

Current Centers for Disease Control and Prevention Guidelines for HIV Counseling, Testing, and Referral: Critical Role of and a Call to Action for Emergency Physicians

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Although the rate of new cases of HIV infection has been relatively stable during the past decade, it remains unacceptably high, with 40,000 individuals newly infected each year. In 2001, the Centers for Disease Control and Prevention (CDC) issued revised guidelines for HIV counseling, testing, and referral directed toward promoting further reduction of HIV acquisition and transmission. The guidelines give explicit emphasis to the role of emergency physicians, according to recognition that the emergency department (ED) represents the only source of medical care for many patients and often serves as the primary site for routine health care to communities at risk for HIV. Despite the time and practical limitations inherent in ED practice, many studies suggest that routine HIV counseling, testing, and referral in the ED may be feasible and effective. This article reviews those studies in the context of the most up-to-date CDC HIV counseling, testing, and referral guidelines.

[*Ann Emerg Med.* 2004;44:31-42.]

INTRODUCTION

Despite advances in therapy and prevention strategies for HIV infection and AIDS, an estimated 40,000 individuals become newly infected with HIV in the United States each year.¹ Although this rate has remained relatively stable for a decade, it is still unacceptably high. In response to the ongoing HIV epidemic, the Centers for Disease Control and Prevention (CDC) recently formulated specific target objectives to be reached by 2005¹: (1) reducing the annual rate of new HIV infections from the current estimated 40,000 to 20,000 per year through prevention interventions; (2) increasing the percentage of HIV-infected people who know they are infected from the current 70% to 95% through voluntary HIV counseling and testing; and (3) increasing the proportion of HIV-infected persons who are linked to appropriate prevention, care, and treatment services from the current 50% to 80% through increased referral.

One mechanism by which the CDC hopes to affect the epidemic is through widespread publication and dissemination of its guidelines for HIV counseling, testing, and referral. The guidelines were first published in 1986 and were intended primarily for health policymakers and service providers in settings such as emergency departments (EDs) that can offer publicly funded HIV counseling, testing, and referral. The initial guidelines focused on the importance of offering voluntary testing and counseling and maintaining confidentiality. Several subsequent revisions between 1987 and 1994 addressed specific issues that the CDC advocated for improving counseling, testing, and referral (eg, focus on an interactive personalized approach to HIV prevention counseling).

0196-0644/\$30.00

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doi:10.1016/

j.annemergmed.2004.01.016

The most recent revision of the HIV counseling, testing, and referral guidelines, published in late 2001, was prompted by ongoing scientific and programmatic advances, as well as by developments in the treatment of HIV-infected persons.² These advances include (1) the demonstrated impact of HIV prevention counseling aimed at behavioral risk reduction; (2) proven efficacy of pharmacologic treatment to prevent perinatal transmission and to decrease viral load and opportunistic infections in those who are infected; and (3) evolution of new technologies that increase the flexibility of testing for patients and providers.

The new guidelines have particular relevance to emergency physicians, as indicated by the explicit CDC objective to widen the target audience to all providers in public and private settings, with specific inclusion of those working in nontraditional sites not typically associated with HIV counseling, testing, and referral services.² This broad-based strategy is justified because it appropriately recognizes the expanding role of emergency physicians in the provision of routine health care to the community. Of equal importance is the increasing awareness that the ED represents the only source of medical care for many patients (shifting responsibility for preventive care to the emergency physician).³

The first section of this article is an overview of the published experiences of EDs with HIV counseling, testing, and referral. It is followed by a detailed summary of the most recent CDC HIV counseling, testing, and referral guidelines, with a focus on the evolving and increasingly important role of emergency physicians.

ROLE OF THE EMERGENCY PHYSICIAN IN HIV COUNSELING, TESTING, AND REFERRAL TO DATE

Rationale for the ED as a Critical Site

Emergency physicians serve as a vital link to a population at high risk for HIV infection, which is due in large part to the disproportionately high rates of HIV (and HIV risk factors) among populations of color and lower socioeconomic background for whom the ED may provide their first, or only, interaction with a health care provider.⁴ Thus, emergency physicians have the opportunity to initiate HIV preventive services for millions of people who have no other point of entry into the health care system and to promptly identify unrecognized HIV infections by directing at-risk patients to HIV testing and appropriate counseling.⁵

Prevention remains the only means of reducing the acquisition and transmission of HIV. Early awareness of HIV status is the first step in obtaining appropriate medical care and allows patients to receive timely prevention counseling and therapeutic interventions.⁶ Emergency physicians can be instrumental in encouraging patients to be tested and learn their HIV status. Knowledge of HIV status has been demonstrated in certain populations to reduce high-risk behaviors (eg, high-risk sexual practices or needle-sharing), potentially lowering rates of community transmission of HIV.⁷⁻¹³ Therefore, the CDC has placed great emphasis on early awareness as a means of controlling the HIV epidemic. Prevention interventions are considered especially important for control of the spread of HIV because there is still no cure for the disease. Because medical treatment lowers HIV viral load and may reduce the risk of transmission to others,¹⁴ early referral could help curtail the community transmission of HIV.

