV/AIDS Strategy to reduce the percentage of people with HIV who are unaware of their status (The White House Office of National AIDS Policy, 2015).

Since many individuals routinely seek dental care, the dental setting is a potentially fruitful venue to identify patients with undiagnosed conditions (Donoff, McDonough, & Riedy, 2014; Greenberg, Thomas, Glick, & Kantor, 2015; Javaid, Ahmed, Durand, & Tran, 2016; Office of Disease Prevention and Health Promotion, 2016; Strauss, Alfano, Shelley, & Fulmer, 2012), including high risk individuals who have never been HIV tested (Pollack, Metsch, & Abel, 2010). A national survey of dentists found that few were providing HIV testing or were aware of the CDC guidelines (0.35% and 11.7%, respectively) (Pollack et al., 2014); yet, sixty percent indicated willingness to offer such services. In 2010, interviews with dentists revealed that perceived incompatibility of HIV testing with notions of the proper scope of the dental profession and inadequate reimbursement were cited barriers to testing (Siegel et al., 2012).

To understand the feasibility of HIV testing in dentistry, we conducted qualitative interviews with U.S. dental professionals ($N = 42$) who have offered testing to describe their testing experiences and perceptions of the factors influencing their colleagues' testing uptake.

Methods

Of the 42 participants interviewed (June 2010 – April 2014), 37 were dentists who had experience conducting

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HIV testing. The remaining five were dental hygienists who were interviewed when a dental practice offered testing by the hygienist only. Without any list of dentists offering HIV testing or a way to generate such a sampling frame, we identified participants from many independent sources (e.g., OraSure©) – and moved out from these cases using snowball sampling (Sadler, Lee, Lim, & Fullerton, 2010).

Participants provided verbal informed consent, completed a 26-item, audio-taped interview via telephone, and received $75. Names were not recorded. Institutional Review Board (IRB) approval was secured at Columbia University.

Data Analysis: Two lead authors read one-half of the transcripts, and together developed a single provisional coding scheme. They then coded a small random sample of transcripts to assess and refine the coding scheme and add new codes. Once the coding scheme was finalized, two study team members independently applied it to all interviews.

Results

The majority of participants were 40–60 years (mean = 51), female (57%), Caucasian (57%), and in public/community health (64%) (Table 1). Twelve had administered HIV testing for less than one year, nineteen for 1–3 years, and ten for over 3 years.

Table 1. Demographics of participants who offer rapid HIV testing in the dental setting.

Age, years	*N*	%
Under 40	2	5
40–49	12	29
50–59	14	33
60–69	6	14
Refused	2	5
Not answered	6	14
Gender		
Male	18	43
Female	24	57
Race/ethnicity		
Caucasian	24	57
African American	8	19
Hispanic/Latino	4	10
Asian American	1	2
Refused	1	12
Not answered	10	24
Place of practice (all that apply)		
Public health	18	43
Private	32	76
Academics	16	38
Community health	9	21
Hospital	8	19
Nursing home	1	2
Corrections facility	1	2
Military	1	2
Urbanicity (all that apply)		
Urban	34	81
Suburban	2	5
Rural	3	7

Attitudes

Participants regarded HIV testing as a significant benefit to patients and felt that dentists should take an expanded role in patients' overall health as "*total health providers, not just providers of the mouth*." One dentist highlighted the regularity with which a dental patient seeks care and how that lends itself to a trusting patient-dentist relationship [1.1] (Table 2). Others recognized the public health value in identifying more undiagnosed persons [1.2]. Participants also emphasized the recognizable oral manifestations of HIV [1.3].

Barriers

Participants cited the lack of an American Dental Association (ADA) reimbursement code [2.1] and perceived time constraints as testing barriers among their dental colleagues, particularly private practitioners. Other barriers included feeling ill-equipped to deliver positive results [2.2] and provide follow-up referrals [2.3]. Scope of practice was a major source of resistance, as some dentists (especially older ones) "*stay in their own little world*" and view HIV testing as inappropriate in dentistry [2.4]. Many perceived their colleagues as being fearful of HIV stigma deterring patients from their practice.

Funding

Participants generally had grant funding for doing testing, or received free kits from collaborating agencies (e.g., HIV centers). More than a quarter initiated testing due to personal interest [3.1]. Five participants paid for their testing kits.

