Applying HIV Testing Guidelines in Clinical Practice

MEGAN R. MAHONEY, MD; JESS FOGLER, MD; SHANNON WEBER, MSW; and RONALD H. GOLDSCHMIDT, MD, *University of California, San Francisco, California*

An estimated one fourth of persons with human immunodeficiency virus (HIV) are not aware they are infected. Early diagnosis of HIV has the potential to ensure optimal outcomes for infected persons and to limit the spread of the virus. Important barriers to testing among physicians include insufficient time, reimbursement issues, and lack of patient acceptance. Current HIV testing guidelines address many of these barriers by making the testing process more streamlined and less stigmatizing. The opt-out consent process has been shown to improve test acceptance. Formal pretest counseling and written consent are no longer recommended by the Centers for Disease Control and Prevention. Nevertheless, pretest discussions provide an opportunity to give information about HIV, address fears of discrimination, and identify ongoing high-risk activities. With increased HIV screening in the primary care setting, more persons with HIV could be identified earlier, receive timely and appropriate care, and get treatment to prevent clinical progression and transmission. (*Am Fam Physician*. 2009;80(12):1441-1444. Copyright © 2009 American Academy of Family Physicians.)

Nearly 1 million persons in the United States are living with human immunodeficiency virus (HIV), of which an estimated 25 percent are not aware they are infected.[1] Adults who are unaware of their infection account for 54 percent of new sexual transmissions of HIV each year.[2] A meta-analysis of persons newly diagnosed with HIV found that men and women reduce the frequency of unprotected vaginal or anal intercourse by 64 percent after being notified of their HIV status.[3] To identify more persons who are unaware of their infection, the Centers for Disease Control and Prevention (CDC) now recommends routine HIV testing in all persons 13 to 64 years of age, regardless of risk.[4] Position statements of the American College of Obstetricians and Gynecologists (ACOG)[5] and the American College of Physicians[6] are consistent with the CDC's HIV testing guidelines. The need for increased HIV testing is also emphasized by the American Academy of Family Physicians (AAFP) and the U.S. Preventive Services Task Force (USPSTF); however, these groups do not recommend routine HIV testing in low-risk populations.[7,8]

The trend toward increased testing is in part a response to the fact that a substantial number of persons with HIV are diagnosed late in their illness. Of the 34 states reporting to the CDC in 2005, 36.4 percent of persons newly diagnosed with HIV developed AIDS within the following year.[9] Early diagnosis of HIV has a role not only in preventing new transmissions, but also in identifying persons in need of treatment.[4] Early initiation of antiretroviral treatment has been shown to prevent progression to AIDS and death.[10,11]

Despite the absence of large-scale trials documenting that early diagnosis leads to early treatment initiation, facilitating access to HIV care for those who are newly diagnosed should be a priority. Approximately 50 percent of persons with HIV have limited access to HIV care; many of these are in the larger population of socioeconomically disadvantaged persons with poor access to health care in general.[12,13] To facilitate HIV care, clinical and social services are available through the federal Ryan White HIV/AIDS program and through Medicaid and Medicare programs. Medication costs can be covered by the AIDS Drug Assistance Program.

Primary care physicians have been identified as a group that has the potential to perform broader testing with the goal of

SORT: KEY RECOMMENDATIONS FOR PRACTICE

Clinical recommendation	*Evidence rating*	*References*
Screening for HIV should be done using either a routine approach for all persons 13 to 64 years of age or a risk-based approach, depending on the practice setting.	C	4, 6-8
All pregnant women should be tested for HIV in the first trimester.	A	4-8
A second HIV test should be considered in the third trimester for pregnant women with risk factors or for those in high-prevalence areas.	C	4, 5
If allowed by state law, an opt-out consent process should be used when testing for HIV.	C	4, 19, 20
HIV pretest counseling should be tailored to individual patients' needs.	C	4, 7

HIV = human immunodeficiency virus.

A = consistent, good-quality patient-oriented evidence; B = inconsistent or limited-quality patient-oriented evidence; C = consensus, disease-oriented evidence, usual practice, expert opinion, or case series. For information about the SORT evidence rating system, go to http://www.aafp.org/afpsort.xml.

decreasing new transmissions and facilitating early linkage to care.[4] National data indicate that more than one half of HIV tests and 38 percent of positive tests are conducted in primary care settings.[13] Primary care physicians, however, have been found to experience several real and perceived barriers to HIV testing. These include insufficient time, competing priorities, lack of knowledge and training, perceived burden of consent and counseling requirements, lack of patient acceptance, and inadequate reimbursement.[14] Current HIV testing guidelines attempt to address these barriers by making the process more streamlined and less stigmatizing, factors that should increase routine HIV testing and make it a time-efficient component of primary care that is well-accepted by the patient.