Current Practices, Views, and Perceived Barriers to ED-Based HIV Counseling, Testing, and Referral

Many opportunities for HIV prevention through counseling, testing, and referral are missed, especially in the private sector and in particular in EDs, where testing is not routinely offered and screening and referral are rare.² The CDC acknowledges that missed opportunities are attributed in large part to the fact that emergency physicians are limited in their ability to engage in HIV counseling, testing, and referral according to the intrinsic pressures of their work environment. Two survey studies conducted with emergency physicians provide more detailed descriptions about current practices and provide insights about barriers and needs to be met for successful implementation of the revised HIV counseling, testing, and referral guidelines.^{3,15}

A large national survey conducted in 1996 that included 112 academic emergency medicine programs in the United States provides baseline data about rates of compliance with the current CDC recommendations for HIV testing, with emphasis on testing those with suspected sexually transmitted diseases (STDs).³ The investigators reported that less than 3% of EDs routinely test for HIV in patients with suspected STDs and, despite published guidelines, only 51% provided recommendations for follow-up HIV testing for those considered at risk. Although limited ED-based testing was reported to occur at responding institutions, the study showed that testing was recommended primarily in special circumstances such as employee occupational exposures (54%), rape (46%), and suspicion

of HIV infection by clinical manifestation other than suspected STD (36%). This investigator concluded that emergency physicians may be missing critical opportunities to contribute to fighting the HIV epidemic.³

The CDC also conducted its own qualitative descriptive research to assist the agency in determining the most appropriate message to communicate to emergency physicians (and other primary care or specialty providers) about the revised HIV counseling, testing, and referral guidelines.¹⁵ The format consisted of a focus discussion group composed of 21 emergency physicians, representing 5 major metropolitan areas, who worked in public, teaching, or city hospitals. General findings from this research indicated that the majority of emergency physicians do not routinely offer HIV prevention counseling or risk screening, with the most frequently cited reason being time limitations.

Most of those surveyed indicated that they do not talk to patients about reducing the risk of acquiring HIV, although some said they offer risk-reduction counseling if patients provide a history of obviously risky behaviors or present with known risk factors for HIV (eg, an STD). For patients known to be HIV positive, clinicians generally offered limited, if any, HIV prevention counseling in the ED. For patients taking antiretroviral medications, most emergency physicians indicated that they discuss only adherence to the medication regimen and do not discuss other preventive measures.¹⁵

Testing practices were also evaluated in the ED focus group. Most emergency physicians indicated that, unless an HIV-related illness is suspected as the primary presenting problem, they do not consider offering HIV testing. Patients with symptoms suspected to be HIV-related are typically referred elsewhere for testing or, if symptoms warrant, admitted to the hospital. The ED focus group indicated that patients with symptoms of other STDs are generally referred to a testing service or a primary care clinic rather than offered on-site testing. Blood is rarely drawn for HIV testing in the ED, principally because of lack of time for pretest and posttest counseling, inadequate opportunities for follow-up, and prolonged times required for reporting test results. In the rare circumstances that blood is drawn for HIV testing, the emergency physicians indicated that results are generally sent to the patient's primary care physician (if available) or to a clinic equipped to treat these patients.¹⁵

Despite their current practice patterns, many of the emergency physicians in the focus group recognized that they are in a unique position on the "front line" to provide screening and prevention education to patients at high

risk for HIV. The group indicated that emergency physicians are ideally (and uniquely) suited to addressing HIV counseling, testing, and referral for those who might otherwise never receive it. There was consensus that many patients use the ED for their primary health care needs and that particular patient groups (such as those of lower socioeconomic status) have limited or no other access to care. A significant proportion of the emergency physicians (particularly those who were younger) indicated that they believe HIV preventive services should be offered in the ED. These physicians indicated awareness that many patients use the ED for primary and emergency health needs¹⁵ and that they have been trained to see an expanded role for emergency physicians that includes provision of comprehensive health care. This view has been supported by a large evidence-based evaluation to determine which of the primary preventive services is appropriate for inclusion in the ED. In that study¹⁶ and a follow-up detailed review,¹⁷ data support offering HIV screening and referral to high-risk, high-prevalence populations, assuming sufficient resources are available.

The focus group of emergency physicians consistently identified lack of time as the major obstacle to addressing HIV prevention.¹⁵ Most of these physicians stated that they spend less than 10 minutes with each patient and address only the acute problem. Lack of follow-up in the ED was also cited as a problem in implementing HIV counseling, testing, and referral in the ED. Although the physicians indicated that referral services may be available at their institutions, they reported that they are generally unable to determine whether patients comply with the instructions given about referrals. Other principal obstacles cited were the lack of privacy in the ED (presence of family members, friends, or other patients possibly contributes to a patient's reluctance to talk about HIV), language barriers (need for an interpreter further contributes to a lack of privacy), and cultural barriers (eg, lack of willingness among certain ethnic groups to discuss sex practices, drug habits, or HIV infection).¹⁵ The CDC has assimilated this information and has attempted to ensure that the new guidelines allow flexibility in their implementation. The guidelines acknowledge that individual EDs must establish their HIV counseling, testing, and referral plan in accordance with the characteristics of their particular patient population and the resources available in their own practice setting.

