Universal HIV Testing: Is It Enough?

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(See the article by Keruly and Moore on pages 1369–74)

Early diagnosis of HIV infection and timely access to medical care can improve treatment outcomes [1] and potentially decrease the risk of transmission [2]. In this issue, Keruly and Moore [3] report a decrease in the presenting CD4+ T cell count from 371 cells/mm³ in 1990–1994 to 276 cells/mm³ in 2003–2006 among patients newly presenting for HIV care in a large academic center in the United States. Despite significant advances in antiretroviral therapy and improved services for persons living with HIV infection, our health care system appears to be less capable of detecting the disease early in its course than it was nearly 2 decades ago. The authors conclude that national implementation of the 2006 Centers for Disease Control and Prevention recommendations for routine HIV testing in health care settings [4] will improve early detection and entry to care. But will universal HIV testing be enough? Although these data support the argument for mainstream HIV testing, they also highlight the issue of universal health care coverage.

Keruly and Moore [3] report that, after stratification by demographic characteristics and HIV risk factors, median CD4+ T cell counts at presentation significantly decreased over time for women, men, black patients, and patients who reported intravenous drug use (IDU) and heterosexual exposures as HIV risk factors. One notable exception was for men who have sex with men (MSM). Presenting CD4+ T cell counts among MSM actually improved with time, from 280 cells/mm³ in 1990–1994 to 332 cells/mm³ in 2003–2006. Although proportions of patients of each sex and race remained relatively unchanged over time, the proportion of MSM and patients reporting IDU decreased, and there was a nearly 3-fold increase in persons listing heterosexual sex as a risk factor during 2003–2006.

Two questions arise. First, are these changes in patient demographic characteristics driving the decrease in the presenting CD4+ T cell counts? The answer is probably not. Although MSM were the only subjects to have improved CD4+ T cell counts over time, these patients initially had the most advanced HIV disease at presentation, with only a modest gain of 52 cells/mm³ by 2003–2006. Conversely, all other groups had much higher presenting CD4+ T cell counts in 1990–1994, with large decreases over time, ranging from 76 to 174 cells/mm³.

The second question centers on how HIV testing rates among patients receiving care at Johns Hopkins might differ from those of the rest of the nation. The 2002 National Survey of Family Growth was a population-based study of 12,571 men and women, ages 15–44 years, designed to determine the national estimate of HIV testing [5]. Overall, 50.7% of persons reported having ever been tested outside of the context of blood donation. Interestingly, testing rates were higher among African Americans and those with sex- and drug-related risk behaviors. Compared with data obtained from the 1995 National Survey of Family Growth study, which included only women, testing rates among African American women significantly increased, from 45.3% to 65.6%. If testing rates among African Americans are increasing nationally, then why do data from Johns Hopkins (more than three-quarters African American) suggest the opposite? The explanation may lie in where people receive their HIV testing. In the 2002 National Survey of Family Growth study, many persons received HIV testing from a private physician (39.5%) or a managed care organization (5.2%). In contrast, only 17.3% of all tests were performed in a public health clinic. The use of public clinics among the subgroup of persons with low incomes was higher, at 31.4%. As a provider receiving Ryan White CARE Act funding, the Johns Hopkins patient population contains mainly underinsured persons [6] who likely lacked general health care before their diagnosis of HIV infection. In the early 1990s, HIV care was largely concentrated in academic institutions or public facilities with access to clinical trials. In more recent years, HIV specialty care has become more available in managed care settings and among private physicians. Potentially, the Johns Hopkins cohort today contains fewer insured patients and serves a more disenfranchised population, with fewer opportunities for...
HIV testing, than was the case in the early 1990s. Because underinsured persons most often gain access to the health care system through public health clinics, emergency departments, and urgent care facilities, and these settings often have lower HIV testing rates than do private physician offices and managed care organizations [5], it is plausible that the Johns Hopkins HIV patient population is receiving diagnoses at a later stage simply because of the health care systems that are available to them.

Another sobering finding in this study was the absence of improvement in the time from diagnosis to presentation for care among women, African Americans, and those with heterosexual risk factors. Although multiple factors likely contribute to this delay, those without prior health care may seek access to resources less efficiently even when resources are available. A universal health care system may help remedy this. As an example, universal health care is practically available in the United States for pregnant women, with an estimated 99% of pregnant women obtaining prenatal care [7]. Approximately 70% of women reported that they received HIV testing during prenatal care [7]; therefore, HIV infection is diagnosed earlier among pregnant women than among nonpregnant women [8]. In addition, low-income, HIV-infected women who had prenatal care were more likely to receive antiretroviral therapy during pregnancy and to have access to other medical services, such as substance abuse treatment, in the postpartum months [9]. Among pregnant women, primary care providers play a central role in HIV testing, access to antiretroviral therapy, and referral for other health care needs. We anticipate that similar benefits would occur for under- or uninsured, nonpregnant adults if access were available to primary care before HIV infection was diagnosed.

HIV disease is a disease of poverty. In the United States, HIV infection disproportionately affects uninsured, low-income persons [10, 11], who constitute a vulnerable population that often has multiple health care needs. Despite these challenges, HIV infection–related morbidity and mortality continue to decrease [12]. Undoubtedly, much of this success is attributed to government-sponsored programs, such as the Ryan White Comprehensive AIDS Resources Emergency (CARE) Act, which provides access to medical care after the diagnosis of HIV infection. Perhaps the best way to improve the prevention of HIV infection and decrease transmission is to provide similar health care services before HIV infection to those with the greatest need and highest risk for HIV infection. Although not completely analogous to the situation in the United States, in settings where universal health care systems are in place (i.e., Western Europe), HIV infection is still being diagnosed late among underserved, immigrant populations [13–16]. Taken together, these findings suggest that “universal” HIV testing also requires “universal” health care for there to be a significant impact on diagnosing HIV infection at the earliest stage possible [14]. As the United States and other resource–wealthy countries move forward to build health care infrastructure and scale-up antiretroviral therapy in resource–limited settings, it is a shameful commentary on our own health care system that the average CD4+ T-cell count before the initiation of antiretroviral therapy in North America is similar to that of some underdeveloped countries in Africa [17].

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References