

Routine HIV Testing in Dental Practice: Can We Cross the Rubicon?

Anthony T. Vernillo, D.D.S., Ph.D., M.B.E.; Arthur L. Caplan, Ph.D.

Abstract: The latest Centers for Disease Control and Prevention (CDC) guidelines recommend routine HIV screening for a large segment of the population, given that the individual understands that an HIV test will be performed unless he or she declines testing (opt-out testing). The CDC recommendation calls for the elimination of formalized requirements for written consent and pretest counseling to encourage more Americans to voluntarily accept testing. Knowledge of HIV infection can increase early access to care and treatment and reduce further transmission. A rapid non-invasive test for HIV infection (OraQuick Advance) from oral fluid has recently become available. It offers two distinct advantages: 1) results are available within twenty minutes, thereby eliminating a long waiting period; and 2) it has high sensitivity and specificity comparable to blood testing. A preliminary positive test result must be confirmed with a Western Blot by an outside laboratory or physician. Important ethical and legal issues must be resolved before the successful implementation of HIV testing in the dental setting. An educational emphasis on broader coverage of HIV testing is also needed within the dental school curriculum. The integration of HIV testing into dental practice is discussed as well. A policy of screening patients in dental offices will contribute to a major advance in public health.

Dr. Vernillo is Professor, Department of Oral and Maxillofacial Pathology, Radiology, and Medicine, New York University College of Dentistry; and Dr. Caplan is the Emanuel and Robert Hart Professor of Bioethics, Chair of the Department of Medical Ethics, and Director of the Center for Bioethics, University of Pennsylvania. Direct correspondence and requests for reprints to Dr. Anthony T. Vernillo, New York University College of Dentistry, 345 East 24th Street/Room 838 Schwartz, New York, NY 10010-4086; 212-998-9859 phone; 212-995-4654 fax; atv1@nyu.edu.

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Not long after the twenty-fifth anniversary of the first recognized cases of AIDS, the Centers for Disease Control and Prevention (CDC) issued revised national testing guidelines for HIV infection. The CDC urges voluntary, routine opt-out screening once for everyone thirteen to sixty-four years of age, and it suggests periodic annual tests for those engaged in high-risk behaviors.¹ These recommendations are both timely and important since one-quarter of the approximately one million Americans are not aware of their infection. Furthermore, these 250,000 persons account for 55 percent of new infections.²

Pregnant women were the first group of Americans to be subjected to routine opt-out screening for HIV infection when it became clear that antiretroviral medications could significantly reduce vertical transmission to their babies from a rate of 25.5 percent to as low as 2 percent.³ Other Americans have seen their treatment options multiply in the past decade, including most recently the availability of a single

daily antiretroviral pill. Clearly, given the efficacy of current therapies, an HIV diagnosis requires action since effective treatment and preventive measures can now be offered.

The CDC recommendation for routine opt-out HIV testing represents a seismic shift in health policy. The guidelines also recommend eliminating separate formal signed consent forms (except where required by law) and special pre-test counseling. If implemented, these changes would bring an end to the era of "AIDS exceptionalism" in public policy. The time has come to implement the CDC recommendations in all areas of health care and to treat HIV like any other infectious disease. For example, HIV test results were folded into screening for rubella, hepatitis B, and syphilis as part of prenatal care. With routine opt-out HIV testing in this clinical population, the psychological burden was shifted from testing with informed consent (opt-in) to an informed right of refusal, resulting in higher testing rates.⁴ Routine opt-out HIV screening, diagnosis, and subsequent

treatment will do far more good than a continued reliance on broad-based education campaigns, targeted testing (e.g., only high-risk populations), and standard pre-test and post-test counseling. Given emerging diagnostic technologies and the frequency with which Americans seek dental care, dentistry ought to be at the forefront of screening for HIV infection as part of its standard of care.

The OraQuick Advance is an FDA-approved rapid HIV test that can provide results within twenty minutes. The OraQuick Advance is a Clinical Laboratory Improvement Amendments (CLIA)-waived test without federal requirements for personnel, quality assessment, or proficiency testing (state and local regulations and laws still may apply). The test can be performed outside a traditional medical office if the clinician obtains a certificate of waiver from the CLIA program and is trained in how to perform and interpret the results of the test.⁵ Hence, the test could be routinely performed from a patient's oral fluid in a dentist's office.