Potential Solutions

Currently, ED-based HIV counseling, testing, and referral is in its earliest stages of development. Individual

practitioners may therefore encounter barriers at their institution when attempting to initiate testing as standard of care (with some centers currently prohibiting HIV testing in their ED as part of routine practice). These obstacles will likely disappear as the practical problems associated with ED-based testing are solved, and providers, hospital administrators, and public health policymakers gain an increased appreciation of the critical impact emergency physicians can have on the HIV epidemic.

The most significant potential impediments associated with instituting ED-based HIV testing programs (as described by the CDC-convened ED focus group, as well as others) include time, allocation of responsibility, cost, and reimbursement.^{15,18} Although these barriers represent challenges, there are feasible approaches to addressing each of these, particularly when bedside rapid HIV testing is performed (see Novel Approaches below).

With the recognition that providers in the ED have significant time constraints, the current counseling, testing, and referral guidelines emphasize maximizing provider flexibility for pre- and posttest counseling by focusing on the principal goal of increasing testing opportunities while destigmatizing the HIV counseling, testing, and referral process. A streamlined counseling approach can include or be limited to provision of preprinted material for pretest counseling, with health care staff available to address patient questions. Posttest counseling can be similarly brief for those who have negative test results. HIV counseling, testing, and referral would thus ultimately evolve as an integrated aspect of routine history taking and clinical care, with provision of these services accomplished by either the nurse or physician. The exact assignment of responsibility will require evaluation centrally and at the institutional level for optimal function. For patients with a reactive rapid test result, additional posttest counseling could be provided by ED social workers or established links with a primary care provider, with infectious disease physicians, or with a local health department where confirmatory testing could be completed. Such links with public health departments are already being developed in several jurisdictions as these programs are launched.

As with all new programs, cost constraints must be weighed against the benefits of a new intervention. The benefits of HIV testing are considerable and include reduced risk behavior among those tested, improved outcomes by earlier recognition and treatment of those who have HIV, and reduced transmission of disease in patients receiving antiretroviral therapy.¹⁷ Although not traditionally a part of routine ED care, HIV testing is

a service that can be billed like any other. Toward this end, emergency medicine specialty organizations have and should continue to maintain an active role in lobbying to ensure that HIV counseling, testing, and referral activities are adequately reimbursed in the ED. For indigent populations, moneys from local health departments or federal grants will also likely be made available in the near future to further subsidize ED-based screening programs. Accessing and sustaining these funds will require coordination and advocacy by departmental directors, hospital administrators, and leaders in the emergency medicine and public health communities.

WHO SHOULD RECEIVE HIV COUNSELING, TESTING, AND REFERRAL?

Two approaches to implementation of HIV counseling, testing, and referral (routine versus targeted) are possible, each having advantages and drawbacks. Both approaches have been studied in ED settings and provide insights for future ED-based programs.

Targeted Testing

Several ED-based studies suggest that risk-targeted voluntary HIV testing in the ED may be the most practical and cost-effective approach. In one study, the feasibility and effectiveness of offering HIV testing to consenting injection drug users who were not known to have HIV was evaluated.¹⁹ Those who agreed to testing were given confidential pretest and posttest counseling and provided with reinforcement of risk-reduction practices. Of 168 enrolled patients, 24 (14%) patients were found to be HIV seropositive. Of 104 tested patients who returned for follow-up, 17 (16%) patients tested positive for HIV; 6 (35%) of those patients kept their initial hospital referral clinic appointment, and 3 of them were found to have CD4 cell counts of less than 200/mL. At the 3-month follow-up, 4 of 20 previously active injection drug users reportedly had stopped their drug use because of the screening program.

The authors of this study concluded that an ED-based, risk-targeted HIV screening program could detect a significant number of asymptomatic HIV-infected individuals, including those who could benefit from antiretroviral therapy, prophylaxis for opportunistic infections, and risk-reduction counseling. Direct costs of the program (including testing and counseling) were \$99 per enrolled patient and \$521 per HIV case detected. Of note, costs included trained study investigators who worked in parallel with the ED care providers and treated patients at

follow-up, which offsets the time limitations of busy ED care providers but requires an additional level of institutional commitment for staffing. An additional benefit of this approach was the opportunity to focus risk-reduction counseling on select high-risk groups for which the impact of counseling may be most dramatic.¹⁹

Programmatic costs associated with risk-targeted counseling and testing in the ED were reported in this study as comparable to those in other outpatient settings. However, when costs per case identified were considered, ED costs were estimated to be lower because the average seropositivity in publicly funded HIV testing sites at the time of this study was 4.3% versus the rate of seropositivity among enrollees from this high-risk ED setting, which was 14%.¹⁹

The feasibility of conducting risk-factor assessment in the ED was further explored in another inner-city, ED-based study. Although previous surveys and commentaries suggested that it might not be possible for physicians to conduct risk evaluation in the ED, the researchers in this study reported successfully obtaining data on HIV risk factors by direct interview of more than 95% of subjects, with no need for additional personnel or resources.⁴ On the basis of these findings, the investigators suggested that ED identification of patients at greatest risk for HIV could facilitate targeted counseling, testing, and referral. However, these investigators acknowledged that the risk assessment described would exclude critically ill patients, require the availability of private areas for interviews, and incur additional costs for the provision of testing and counseling services.