Patient Selection

Screening for HIV should be done using either a routine approach for all persons 13 to 64 years of age[4,6] or a risk-based approach, depending on the practice setting.[7,8] Traditionally, HIV tests have been offered only to those persons with high-risk sexual activity or injection drug use. Risk-based screening, however, can lead to missed opportunities for diagnosis, because some patients are reluctant to disclose risks and others might not realize they are at risk because of their partners' risks.[15] The CDC's HIV testing guidelines recommend offering routine HIV testing to all persons 13 to 64 years of age at least once, regardless of risk, with repeat testing at least annually for persons with risk factors.[4] Persons likely to be at high risk include injection drug users and their sex partners, persons who exchange sex for money or drugs, sex partners of HIV-infected or high-risk persons, and men who have sex with men. The AAFP, which bases its recommendations on those of the USPSTF, recommends routine voluntary testing in high-risk settings, such as emergency departments or outpatient clinics in high-prevalence areas. In all other practice settings, the AAFP recommends testing on the basis of individual risk.[7,16-18] Whichever approach is used, more widespread HIV testing is the goal.

Special Considerations During Pregnancy

All HIV testing guidelines recommend that pregnant women receive a routine HIV screening test in the first trimester.[4-8] The CDC and ACOG also recommend a repeat test in the third trimester for women with identified risk factors and those in high-prevalence settings.[4,5]

Opt-Out and Opt-In Consent Processes

The CDC's HIV testing guidelines recommend an opt-out consent process in which the patient is informed that the HIV test will be performed as part of routine screening, unless it is specifically declined. In contrast, with opt-in testing, the patient is offered the test and can elect to have it performed. Opt-out testing can help normalize and destigmatize the testing process and has demonstrated greater test acceptance than opt-in testing.[2,19,20] Laws regarding consent processes vary from state to state and can be found in the Compendium of State HIV Testing Laws at http://www.nccc.ucsf.edu/StateLaws/Index.html.[21] If allowed by state law, an opt-out consent process should be used when testing for HIV.[4,19,20]

Pretest Counseling in Primary Care

A common barrier to HIV testing has been the time required for traditional pretest counseling.[14] The CDC no longer recommends formal pretest counseling or separate written consent; however, patients should always be informed when an HIV test will be performed and should be allowed an opportunity for discussion, because the results can have an enormous impact on patients and their families.[22] Physicians might want to include a brief description of the HIV testing process and the meaning of positive or negative test results.[22] HIV pretest counseling should be tailored to individual patients' needs.[4,7] Some patients with concerns about the test might need more extensive discussion of HIV risks, and those with

Table 1. Sample Pretest Counseling Script for Routine HIV Testing

"I recommend an HIV test for all my patients, whether or not they think they are at risk."

"HIV is treatable, and early diagnosis can help keep you healthy."

"If you do not want the test, you may decline."

If a rapid HIV test is being used:

"Further testing is always required to confirm a preliminary positive rapid test result."

If patient declines testing, further discussion might be warranted, beginning with:

"What are your concerns about the test?"

NOTE: *This script may not meet the informed consent requirements of all states. Please refer to the Compendium of State HIV Testing Laws at http://www.nccc.ucsf.edu/StateLaws/Index.html.*

HIV = human immunodeficiency virus.

ongoing risk factors might benefit from risk-reduction counseling. Discussing the potential personal impact of a positive test can be helpful. Physicians should be aware of their state's laws regarding partner notification.[21,23]

If a patient declines to be tested, physicians can explore the reasons for refusal, because many patients who decline the test know they are at risk and might be afraid of the results.[23] Confidentiality concerns are also an important barrier for many patients. Significant stigma persists with HIV, and many patients fear disclosure of sexual orientation or drug use, rejection by loved ones, and violence.[22,24] An HIV diagnosis can lead to discrimination that can affect access to health insurance, employment, and psychological well-being, which can result in persons entering care late in their illness.[25] Physicians can help reduce the stigma associated with the test by offering it as a routine part of preventive care, instead of targeting persons based on risk assessment alone. Addressing misinformation about HIV and fear of discrimination could reduce these important barriers to patient acceptance of testing. A sample pretest counseling script is presented in *Table 1*, and a list of helpful resources for HIV testing and counseling can be found in *Table 2*.