The OraQuick Advance detects antibodies to HIV-1 and HIV-2 in oral fluid (transudate), finger-stick whole blood, venipuncture whole blood, and plasma specimens. The test is accurate with comparably high sensitivities and specificities in detecting HIV-2 from oral fluid, finger-stick whole blood, and plasma. False positives are rare if the test is performed correctly.⁶ In a study for rapid HIV-1 blood testing during labor, the sensitivity and specificity from OraQuick were 100 percent and 99.9 percent, respectively.⁷ The test is non-invasive and simple to use. A patient places a pad against his or her teeth in a supragingival position, and oral transudate is collected in a manner similar to capillary action. A patient who has a preliminary positive test result must be referred for a confirmatory test known as a Western Blot. The dentist must then refer the patient to a physician or outside laboratory. Blood or oral fluid can be tested with the Western Blot.

Ethical and Legal Considerations: HIV Testing Strategies

For both the individual and society, screening for HIV infection should increase benefits to a maximum and keep risks to a minimum. Is rapid screening for HIV infection within the paradigm of dental health care delivery? If so, would it comple-

ment rather than interfere with practice? Do dentists have an ethical and professional responsibility to offer this type of diagnostic intervention, given the welfare of the public and the rising number of cases of HIV infection? With dentists' training, education, and experience in the diagnosis and treatment of oral diseases, who would be better to offer salivary-based screening? Patients, among adults twenty years and older, also visit their dentists more often than their primary care physicians,⁸ giving dentists an enormous opportunity to detect HIV infection and refer patients for medical evaluation. Important ethical considerations and state legal requirements related to HIV testing strategies must be considered, however.

If started, routine opt-out HIV testing needs to be implemented carefully and thoughtfully to achieve public health goals. In busy clinics, there is the danger that routine opt-out testing could be done without the patient's knowledge, or become so mechanical and habitual that patients will not realize that they can decline the test.⁹ Counseling requirements and formal written informed consent (opt-in) may drive more people away from testing or promote stigma by reinforcing "HIV exceptionalism."¹⁰ Notification about HIV testing should be direct, comprehensible, and culturally appropriate to eliminate coercion, particularly with vulnerable groups.¹¹ Pre-test counseling is applicable in twenty-three states and the District of Columbia, and informed consent before HIV testing is required in thirty-one states and the District of Columbia. In the Northeast, for example, with the exception of New Hampshire and Massachusetts, pre-test counseling is required. Informed consent applies throughout the entire Northeast.¹² Unless these requirements change nationally, then opt-in testing will remain part of clinical practice in the majority of the states.

Barriers to HIV Testing

Aside from the legal and ethical considerations of HIV testing strategies and the education and training that would enable dentists to use salivary diagnostics for HIV infection, the implementation of and barriers to HIV testing in dental practice are of primary importance. Unless consensus is reached on how to overcome these barriers, then any implementation of HIV testing strategies—i.e., opt-in versus opt-out—is only hypothetical. For example, if rapid testing ought to be implemented, then how should financial compensation be handled? Testing every patient in every dental setting could be prohibitively expensive. Dentists could test in clinics associated

with medical facilities that would expedite primary care for HIV-positive patients (this fulfills the goal of detection and referral for treatment), and then could bill under a medical code for financial compensation. However, dentists practice in a number of different settings, e.g., private practice, community health centers or clinics, hospitals, or academic centers. What testing protocols should be developed in private, hospital-based, or community dental clinics?

Published findings have documented a wider range of issues and challenges of implementing HIV counseling and testing in dental practice.¹³ There has been significant agreement on the existence of several barriers: lack of knowledge/training in the oral HIV test (approximately 45 percent) and fear of delivering bad news (60 percent); lack of dentists' interest or comfort and perception that HIV testing is outside the perceived domain of dentistry (approximately 75 percent); patient acceptance (75 percent); issues of financial reimbursement and time constraints (60 percent); and lack of referral resources (approximately 25 percent).

Confidence levels related to HIV testing were also assessed among future dental health care professionals. Dental and dental hygiene graduates were confident at a level of only 50 percent and 21 percent, respectively, regarding referral for HIV counseling and testing. These low levels may be related to a lack of educational emphasis on HIV testing. In the dental school curriculum, out of forty-six schools, only 33 percent included extensive coverage of the legal aspects of HIV testing and sharing information with the patient, and only 15 percent included referral of at-risk patients for HIV counseling and testing. Furthermore, the frequency with which dental schools never screened patients for HIV in their clinics (through HIV testing) was 63 percent. Although these barriers may appear insuperable, respondents were also positive (50 to 60 percent) about HIV testing and counseling, citing as advantages early identification to benefit the patient and access medications, greater integration of oral and systemic health, contribution to general health promotion and education, and provision of a public health service.¹³

How Should a Dentist Manage a Patient's Preliminary Test Result?