Drawbacks of Behavioral Risk-Targeted Testing and Alternative Strategies

One unexpected but important finding from the targeted testing study in injection drug users was that seropositive rates were higher among individuals who declined to participate in the study and receive testing and counseling.¹⁹ HIV-positive status was determined by identity-unlinked testing, with the use of excess serum from phlebotomy performed for medical indications during the patient's ED visit. The most common reason given for refusing a test or to participate in the study was a perceived lack of risk of acquiring HIV.¹⁹ Alternative educational strategies would thus be required to engage this important population in testing and counseling.

The limitations of providing HIV counseling, testing, and referral in EDs exclusively on the basis of identified risk behaviors have been reported by other investigators as well.^{4,19} In one inner-city, ED-based study, a substantial

proportion (25.7%) of new HIV infections were found among patients who reported no identifiable risk factors.⁴ Because reliance on risk assessment alone might miss a substantial number of patients with unrecognized infection, an alternative strategy that has been proposed is to offer routine voluntary HIV counseling and testing in EDs serving populations at high risk for HIV (which would include EDs serving persons with increased behavioral risks and those serving populations with an increased prevalence [$\geq 1\%$] of HIV).^{4,19} These recommendations are consistent with those described in the most recent HIV counseling, testing, and referral guidelines (see below).

Routine Testing

Numerous studies have shown that routinely recommending HIV testing in the ED may be a feasible and effective strategy for early disease detection and has the potential to make a significant impact in populations in which infection might otherwise go unrecognized. One 1997 study at Grady Memorial Hospital's Urgent Care Center in Atlanta, GA, found that nearly two thirds of inpatients with newly diagnosed HIV infection had received care within the Grady Memorial Hospital system during the 12 months before admission.²⁰ The most frequented sites of earlier interaction with the health care system were the ED and the urgent-care clinic, suggesting that these early encounters represent important missed opportunities for screening and earlier diagnosis of HIV. As a follow-up to this study, a 6-month interventional program was implemented in which clinicians at Grady Memorial Hospital were encouraged to recommend HIV testing for all urgent-care patients aged between 18 and 65 years who were not known to be HIV positive and had not been tested in the previous 6 months. After the interventional measure, there was a doubling of the number of patients tested, number of newly detected HIV infections, number of HIV-positive patients who learned their HIV status, and number of HIV-positive patients who entered into care. These findings lend support for programmatic measures to increase routine risk screening and testing in acute, episodic-care settings, including EDs.²¹ Another routine testing program in an inner-city ED also demonstrates a high acceptability of testing in a general ED population (approximately 50%), with a significant percentage of new infections identified among those tested (6.4%). Cost per patient enrolled was reported as \$38,²² (slightly less than that in the targeted testing program¹⁹ because of decreased personnel time required for screening); cost per HIV case detected was \$601, comparable to that in the targeted testing program.

In evaluation of the data from the study conducted at Grady Memorial Hospital's Urgent Care Center,²¹ the authors state that, despite the demonstrated benefits, barriers to testing remained, as demonstrated by the relatively low proportions of patients who were offered testing (60%), accepted testing (40%), or followed through with testing after they had accepted (72%).²¹ Furthermore, 26% of patients with newly detected infection still did not learn of their HIV-positive status, and 53% of those who learned of their diagnosis did not enter into care.

The editors provide several specific strategies that urgent-care clinics and EDs might consider to increase the acceptance and effectiveness of routine recommendation of HIV testing. These strategies include (1) convincing providers that the time demands associated with offering routine testing will not be excessive; (2) working with populations to increase their awareness that HIV testing and its results are relevant to them; (3) using simple screening questions for risk assessment; and (4) referring appropriate patients to other sites for client-centered prevention counseling. The use of supplemental material, such as brochures and posters that provide basic HIV test information, was also advocated as an effective measure to help providers focus on issues relevant to specific patients. The use of rapid testing techniques that use either whole blood obtained through a finger stick (now approved by the US Food and Drug Administration [FDA]) or oral fluids was also supported as a method that might increase the ease of on-site testing, particularly important in episodic-care sites such as EDs.²¹

Additional support for routine HIV testing in EDs comes from a pilot investigation, which determined the rate of previously undiagnosed HIV infection in patients presenting to an urban ED and assessed the feasibility of routinely offering voluntary testing in this setting.²³ Overall, 3.5% of adult patients in the ED who had blood drawn as part of their medical care and were anonymously tested were found to be HIV seropositive; 20% of those patients were undiagnosed at testing. In a parallel pilot voluntary HIV testing program, 3.8% of patients were HIV seropositive, 60% of whom had undergone no previous HIV testing. The investigators concluded that a voluntary testing program in the ED identifies previously unrecognized HIV infections and that the ED may be an important setting for offering HIV testing, particularly for those not previously tested.