Table 2. Resources for HIV Testing and Counseling

Organization	*Resources*
AIDS Education and Training Centers	An example from the San Francisco center offering routine HIV testing curriculum, guides, and resources: http://www.sfaetc.ucsf.edu/resources/PDF/TESTINGBINDERMarch09.pdf General resources: http://www.aidsetc.org/aidsetc?page=etres-display&resource=etres-426
American Academy of Family Physicians	Policy statement: http://www.aafp.org/online/en/home/clinical/clinicalrecs/hiv.html Patient information materials: http://familydoctor.org
American Academy of HIV Medicine	Tools include a brochure on current procedure terminology codes for HIV testing: http://www.aahivm.org
American College of Obstetricians and Gynecologists	Resources for HIV screening in women, including prenatal HIV testing resources (membership required for access to many materials): http://www.acog.org
Centers for Disease Control and Prevention	Guidelines, fact sheets, slide sets, and journal articles: http://www.cdc.gov/hiv/topics/testing/healthcare/index.htm
Health Research and Educational Trust	A practical guide for HIV testing in the emergency department: http://www.edhivtestguide.org
HIV Medicine Association	Practical tools for HIV testing and clinical care: http://www.hivma.org/Content.aspx?id=1942
National HIV/AIDS Clinicians' Consultation Center	Expert telephone consultation for physicians regarding HIV testing and treatment: Warmline (Telephone: 800-933-3413) Compendium of State HIV Testing Laws: http://www.nccc.ucsf.edu/StateLaws/Index.html
State and local health departments and state offices of AIDS	An example from New York City, with office flowchart, chart stickers, patient resources, and physician script: http://www.nyc.gov/html/doh/html/csi/csi-hivtestkit.shtml

HIV = human immunodeficiency virus.

Reimbursement

Lack of reimbursement by some public and private insurers is another substantial barrier to routine HIV testing.[26] Currently, some insurance companies and an increasing number of state Medicare and Medicaid programs pay for routine HIV tests. More third-party carriers are expected to provide this coverage as recommendations for routine testing gain acceptance. Some states have enacted, or are in the process of enacting, laws that require insurance companies to cover the cost of routine HIV testing. In addition, federal legislation mandating insurance coverage for routine HIV testing has been proposed.

The Authors

MEGAN R. MAHONEY, MD, is an assistant clinical professor in the Department of Family and Community Medicine at the University of California, San Francisco (UCSF), and a human immunodeficiency virus (HIV) consultant at the National HIV/AIDS Clinicians' Consultation Center, a unit of the UCSF Department of Family and Community Medicine.

JESS FOGLER, MD, is an associate clinical professor in the Department of Family and Community Medicine at UCSF. She is also an HIV consultant at the National HIV/AIDS Clinicians' Consultation Center and director of the National Perinatal HIV Hotline.

SHANNON WEBER, MSW, is a program coordinator for the National Perinatal HIV Consultation and Referral Service.

RONALD H. GOLDSCHMIDT, MD, is a professor in the Department of Family and Community Medicine at UCSF, and director of the National HIV/AIDS Clinicians' Consultation Center.

Address correspondence to Megan Mahoney, MD, University of California, 995 Potrero Ave., Bldg. 83, San Francisco, CA 94110 (e-mail: mmahoney@nccc.ucsf.edu). Reprints are not available from the authors.

Author disclosure: Nothing to disclose.