Staff reactions

Many participants described their staff's attitudes as accepting, since testing was quick and not disruptive. Some claimed that staff were eager to do something new within medicine [4.1, 4.2]. Staff resistance was generally attributed to feeling unprepared to handle patient reactions and deliver positive results [4.3], and that testing would be "*one more thing on their plate*" and "*beyond the scope of their job.*" Staff resistance was generally reduced through formal training, established protocols, sufficient practice [4.4], and implementing testing in the form of a competition [4.5].

Strategies

One popular approach to avoid patient discomfort when offering testing was to present it in a "*very matter*

Table 2. Themes and supporting quotes from participants who offer rapid HIV testing in the dental setting.

Theme 1: Attitudes

1.1 I feel that dentists are physicians in a place where they can interact with patients on a very regular basis, and they develop good rapport … I think that we can be almost on the first line of defense in terms of being able to interact with patients that may not want to go to their physicians, and have an HIV test.

1.2 We could be – for a lack of a better term – a portal of entry into a system and catch people that are not getting tested otherwise.

1.3 Us dentists are already in the mouth … to me it is no different than assessing a linea alba on the inside of the buccal mucosa.

Theme 2: Barriers

2.1 Certainly reimbursement is a big [barrier] … .Because unfortunately there's an overhead to be met, so I think that a dentist in general would look at this and say, "I guess I know it's for the better good, but I can't afford to take ten minutes out of every patient's visit to do this."

2.2 It's giving somebody life altering – potentially life altering news. Again, as dentist, we're not really well trained to do that.

2.3 Well, how do I connect the dots. If I find someone who's HIV positive … then how do I connect them to health care? Am I sort of responsible?' To just have this big black cloud over their head of responsibility or, Will I be put in a litigious type of situation if I don't find them – if I can diagnose it correctly or incorrectly, first of all.

2.4 The more mature dental practitioners that have been in their private practices and done things a certain way for so many years; there is just this … reticence of stepping into having a rapid test of that nature as an offering for their patient base.

Theme 3: Funding

3.1 When it was presented to me that I could get the tests for free because I was a trailblazer in this fight, I had no reason to say no.

Theme 4: Staff Reactions

4.1 It takes [staff] one more step as part of the medical family, which really dentistry is part of anyway. I think that that gave them a certain satisfaction.

4.2 [The staff]'re excited, that they feel this is not just drill, fill, bill; that we're making a difference.

4.3 They were like, "We can't tell someone that they have HIV." Cuz the worst thing we have to do in our professional lives in dentistry is, "You're gonna hafta' lose that tooth," so this was a whole "nother ballgame to them."

4.4 [Reciting staff response] "Wow, now that I'm doing' this all the time, it's nothing."

4.5 There weren't a lot [of testing], so I was like, "What's going on?" They said, "Well, staff aren't comfortable starting yet," so I ran a contest to see if – we offered a gift card and said that this gift card goes to the person who offers the test the most times.

Theme 5: Strategies

5.1 I always say if you mention it in a matter of fact, and you're not making it seem like a bad thing then they're not gonna think it's a bad thing.

5.2 That way we don't feel like we're kind of surfing for patients and that we don't make patients feel like, "Oh, they're asking me this because they think that I might be at a higher risk."

5.3 I think it can be incorporated during what we call the comprehensive oral exam. Like if we're going to offer oral cancer screening … I think patients are more respective of that and the fact that everyone is being tested.

Theme 6: Patient Reactions

6.1 Say one person might be defensive and say well, "What do you think I am, a woman of the street or something?" You'd be surprised how many people don't know perhaps what their husband's doing.

6.2 They all are pretty much surprised. I don't think they were expecting that option when they went to the dentist. No one was offended though.

6.3 Casual in the sense that they say, "Fine. Where do I sign? Go ahead and test me."

6.4 Once they think about it for a minute, they realize that the oral test is actually pretty appropriate to offer in a dental office

6.5 I think that's probably the most interesting piece of this research, is that they are very accepting and willing to do this. We had more barriers when it came to institutional barriers, than we did from the actual patients themselves.

6.6 I was so surprised at the number of patients that agreed. I was almost questioning them like, "Really?" I was kind of like excited.

6.7 I think [for] a lot of people it's like I'm here anyhow, and we were offering the testing for free, so free is always good.

6.8 The fact that this one is done by swipe, it makes it much easier. It isn't uncomfortable.

6.9 I think cost is a huge factor, and the kits are not inexpensive, so it's the same with the brush biopsies. If you can get the kits for free, people are more likely to do it.