A more recent study that used a similar methodology and was conducted in a comparable urban ED setting found analogous rates of unrecognized disease (3%) but relatively lower rates of consent to testing among those

with the highest rates of disease (as determined with identity-unlinked testing methods).⁵ These data indicate the need to further promote awareness of the importance of HIV testing to patients in ED settings, consistent with the CDC recommendations.²¹

Novel Test Approaches: Description of the Assays and Potential Impact of Rapid Diagnostics

Traditional HIV testing is a 2-step process (which requires that patients return for test results). Although the sensitivity and specificity of this approach is high (99.3% and 99.7%, respectively), it has inherent limitations associated with failure to follow up.²⁴ Newly evolving rapid HIV testing techniques, although not widely used in ED practice, may be particularly appropriate to this setting because they can provide results in real time, which can be delivered during the ED visit. The single-use diagnostic system assay was the first rapid test to be developed and receive FDA approval (Abbott Laboratories, Abbott Park, IL). The assay is analogous to the enzyme-linked immunoassay screening test. Although coined as a rapid test, typical times from blood draw to reporting of results are up to 90 minutes because of time for transport and processing (requires serum separation and multiple processing steps) in hospital laboratories.²² The test has thus most commonly been used for management of occupational exposures rather than for routine patient testing. Sensitivity (>99%) is sufficient to report negative test results; positive test results are described as "reactive" to the patient and require confirmation with routine serology.

In late 2002, the FDA announced approval of the OraQuick Rapid HIV-1 Antibody Test (OraSure Technologies, Inc., Bethlehem, PA). OraQuick is a simple, easy to use, and true "point-of-care" assay that can be done at the patient's bedside. OraQuick detects antibodies to HIV-1 using a lateral flow method (similar to over-the-counter pregnancy tests). Samples can be either whole blood or finger-stick specimens, and results are read as a colored line appearing in as little as 20 minutes (a similar saliva-based test is also being developed but is not yet FDA approved). Sensitivity and specificity of OraQuick exceeds 99%.²⁴ As with a single-use diagnostic system, negative tests can be reported as negative; reactive tests require confirmatory follow-up testing with a Western blot. Potential advantages of the OraQuick test in addition to ease of specimen collection (ie, finger stick) include reduced costs, rapid availability of test results, and improved compliance with testing.¹⁸ Another rapid test recently approved by the FDA in April 2003 is the Reveal Rapid HIV-1 Antibody Test (MedMira, Inc., Halifax, Nova

Scotia, Canada). This assay uses an alternative flow-through technology, is run on serum or plasma, and can be reported in only 3 minutes. As with OraQuick, sensitivity and specificity are more than 99%. Costs of the rapid tests are approximately \$10 and \$20 for single-use diagnostic system and OraQuick, respectively, which is slightly less but approximating those of the standard enzyme-linked immunoassay/Western blot (\$30). Exact institutional prices may vary. The availability of these bedside point-of-care testing methods is expected by some to revolutionize testing and awareness of HIV serostatus. For the first time, HIV counseling, testing, and referral can be truly integrated into routine practice in settings such as EDs, which involve episodic, single-point-in-time encounters. Use of rapid tests would also avoid the often-cited fear of potential liability associated with inability to contact patients with positive results.

One series of studies by Kelen et al²² has systematically addressed the potential role of EDs in the national strategy of early HIV detection through institution of voluntary HIV screening programs. Experiences with rapid (single-use diagnostic system) and standard HIV testing during a 3-year period provide important preliminary data. Of 3,048 patients approached, 982 consented to standard testing, 7.1% of whom were newly identified as HIV positive. Of 467 patients who consented to the rapid test, 3.2% were newly identified as HIV positive. Among patients who had previously tested negative for HIV, 5% were seropositive. The most common reasons for refusing testing were a previous negative test result (43%), lack of interest (13%), and denial of risk (24%). Follow-up among HIV-positive patients for standard prearranged clinic appointments was 64% for standard testing and 73% for rapid testing. In this study, ED-based HIV testing detected a significant number of new HIV infections earlier than they might otherwise have been detected, and the number of patients who entered into care was relatively high compared with those referred from other health care sites. The authors concluded that many EDs could play a major role in the national strategy of early HIV detection, with competitive costs for infection detected, compared with costs incurred at other sites. Further studies with bedside testing are now under way and will yield important data about acceptability, feasibility, and cost. A recent cost comparison study indicates that a rapid test protocol, with referral and follow-up for patients who are reactive, would be most effective.²⁵

One of the most significant challenges emergency physicians face with regard to HIV testing is patients' failure to return for results. Because knowledge of HIV

status is crucial for prevention of transmission and for entry into care, the importance of returning for results should be emphasized, and strategies and plans for doing so should be established with the patient at testing. The increasing availability of rapid tests will be helpful in this regard, and such tests should be considered first line for patients less likely to return for results. There are 2 important caveats, however. The first is that appropriate posttest counseling and referral should be in place, particularly for patients who are found to be HIV seropositive. The second is that patients with a negative test result but continued high-risk behavior should be counseled and referred for routine periodic testing and follow-up (which provides the opportunity to identify missed infections during the "window period," as well as an additional venue for risk-reduction counseling).²

CURRENT CDC GUIDELINES FOR HIV COUNSELING, TESTING, AND REFERRAL: GENERAL OVERVIEW

HIV Counseling: Overview and CDC Recommendations

HIV counseling includes 2 components: provision of basic information and HIV prevention counseling (ie, risk-reduction counseling). In the context of HIV counseling, testing, and referral, provision of information should occur in conjunction with testing as part of the process of obtaining informed consent and providing test results. It is recommended that all patients who request HIV testing (or are advised to undergo testing) receive certain information, even if the test is ultimately declined.² That information is summarized in [Figure 1](#).