REFERENCES

1. Centers for Disease Control and Prevention (CDC). HIV prevalence estimates—United States, 2006. *MMWR Morb Mortal Wkly Rep.* 2008;57(39):1073-1076.
2. Marks G, Crepaz N, Janssen RS. Estimating sexual transmission of HIV from persons aware and unaware that they are infected with the virus in the USA. *AIDS.* 2006;20(10):1447-1450.
3. Marks G, Crepaz N, Senterfitt JW, Janssen RS. Meta-analysis of high-risk sexual behavior in persons aware and unaware they are infected with HIV in the United States: implications for HIV prevention programs. *J Acquir Immune Defic Syndr.* 2005;39(4):446-453.
4. Branson BM, Handsfield HH, Lampe MA, et al. Revised recommendations for HIV testing of adults, adolescents, and pregnant women in health-care settings. *MMWR Morb Mortal Wkly Rep.* 2006;55(RR-14):1-17.
5. American College of Obstetrics and Gynecology Committee on Obstetric Practice. ACOG Committee Opinion No. 418: Prenatal and perinatal human immunodeficiency virus testing: expanded recommendations. *Obstet Gynecol.* 2008;112(3):739-742.
6. Qaseem A, Snow V, Shekelle P, Hopkins R Jr, Owens DK, for the Clinical Efficacy Assessment Subcommittee, American College of Physicians. Screening for HIV in health care settings: a guidance statement from the American College of Physicians and HIV Medicine Association. *Ann Intern Med.* 2009;150(2):125-131.
7. American Academy of Family Physicians. Screening for HIV and treatment of acquired immunodeficiency policy statement, August 2007. http://www.aafp.org/online/en/home/clinical/clinicalrecs/hiv.html. Accessed November 11, 2009.
8. U.S. Preventive Services Task Force. Screening for HIV, topic page. April 2007. Rockville, Md.: Agency for Healthcare Research and Quality, Rockville, MD. http://www.ahrq.gov/clinic/uspstf/uspshivi.htm. Accessed November 11, 2009.
9. Centers for Disease Control and Prevention. Late HIV testing—34 states, 1996-2005. *MMWR Morb Mortal Wkly Rep.* 2009;58(24):661-665.
10. Kitahata MM, Gange SJ, Abraham AG, et al. Effect of early verus deferred antiretroviral therapy for HIV on survival. *N Engl J Med.* 2009;360(18):1015-1026.
11. When To Start Consortium, Sterne JA, May M, et al. Timing of initiation of antiretroviral therapy in AIDS-free HIV-1-infected patients: a collaborative analysis of 18 HIV cohort studies. *Lancet.* 2009;373(9672): 1352-1363.
12. Institute of Medicine, Committee on the Public Financing and Delivery of HIV Care. Public financing and delivery of HIV/AIDS care: securing the legacy of Ryan White. Washington, DC: National Academies Press, 2004.
13. Kates J, Levi J. Insurance coverage and access to HIV testing and treatment: considerations for individuals at risk for infection and for those with undiagnosed infection. *Clin Infect Dis.* 2007;45(suppl 4): S255-S260.
14. Burke RC, Sepkowitz KA, Bernstein KT, et al. Why don't physicians test for HIV? A review of the US literature. *AIDS.* 2007;21(12):1617-1624.
15. Centers for Disease Control and Prevention. Voluntary HIV testing as part of routine medical care—Massachusetts, 2002. *MMWR Recomm Rep.* 2004;53(24):523-526.
16. Rodnick JE. The CDC and USPSTF recommendations for HIV testing. *Am Fam Physician.* 2007;76(10):1456,1459.
17. Kirchner JT. It's time to normalize testing for HIV. *Am Fam Physician.* 2007;76(10):1459,1462.
18. Campos-Outcalt D. Time to revise your HIV testing routine. *J Fam Pract.* 2007;56(4):283-284.
19. Heijman RL, Stolte IG, Thiesbrummel HF, et al. Opting out increases HIV testing in a large sexually transmitted infections outpatient clinic. *Sex Transm Infect.* 2009; 85(4):249-255.
20. Price H, Birchall J, Newey C, et al. HIV opt-out increases HIV testing in low-risk patients. *Int J STD AIDS.* 2009;20(1):56-57.
21. National HIV/AIDS Clinicians' Consultation Center. Compendium of state HIV testing laws—2009. http://www.nccc.ucsf.edu/StateLaws/Index.html. Accessed November 11, 2009.
22. Obermeyer CM, Osborn M. The utilization of testing and counseling for HIV: a review of the social and behavioral evidence. *Am J Public Health.* 2007;97(10):1762-1774.
23. Hull HF, Bettinger CJ, Gallaher MM, Keller NM, Wilson J, Mertz GJ. Comparison of HIV-antibody prevalence in patients consenting to and declining HIV-antibody testing in an STD clinic. *JAMA.* 1988;260(7):935-938.
24. Gielen AC, O'Campo P, Faden RR, Eke A. Women's disclosure of HIV status: experiences of mistreatment and violence in an urban setting. *Women Health.* 1997;25(3):19-31.
25. Lubinski C, Aberg J, Bardeguez AD, et al. HIV policy: the path forward—a joint position paper of the HIV Medicine Association of the Infectious Diseases Society of America and the American College of Physicians. *Clin Infect Dis.* 2009;48(10):1335-1344.
26. Voelker R. Clinicians advised to step up HIV tests. *JAMA.* 2009; 301(4):366.