6.10 I think that dentists have generally … really close relationships with their patients, and I think that they may feel more comfortable speaking to the dentist rather than a physician that they don't see as often.

6.11 [Reciting patient response when declining test]: "That doesn't really pertain to me. I just stay at home, I don't bother anybody, I don't date, I don't take drugs. I'm not a drug abuser." All those kind of things. They say, "I'm not any of that, why do I need it?"

6.12 I think because there's a stigma and … the attitude of it's a gay person's disease … I also think that because they have these ideas they think that you're saying something about them personally.

Theme 7: Positive Results

7.1 The first one was very difficult, for many reasons, because this happened the second day that we were doing [it] … .The others were much easier … .Yeah, I will say that definitely practice is important. I think that the more cases that you deliver, the better that you handle them.

7.2 I'm just thinking about all the positive treatments that are out there, and all the success that patients have with different medications, and things, the antivirals, and whatnot that they're living successfully with HIV for a long time … .The earlier that they can access that care – and if I'm a part of their access to that early care, I think I'm gonna feel good about that after I really think about it.

7.3 Well, I felt someone had to do it, and I was gonna be the most compassionate and make sure that they stayed in care

7.4 We have our medical champion. It's just a flow, so if the test is positive, then the next step is immediate … we would tell the patient, "We will contact our champion in medical," so that it's a kind of seamless communication that they will come up. Then we would talk to the patient, that, "Although your test is positive, it does not mean that you are HIV positive. We will go into the next step, with a blood draw." You kind of encourage the patient, "Don't freak out, yet."

7.5 The finger stick … has to be sent into The Department of Health. It opens up a whole bunch of problems. One is – you know, is the dentist going to be willing to do a finger stick on a patient that they know that they've just diagnosed as HIV. Then the second thing is if you send out that confirmatory test, then the results have to come back to you, and now you are in the position of now you have to communicate those results to the patient … .The Department of Health wants, but it's not modeling anything that is really reality. If you're gonna do this, then you should really try to mimic a private practice setting as much as possible.

7.6 We have our mechanism that we need to basically we have our red bat phone that we should call for the folks over at – our resources over in the medical school who are participating with us in the study. They have counselors and people who we should contact if we do get a positive test, and then they will do the confirmatory testing over there … Once I get a positive, I call them and stall the patient so to speak, and then they'll take the patient and let them know everything …

7.7 If there's a preliminary positive result, we have, there are two, actually, counselors from the infectious disease clinic. We can page them; they will then come to our clinic and discuss the results with the dentist and the patient, and then either one, give them an appointment to come to the infectious disease clinic, or two actually walk them over, which is obviously the preferable method. Walk them over for the confirmatory test and also set up appointments for the follow up care.

(*Continued*)

Table 2. Continued.

Theme 8: Going Forward
8.1 I think once you see how easy the test can be incorporated into a traditional visit, it's really very easy to accept it
8.2 You probably would want to observe the testing taking place somewhere or in some manner, so you feel comfortable with how you're going to incorporate it in your own protocols or operation of your own, how you're going to change it within your particular treatments.
8.3 I actually think that more dentists would be inclined to offer it if it was billable code, if it was more accepted in the dental insurance industry as a billable code, and they could get reimbursed … The more dentists that we have in it, doing it, the more accepted it will be in the dental industry and insurance industry, and overall become standard of care.
8.4 Our advice to that is to have a protocol in place so that if you do get a reactive test you know exactly what to do and how to guide this patient.

of fact" way [5.1]. Many noted the benefit of universal offering to avoid patients feeling "*targeted*" [5.2]. Commonly, testing was presented as a routine dental procedure, "*our standard of care*" [5.3], and with a friendly demeanor "*as casual as saying, do you want your teeth cleaned?*"

Patient reactions

Patient reactions to HIV testing varied, including being defensive [6.1], surprised [6.2], and agreeable [6.3, 6.4]. Many noted that patients were readily accepting [6.5, 6.6] due to testing being convenient [6.7], painless [6.8], and non-invasive. Offering the test for free, or at a minimal fee, was a noted benefit [6.9]. Curiosity was also an impetus for people who had never tested or who were high risk. Many felt acceptance was related to a trusting patient-dentist relationship [6.10].