The CDC advises that, for efficiency, general information be provided in a pamphlet, brochure, or video, which allows the physician to focus on a patient's unique circumstances during face-to-face interactions. Regardless of the approach, all information and counseling should be appropriate to the patient's culture, language, age, sex, sexual orientation, and developmental level. The availability of multiple venues for information dissemination to patients in the ED, combined with a general proficiency of emergency practitioners with caring for at-risk populations, suggests that EDs will likely be an effective site for basic information dissemination to patients.

In contrast to the provision of basic information, which is not specifically aimed at changing behavior, HIV prevention counseling is intended to help patients identify specific behaviors that put them at risk for acquiring or transmitting HIV and to commit to steps to reduce the risk. Since 1993, the CDC has recommended interactive,

patient-centered counseling for HIV risk reduction. During risk-reduction counseling, face-to-face counseling allows the provider to address the patient's specific needs and unique circumstances and helps the patient set specific, realistic risk-reduction goals.² Integration of prevention counseling into a busy ED-based practice will be challenging and will need to be adapted and modified for brief directed interactions. Inclusion of nursing and ancillary health care staff may be helpful. Models for successful counseling programs already exist in ED practice (ie, smoking cessation programs) and may be useful in designing HIV prevention counseling services.²⁶

The CDC guidelines acknowledge that certain persons may have special counseling needs (Figure 2). Examples include patients with newly identified HIV infection, who may not clearly understand information because of the emotional impact of learning of their positive test results. If ED programs are to be implemented, systems for ensuring follow-up must be in place, as well as additional social support services as needed. Follow-up testing is indicated for persons with indeterminate test results, as well as for those who continue to engage in risky behavior. Further encouragement about risk-reduction measures should also be offered to both these groups. Persons who

inject or use illegal drugs should be counseled about their increased risk of contracting HIV and transmitting it to their partners. For these persons, referral to drug treatment and needle exchange programs, along with individual HIV prevention counseling, should be offered because these measures have been demonstrated to reduce the rate of new HIV infection.² Two important principles that the CDC has recently chosen to emphasize in a technical guidance document for clinicians are that (1) risk screening and prevention counseling be simplified in accordance with the practice setting, and (2) risk screening and prevention counseling not become a barrier to HIV testing, because it may not always be appropriate or feasible in acute or episodic care settings (<http://www.cdc.gov/hiv/partners/Interim/acknowledge.htm>).

Persons who have had a recent single, nonoccupational exposure to HIV may be eligible for postexposure prophylaxis, which can reduce the likelihood of seroconversion. However, the degree to which early treatment prevents new infections in these populations is unclear because unsafe sex practices and other high-risk behaviors often persist.² Despite controversy, nonoccupational HIV postexposure prophylaxis has been proposed as an adjunct to HIV prevention in some communities. In one recent review in the emergency medicine literature, it was suggested that EDs may be the most logical site at which to begin nonoccupational postexposure prophylaxis and that each ED proactively establish protocols for rapid provision of postexposure prophylaxis and ensure appropriate follow-up care.²⁷

Testing (and Prevention Counseling): Overview and CDC Recommendations

An important issue addressed in the CDC counseling, testing, and referral guidelines is whether testing and HIV

Figure 1.

Basic information patients should receive during HIV counseling. From the Centers for Disease Control and Prevention. Revised guidelines for HIV counseling, testing, and referral and revised recommendations for HIV screening on pregnant women. MMWR Morb Mortal Wkly Rep. 2001;50:1-85.²

For All Patients:

- Information about the HIV test and its benefits and consequences
- Risks of transmission and how HIV can be prevented
- Importance of obtaining test results and explicit procedures for doing so
- Meaning of the test results in explicit, understandable language*
- Where to obtain further information or HIV prevention counseling
- Where to obtain other services

For Selected Patients:

- Descriptions or demonstrations of how to use condoms correctly
- Information about risk-free and safer sex options
- Information about other sexually transmitted and blood-borne diseases
- Descriptions of the effectiveness of using clean needles, syringes, cotton, water, and other drug paraphernalia
- Information about drug treatment
- Information about the possible effect of HIV vaccines on test results for persons participating in HIV vaccine trials

*For example, "A negative test result means no HIV was found. But if you were exposed to HIV recently—in the past 1 to 2 months—this test may not be able to pick that up."

Figure 2.

Special counseling situations. From the Centers for Disease Control and Prevention. Revised guidelines for HIV counseling, testing, and referral and revised recommendations for HIV screening on pregnant women. MMWR Morb Mortal Wkly Rep. 2001;50:1-85.²

- Persons with newly identified HIV infection
- Persons with indeterminate test results and those who seek repeat testing because they continue risky behavior
- Persons who inject or use illegal drugs
- Needle-sharing or sex partners of HIV-infected persons
- Persons with a recent single, nonoccupational exposure to HIV
- Health care workers after an occupational exposure
- Participants in HIV vaccine trials

prevention counseling should be targeted only to patients identified as being at risk for HIV or routinely recommended to all patients. The CDC advises that decisions for testing and prevention counseling be made separately to facilitate efficient use of resources and to accommodate a wide variety of settings. The revised HIV counseling, testing, and referral guidelines recommend that providers consider the type of setting, the HIV prevalence in that setting, and the behavioral and clinical HIV risks of the individual patient before recommending HIV testing or prevention counseling to all patients or targeting one or the other intervention to selected patients.