Other important issues remain, however, and established protocols are thus needed. For example, if the dentist administers the HIV test on oral transudate, then he or she must give the preliminary results

to the patient. Depending upon state law, many clinics would be required to offer counseling, e.g., a dentist who is trained in counseling would need preparation and time to explain the significance of an HIV negative or positive test result to the patient. Dentists would need to be prepared for the requirement that all HIV testing should be accompanied by some type of counseling with an appropriate care provider and, when necessary, referral to a physician.⁵ The patient must also be told that an HIV test result may be reportable, e.g., to a local bureau of public health, and ensuring confidentiality remains a significant challenge. These are issues that require resolution before HIV screening is instituted in dental practices.

If a patient consents to HIV testing and a preliminary positive result is obtained, then how ought the dentist to manage this information? A dentist would tell the patient that the test result is preliminary and then refer the patient to a physician for follow-up confirmatory testing with a Western Blot. An increased number of diagnoses also entail increased demands in terms of partner notification. If that HIV test result is confirmed as positive, then additional post-test counseling, follow-up, and medical treatment would be the responsibility of other allied health professionals. Such professionals would also ask the patient about drug injection partners; counsel the patient about the patient's sexual practices and the potential harm to others through HIV transmission; and determine whether disclosure of the patient's HIV-positive test result to the patient's spouse, significant other, or any third party is warranted.¹⁴ Although the Tarasoff case decision from the Supreme Court of California was controlling only within the jurisdiction of that court, it nonetheless established a paradigmatic and ethically justifiable breach of confidentiality—"the duty to warn"—when the probability and magnitude of harm to a third party are high.¹⁵

A positive test result may be devastating news for a patient, too. How does one protect a patient from harm? A positive HIV test result may lead to social ostracism, stigmatization in health care settings, and employment discrimination—these still persist albeit less so than at the start of the discovery of HIV in humans.¹⁶ HIV testing in dental settings will require that clinicians understand the legal and moral requirements of privacy and confidentiality.¹⁷ Most states have HIV-specific statutes requiring confidentiality of HIV data.^{18,19} Confidential HIV-related information is protected in accordance with legal provisions such as the Health Insurance Portability and Accountability Act (HIPAA).²⁰

Referral to an outside laboratory or physician would be required for a confirmatory Western Blot test and post-test counseling. However, if the dentist makes such a referral, then is he or she obligated to track the referral in order to ensure that there is a continuum of care? If dental clinics were to assume the responsibility of tracking cases, then there must also be an established protocol. Preexisting guidelines for incorporating HIV testing into health care may provide a working template for the dental profession.²¹ However, individual state laws vary. Dental clinics located within university medical centers may be best equipped to refer patients for confirmatory testing and use available HIV counseling services and educational resources for their patients.

Crossing the Rubicon: Integration of HIV Testing into Practice

Routine opt-out screening for HIV infection should become an element in a standard dental examination, along with x-rays, charting for caries and periodontal disease, and a head and neck exam. Patients could be offered the test and then can accept or refuse. However, patients must be informed explicitly that the dentist will test for HIV infection unless they refuse. The CDC's recommendation of eliminating formalized requirements for pretest counseling and specific written informed consent should result in more people being tested, with the potential for reducing transmission of the virus and the patient's earlier entry into treatment.

Some existing state laws are inconsistent with the 2006 CDC guidelines. Given the states' primacy in infectious disease control, dentists must press state legislators to reform their laws to comply with the new national guidelines lest they pose insuperable obstacles to routine opt-out screening.²² This should not be a deterrent to dentistry in taking a leading role, using the latest technology to shift HIV testing from the exception to the rule. If HIV testing in the dental setting is a success, then other salivary-based diagnostic testing may follow for pathogens and/or chronic diseases, including but not necessarily limited to HSV-1, hepatitis B and C, measles, rubella, mumps, and CMV.²³ Currently, a salivary-based hepatitis C test is closest to commercialization.²⁴ Thus, there is an exciting and unprecedented opportunity that dentistry should seize upon to create a major

breakthrough in public health—one that can benefit their patients as well as reduce the number of cases of HIV disease in the United States.

