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# Bringing the End in Sight: Consensus Regarding HIV Screening Strategies

The goal of ending AIDS begins with diagnosis of individual people. Current treatment has made HIV infection a chronic disease by prolonging survival and preventing further transmission. Ending the epidemic will be very difficult, and only effective screening can make it remotely possible. Given this reality, the latest HIV screening guidelines from the U.S. Preventive Services Task Force (USPSTF), published in this issue (1), are of critical significance. HIV screening goals and treatment outcomes have long been intimately connected. Progress in therapy has led to correspondingly significant updating of HIV screening guidelines, including those from the Centers for Disease Control and Prevention (CDC) and the USPSTF. The USPSTF is a nongovernmental body of clinicians and public health experts from academic and private settings that publishes prevention guidelines across a wide range of health conditions. In contrast, the CDC is a federal agency with guidelines members, primarily from the agency, specifically selected for expertise in HIV and AIDS. Each group revises HIV screening guidelines with differences that reflect its organization, mission, and membership, as well as available evidence. Of note, the 2 sets of guidelines have converged as new research has answered so many previous questions.

When the USPSTF screening guidelines were last revised in 2005 (2), the committee expressed concern that HIV testing might produce psychological harm and that the treatment might have serious side effects. Although these guidelines acknowledged the health benefits of treatment, they paralleled earlier guidelines suggesting therapy deferral to reduce exposure to potentially toxic drugs. The guidelines were similarly cautious in recommending that testing not be directed across a large population but rather be focused on individuals at presumably higher risk, such as men who have sex with men and injection drug users. This risk-based screening was strongly endorsed in those guidelines (an "A" recommendation), whereas population-based screening was neither accepted nor rejected and was considered a "C" level recommendation. The 2005 guidelines did, however, recommend that all pregnant women be screened, reflecting a movement from risk-based to population testing that had begun with a similar Institute of Medicine report recommendation in 1998 that was later endorsed by the American College of Obstetrics and Gynecology.

The CDC set a bold new direction for HIV screening in its 2006 revised guidelines (3). That document recommended population-based, opt-out HIV testing for all persons between 13 and 64 years of age in medical care settings regardless of assumed infection risk given limitations in collecting accurate risk data. The CDC further recommended reducing testing barriers by eliminating the requirement for written consent and for professional pre- and posttest counseling. Those guidelines recommended HIV testing for all pregnant women and retesting women with previously negative results in the third trimester in areas of the country with a high incidence of HIV. They retained a recommendation for repeated risk-based testing for persons believed to be at higher behavior-based risk (again including men who have sex with men and injection drug users), suggesting retesting "at least annually." These guidelines more fully reflected advances in HIV management, congruent with treatment guidelines that were moving toward earlier antiretroviral initiation.

Since the 2005 USPSTF guidelines, further research advances and recognition that approximately 20% of infected persons in the United States remain undiagnosed drove the need for the current revision. Hesitation in screening diminishes with the acceptance of HIV infection as a chronic disease that can be controlled by increasingly potent, convenient, and safe drugs. Both of these major U.S. treatment guidelines (4, 5) now agree that all infected persons should be offered antiretroviral therapy to reduce HIV-induced organ damage and to enable a more complete immune reconstitution with the goal of achieving a near-normal lifespan. Making an early diagnosis by screening asymptomatic persons is thus a vitally important entry into life-extending management. Furthermore, treatment has secondary public health benefits in addition to personal health benefits. Prospective studies conclusively show that antiretroviral therapy can block horizontal heterosexual transmission (6) as well as prevent vertical transmission from HIV-infected women to their newborn children. On a population basis, growing evidence and opinion favors expanding the proportion of persons on antiretroviral treatment in a community to decrease the average viral burden of the population, thereby reducing HIV incidence (7). This strategy has been accepted as policy in several cities and is under investigation in clinical trials in the United States and abroad. The potential importance of this approach to HIV prevention is underscored by the failure of other prevention approaches, including use of antiretroviral drugs administered to at-risk but uninfected adults (termed "preexposure prophylaxis"), as well as by the continued lack of an effective HIV vaccine.

Against that backdrop, the latest USPSTF HIV screening guidelines (1) have removed most of the differences between their previous recommendations and those of the CDC. The 2013 USPSTF guidelines now endorse population-based screening of all persons aged 15 to 65 years. For persons outside of this range, the USPSTF recommends testing based on higher presumed HIV acquisi-

 

tion risk and continues to recommend HIV testing for all pregnant women. The current USPSTF guidelines align with those of the CDC in suggesting at least annual retesting for persons who continue to engage in behaviors associated with HIV risk.

Unlike the CDC guidelines, however, the USPSTF guidelines devote considerable effort to the question of when antiretroviral therapy should be initiated in the course of disease. This is surprising, as HIV clinicians now widely accept universal treatment for personal health and in light of data that persons who become aware of their infection reduce risk behaviors as outlined in the previous CDC guidelines (3). The USPSTF's focus on the potential cardiovascular disease risk of antiretroviral therapy is also somewhat surprising—there is little consensus on this topic among HIV treatment experts and a growing concern that HIV infection itself, rather than the drugs used to treat it, may be increasing this comorbid condition (8, 9). Both the USPSTF and the CDC guidelines may be challenged on the frequency of suggested annual retesting for persons engaged in high-risk behaviors. Some advocate for more frequent testing, even every 3 months, to detect very recent infections (10), because newly infected persons are known to be substantial contributors to elevated community HIV incidence rates and may personally benefit from immediate antiretroviral therapy.

In 2013, what are the prospects for "an end to AIDS" and how do the USPSTF guidelines inform the roadmap to that elusive goal? The HIV care cascade begins with diagnosis followed by entry into care and ultimately successful and long-term suppression of HIV viremia. Informing all infected persons of their status may well reduce ongoing transmission-risk behavior in of itself, and if antiretroviral therapy is also accepted and successful, further spread will be substantially reduced and perhaps even eliminated. Now, with an increasing consensus on population-wide screening, a growing belief in universal treatment, and the goal of near universal access to medical care under the Affordable Care Act, we may ultimately awaken from the nightmare of the HIV/AIDS epidemic.

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