In settings where most or all patients are behaviorally at risk for HIV (eg, an STD clinic), testing and prevention counseling should be recommended to all patients. In settings where the prevalence of HIV is relatively high but the majority of patients are not behaviorally at risk for HIV, a selective, targeted approach may be more appropriate. For example, in EDs where the prevalence of HIV is likely to be at least 1%, the CDC recommends offering HIV testing to all patients aged 18 to 54 years because risk

screening based on self-reported behaviors misses many HIV-positive persons.² In these settings, however, the more time-consuming prevention counseling may be reserved for those who have a positive test result or those identified through screening as being at high risk for HIV.

In EDs where the HIV prevalence is relatively low (eg, <1%) and the majority of patients are not behaviorally at risk for HIV, it may be appropriate to target testing and prevention counseling to individuals according to risk screening based on their self-reported behaviors (Figure 3) and the presence of clinical signs or symptoms (eg, STDs or opportunistic infections).² Regardless of the population risk, setting prevalence, and individual behavioral or clinical risk, voluntary HIV testing should be routinely recommended to all pregnant women, patients with acute occupational exposure, and patients with acute nonoccupational exposure (eg, high-risk sexual behavior, needle sharing).² The CDC guidelines about the persons to whom HIV counseling, testing, and referral should be recommended are summarized in Figure 4.

Figure 3.

Assessing a patient's risk for HIV. From the Centers for Disease Control and Prevention. Revised guidelines for HIV counseling, testing, and referral and revised recommendations for HIV screening on pregnant women. MMWR Morb Mortal Wkly Rep. 2001;50:1-85.²

- The following questions may help begin what might be a sensitive dialogue with the patient about HIV. Start by assuring the patient of confidentiality and explaining why these questions are important. Key questions to ask:
Are you HIV positive?
Have you been tested for HIV?
Do you know the results of your last HIV test?
- If the patient is HIV positive, always offer counseling on how to reduce transmission risk and provide referrals for appropriate treatment services.
- If the patient answers "no" to any of the above questions, conduct a more thorough behavioral risk assessment (see below). Some of the following questions may not be relevant for all patients. Those who answer "yes" to 1 or more of the following questions are at high risk for HIV:
 - Have you injected drugs or shared equipment (such as needles, syringes, cotton, water) with others?*
 - Have you had unprotected vaginal, anal, or oral sex with someone who:*
 - *has had unprotected vaginal, anal, or oral sex with multiple or anonymous partners?*
 - *has had anal or oral sex with men who have sex with men?*
 - *has injected drugs or been diagnosed with or treated for hepatitis, tuberculosis, or an STD such as syphilis?*
 - *has exchanged sex for drugs or money?*
- *After assessing the patient's risk, offer information about HIV testing and what the test results mean.*

Figure 4.

Patients for whom HIV counseling, testing, and referral should be recommended. From the Centers for Disease Control and Prevention. Revised guidelines for HIV counseling, testing, and referral and revised recommendations for HIV screening on pregnant women. MMWR Morb Mortal Wkly Rep. 2001;50:1-85.²

- All patients in settings with an $\geq 1\%$ * HIV prevalence[†]
 - All patients in settings serving populations at increased behavioral/clinical HIV risk (regardless of HIV prevalence in that setting)
 - Individual patients in settings with $< 1\%$ [‡] HIV prevalence who
 - have clinical signs or symptoms suggesting HIV infection (eg, fever or illness of unknown origin, opportunistic infection [including active tuberculosis] with no known reason for immune suppression)
 - have diagnoses suggesting increased risk of HIV infection (eg, another STD or blood-borne infection)
 - self-report HIV risks
 - specifically request an HIV test
 - Regardless of setting prevalence or behavioral or clinical risk[†]
 - all pregnant women
 - all patients with possible acute occupational exposure
 - all patients with known sexual or needle-sharing exposure to an HIV-infected person
- *Or higher than in other settings in the community.
[†]Testing should be routinely recommended, and if risk is identified during risk screening, HIV prevention counseling and referral should also be recommended.
[‡]Or lower than in other settings in the community.

CDC Revised Recommendations for Testing Pregnant Women

Because of the effectiveness of antiretroviral therapy in reducing perinatal transmission of HIV, the revised CDC guidelines emphasize that all pregnant women, regardless of their HIV risk, be offered HIV testing as a routine part of their prenatal care. Emergency physicians are more likely than clinicians in most other settings to treat women who have not had prenatal care or HIV testing. The CDC recommends that these women be tested (or referred for testing, if possible) during their ED visit. For women who present to the ED during labor and delivery, HIV testing and treatment should be recommended; in these situations, rapid testing is most appropriate. Pretest counseling for pregnant women should, at a minimum, provide the essential information noted in Figure 5.