Patients typically refused testing because they had recently been tested, were already diagnosed, or had low perceived HIV risk [6.11]. Participants reported that some patients did not feel "*emotionally or psychologically prepared*" to learn their status. Only one dentist cited HIV stigma as a reason for testing refusal [6.12].

Positive results

Of the 17 participants who had encountered a reactive test, the majority felt prepared to deliver the results due to training and practice [7.1]. Some emphasized the public health benefit of screening as a way to overcome discomfort [7.2], and the appropriateness of their role in delivering the news [7.3]. Overall, the majority stated that patients who received positive results were not surprised given their risky behaviors.

Confirming a reactive test typically consisted of a referral to an outside agency, like HIV clinics, for confirmatory blood testing [7.4]. One dentist submitted blood samples to his health department for confirmatory testing as a study requirement [7.5]. Two participants were mandated by state law to conduct their own confirmatory tests.

Having supportive resources to handle positive results was a significant facilitator. In some cases, this was an arrangement for someone else (e.g, social workers) to be called in to deliver positive results [7.6]. Many others discussed their established protocols to link those with a reactive test to follow-up HIV care [7.7], which was crucial in making it feasible and comfortable to offer testing.

Going forward

Participants felt testing uptake would be higher if their colleagues knew that the test was not difficult, time consuming or cumbersome [8.1]. Many participants encouraged the development of a clinical protocol to "*blend* [*the test*] *into the appointment*" and observing others already testing [8.2]. Another common theme was the importance of a reimbursable code to testing uptake [8.3]. Availability of training about HIV for dentists and their staffs were other common facilitators. Many also highlighted the importance of support systems for handling reactive results [8.4]. Finally, numerous participants felt that the acceptability of HIV testing in dentistry "*all boils down to scope of practice,*" and that dental professionals need to be viewed as "*as health professionals rather than tooth doctors.*"

Discussion

While prior studies have assessed dentists' willingness to adopt rapid HIV testing, this is the first to assess their experiences with actual uptake (Pollack et al., 2014; Siegel et al., 2012). Overall, participants were strongly supportive of rapid HIV testing in dentistry as a simple, quick test that provided a significant public health benefit. The findings also demonstrated that many perceived barriers to implementation, such as patient rejection and time constraints, were not in fact actual realities (Pollack et al., 2014; Siegel et al., 2012). With facilitators like follow-up resources, participants generally expressed that they and their staffs felt comfortable administering the test. Health education campaigns that continue to demonstrate both dental provider and patient acceptance may help support more universal implementation (Dietz, Ablah, Reznik, & Robbins, 2008; Durall, Enciso, Rhee, & Mulligan, 2015; Nassry et al., 2012; VanDevanter et al., 2012). Also, opportunities for training in rapid HIV testing may influence dentists' practices and attitudes (Hamershock et al., 2014; Mulligan, Seirawan, Galligan, & Lemme, 2006;

Natto, Aladmawy, & Rogers, 2015; Pollack et al., 2014; Rogers et al., 2011). Furthermore, greater involvement of the dental community in inter-professional educational programs with medical disciplines (AIDS Education & Training Center Program, 2016; Midwest AIDS Training and Education Center, 2015) may enhance HIV knowledge and provide accessible follow-up resources.

Many participants stressed that, without reimbursement, dentists are resistant to undertaking HIV testing. Research documenting the cost-effectiveness of HIV testing in improving health outcomes (Lucas & Armbruster, 2013; Paltiel et al., 2005; Gillian D Sanders et al., 2010; Gillian D. Sanders et al., 2005; Schackman et al., 2013) hasn't yet addressed the financial and public health implications within dentistry. Whether insurers would provide reimbursement to induce dentists is unclear, especially when dental insurers view this as low priority (Feinstein-Winitzer et al., 2014). Since most participants started testing due to grant funding and outside collaborations, there is considerable value in promoting rapid testing through public subsidies and research support.

Finally, participants emphasized the need for a cultural change regarding how the dental field views its role as a primary care profession. While some recognized oral health as a component of comprehensive healthcare, many expressed concern about expanding the traditional view of the appropriate scope of dentistry. Increased awareness through dental education, advocacy from dental organizations, and enhanced integration of the medical and dental workforces may be necessary to engage the dental profession in primary medical screenings (Donoff et al., 2014; Giddon, Swann, Donoff, & Hertzman-Miller, 2013).

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