Given the substantial public health benefits from rapid HIV testing, how does a dental practitioner provide that service routinely and seamlessly? The AIDS Education and Training Centers (AETC) is a National Resource Center and a clinical training component of the Ryan White Program that contains information on rapid HIV testing for health care providers.²⁵ Medicaid, Medicare, and some insurance carriers will cover the costs to patients for testing and counseling sessions; rates and coverage may vary between states and insurance carriers. The dentist charges a fee for a pre-test counseling session with a counseling code and bills under a Current Procedural Terminology (CPT) code for the rapid test (a medical device). The rate for a pretest counseling session is approximately \$80-\$95, and the cost of the rapid test is \$18 to \$20. Dentists and their staffs (dental hygienists or dental assistants) can meet the requirements for training related to rapid HIV testing and pre-test counseling online at the AETC site; there is no requirement to complete a written examination. The dentist or his or her staff can administer the rapid HIV test, and the dentist reports the result to the patient.

The delivery of the preliminary test result alone, whatever it may be, constitutes a post-test counseling session for which the dentist can also charge a fee for service. If the patient's test result is positive, then the dentist must assure the patient that the result is only preliminary and will require further confirmation with the patient's physician. The dentist also needs to emphasize that HIV infection is now a chronic illness, like diabetes, and it is amenable to treatment. The dentist should thus not require additional training in post-test counseling for delivering a positive result (although such training is available), given that he or she will then refer the patient to a physician for additional counseling, follow-up confirmatory testing, and treatment. The number of dentists who would want to take additional courses in post-test counseling is not known; however, some clinicians may feel more comfortable with this type of additional training, particularly as it relates to the psychological impact of a positive test result.

The dental clinician not only provides an invaluable service to the public, but from a practice standpoint, mechanisms for financial compensation also apply to the provision of this important service. In this way, rapid HIV testing becomes a routine part

of practice like any other dental procedure, increasing the likelihood that dentists will incorporate this testing into their practices. The level of in-office medical screening that dentists are willing to do is not known. However, dentists have taken a lead in other forms of rapid in-office medical screening, including blood pressure and blood glucose measurements, and referral of patients to physicians for a definitive diagnosis. Given that dental hygienists and dental assistants can also administer the rapid HIV test, there is an economical use of time with auxiliary dental health care staff that further facilitates the incorporation of such testing into practice. The dentist need only present the preliminary test result and then refer the patient to his or her physician—this level of in-office medical screening should be all that is required in a busy dental practice.

The availability of information to patients regarding rapid HIV testing in the dental setting is critical and depends on the venue. For example, community dental clinics, mobile dental vans, and dental schools within a university/medical setting are valuable sources of information for patients. Educational pamphlets on rapid HIV testing at these sites explain the nature of the test and the significance of test results. The dentist in private practice can also obtain these pamphlets at no cost through the AETC site²⁵ and make them available to patients in the reception area. Other pamphlets in the reception area of a private dental practice might include information on diabetes, smoking cessation and oral cancer, and high blood pressure. Through such educational materials, the patient will recognize the ongoing role dentistry plays as part of the health care network in the provision of HIV testing and referral to physicians for follow-up testing and treatment if needed.

Given the availability of information through the AETC site,²⁵ rapid HIV testing in dental practice is now gaining momentum nationally, suggesting that dentists may be willing to include such testing within their standard of health care delivery. However, the exact numbers of dentists willing to expand their practice in this direction are not known. Establishing new practices with rapid HIV testing in the dental setting will likely result initially from dentists currently in practice who wish to receive training in the use of the rapid test and counseling patients as part of their standard of care, positioning dentists at the leading edge of this important paradigm shift. However, a likely greater force in the evolution of practices for rapid HIV testing in the dental setting must also come subsequently from the education of students

in dental schools—providing an unprecedented opportunity for dental educators to reshape the vital role of dentistry in public health. Historically, dental schools faced a significant challenge in placing a greater emphasis on HIV testing and counseling in their curricula.¹³ Nonetheless, the next generation of dentists will likely complement the efforts of those experienced dentists who introduced rapid HIV testing into clinical practice, thereby further expanding this new standard of care.

How physicians will view this changing paradigm in dentistry is also of importance. Will physicians oppose it? One way to bring physicians on board is through, for example, dental research conferences and seminars on rapid HIV testing and HIV infection; these should provide a venue for intraprofessional education, delineating the roles of each in the provision of this service. Furthermore, if more dentists test patients for HIV infection as part of their standard of care, then more referrals to physicians for follow-up confirmatory testing and treatment will augment physicians' roles in the provision of care—aligning dentistry and medicine in the advancement of public health.

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