Interpreting HIV Test Results

In the ED, rapid tests, although not widely used, may be appropriate because they can now provide results in less than 1 hour. An HIV test result should be considered positive only after screening and confirmatory tests are reactive. Negative test results likely indicate the absence of HIV, and tests need not be repeated in patients with no new exposures in settings with a low HIV prevalence. However, patients at continued risk should be informed that a negative result does not mean they are not at risk for HIV. Patients who had a recent exposure but tested

HIV negative before antibodies could develop should undergo repeated testing 1 month or more after the initial test.²

HIV Referral: Overview and CDC Recommendations

The improved health of HIV-infected persons who receive antiretroviral therapy, new test technologies, and more effective counseling approaches has contributed to a greater understanding of the importance of referring patients to needed services. Patients should be referred to services that address their most important needs and are appropriate for their language, culture, sex, sexual orientation, age, and developmental level. Figure 6 lists many of the typical referral needs that should be considered. In EDs, where patients are often lost to follow-up, mechanisms for referral and follow-up should be developed and regularly reviewed. The CDC recommends that, at a minimum, a list of referral resources be maintained on site so that patients can be referred at the time they are seen.

In conclusion, the CDC's revised HIV counseling, testing, and referral guidelines emphasize the provision of services to patients across various settings and to populations who would benefit the most. Individuals who visit the ED for routine medical care are an especially important target group for HIV counseling, testing, and referral because early knowledge of HIV status is crucial to preventing the spread of infection.

Emergency physicians are on the front line of HIV counseling, testing, and referral for a segment of the population that might otherwise never receive such services. For many individuals who are at risk for HIV infection, the emergency physician may be the only health care provider they see. The CDC has recognized the

Figure 5.

Minimum information for pregnant women before HIV testing. From the Centers for Disease Control and Prevention. Revised guidelines for HIV counseling, testing, and referral and revised recommendations for HIV screening on pregnant women. MMWR Morb Mortal Wkly Rep. 2001;50:1-85.²

- HIV is the virus that causes AIDS and is spread through unprotected sexual contact and injection-drug use. Approximately 25% of HIV-infected pregnant women who are not treated during pregnancy can transmit HIV to their infants during pregnancy or labor and delivery and through breast-feeding.
- A woman might be at risk for HIV infection and not know it, even if she has had only 1 sex partner.
- Effective interventions (eg, highly active combination antiretrovirals) for HIV-infected pregnant women can protect their infants from acquiring HIV and can prolong the survival and improve the health of the mother and her children.
- For these reasons, HIV testing is recommended for all pregnant women.
- Services are available to help women reduce their risk of HIV and to provide medical care and other assistance to those who are infected.
- Women who decline testing will not be denied care for themselves or their infants.

Figure 6.

Typical referral needs of HIV-infected persons. From the Centers for Disease Control and Prevention. Revised guidelines for HIV counseling, testing, and referral and revised recommendations for HIV screening on pregnant women. MMWR Morb Mortal Wkly Rep. 2001;50:1-85.²

- Prevention case management
- Medical evaluation, care, and treatment
- Partner counseling and referral services
- Reproductive health services
- Drug or alcohol prevention and treatment
- Mental health services
- Legal services
- Screening and care for STDs and viral hepatitis
- Other services (assistance with housing, food, employment, transportation, child care, domestic violence prevention)

unique and critical role that emergency physicians can play in reducing the acquisition and transmission of HIV and is asking for increased involvement of the ED community in HIV counseling, testing, and referral. Despite the limitation of time in EDs, many studies have shown that routine HIV counseling, testing, and referral in the ED is a feasible and effective strategy. Future programmatic interventions and research in the area will be important for providing evidence-based data that measure the impact of ED implementation of HIV counseling, testing, and referral on the HIV epidemic. Practical resources with the most up-to-date information regarding HIV testing are listed in the Appendix.

Received for publication July 16, 2003. Revision received January 12, 2004. Accepted for publication January 13, 2004.

Dr. Rothman served as a consultant for the CDC for a teleconference on HIV counseling, testing, and referral in the fall of 2002, as well as an advisor/consultant for preparation of this review.

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APPENDIX.

Additional resources.

- The full text of the revised guidelines can be accessed at:
<http://www.cdc.gov/hiv/ctr>.
 - CDC's National Center for HIV, STD, and Tuberculosis Prevention:
<http://www.cdc.gov/nchstp/od/nchstp.html>
 - CDC National AIDS Hotline in English: (800) 342-2437
 - CDC National AIDS Hotline in Spanish: (800) 344-7432
 - CDC National AIDS Hotline: (800) 342-AIDS (2437)
 - CDC National STD Hotline: (800) 227-8922
 - CDC National Prevention Information Network at <http://www.cdcnpin.org>
or (800) 458-5231 (information available in English and Spanish)
 - AIDSinfo (treatment and clinical trials information) at
<http://www.AIDSinfo.nih.gov> or (800) 448-0440 (information available in
English and Spanish)
 - The National Clinicians' Post-Exposure Prophylaxis Hotline at
<http://www.ucsf.edu/hivcntr/PEPline/index.html> or (888) 448-4911
 - HIV Medicine Association, an Infectious Disease Society of America-
affiliated association of physicians treating patients with AIDS/HIV:
<http://www.hivma.org>
 - Health Resources and Services Administration HIV/AIDS Bureau:
<http://www.hab.hrsa.gov>
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