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1 figure, 1 table omitted

WITHIN 1 YEAR OF THE INITIAL REPORT in 1981 of a deadly new disease that occurred predominantly in previously healthy persons and was manifested by *Pneumocystis carinii* pneumonia and Kaposi's sarcoma, the disease had a name: acquired immune deficiency syndrome (AIDS). Within 2 years, the causative agent had been identified: human immunodeficiency virus (HIV). On the 30th anniversary of the epidemic, to characterize trends in HIV infection and AIDS in the United States during 1981-2008, CDC analyzed data from the National HIV Surveillance System. This report summarizes the results of that analysis, which indicated that, in the first 14 years, sharp increases were reported in the number of new AIDS diagnoses and deaths among persons aged ≥13 years, reaching highs of 75,457 in 1992 and 50,628 in 1995, respectively. With introduction of highly active antiretroviral therapy, AIDS diagnoses and deaths declined substantially from 1995 to 1998 and remained stable from 1999 to 2008 at an average of 38,279 AIDS diagnoses and 17,489 deaths per year, respectively. Despite the decline in AIDS cases and deaths, at the end of 2008 an estimated 1,178,350 persons were living with HIV, including 236,400 (20.1%) whose infection was undiagnosed. These findings underscore the importance of the National HIV/AIDS Strategy focus on reducing HIV risk behaviors, increasing opportunities for routine testing, and enhancing use of care.

HIV infection is notifiable in all 50 states and the District of Columbia (DC); AIDS is now notifiable as stage 3 HIV infection. For this report, AIDS data reported to CDC by the end of June 2010 from 50 states and DC were analyzed to determine the annual number of AIDS diagnoses, deaths among persons with AIDS, and persons living with AIDS from 1981 through 2008. Surveillance data were adjusted for reporting delays and missing risk-factor information, but not for incomplete reporting. Additionally, by using 1) HIV and AIDS data for persons aged ≥13 years at diagnosis from 40 states that have had confidential name-based HIV infection reporting since at least January 2006 and (2) AIDS data from 11 areas, CDC estimated the annual number of persons living with HIV infection using extended back-calculation. The estimated number of undiagnosed HIV infections was calculated by subtracting the number of diagnosed infections from the estimated overall HIV prevalence. HIV prevalence rates per 100,000 population were calculated for 2008 based on postcensal estimates from the U.S. Census Bureau.

From 1981 to 1992, the estimated annual number of persons aged ≥13 years with newly diagnosed AIDS grew rapidly, from 318 to 75,457. From 1981 to 1995, the estimated annual number of deaths among persons with AIDS increased from 451 to 50,628. These increases were followed by declines of HIV infection using extended back-calculation. The estimated number of undiagnosed HIV infections was calculated by subtracting the number of diagnosed infections from the estimated overall HIV prevalence. HIV infection is notifiable in all 50 states and the District of Columbia (DC); AIDS is now notifiable as stage 3 HIV infection. For this report, AIDS data reported to CDC by the end of June 2010 from 50 states and DC were analyzed to determine the annual number of AIDS diagnoses, deaths among persons with AIDS, and persons living with AIDS from 1981 through 2008. Surveillance data were adjusted for reporting delays and missing risk-factor information, but not for incomplete reporting. Additionally, by using 1) HIV and AIDS data for persons aged ≥13 years at diagnosis from 40 states that have had confidential name-based HIV infection reporting since at least January 2006 and (2) AIDS data from 11 areas, CDC estimated the annual number of persons living with HIV infection using extended back-calculation. The estimated number of undiagnosed HIV infections was calculated by subtracting the number of diagnosed infections from the estimated overall HIV prevalence. HIV prevalence rates per 100,000 population were calculated for 2008 based on postcensal estimates from the U.S. Census Bureau.

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**What is already known on this topic?**

The annual number of acquired immunodeficiency syndrome (AIDS) diagnoses and deaths in the United States declined significantly with the advent of combination therapy in the mid-1990s and remained stable thereafter. However, each year, approximately 50,000 U.S. residents become infected with human immunodeficiency virus (HIV).

**What is added by this report?**

At the end of 2008, an estimated 1,178,350 persons aged ≥13 years in the United States were living with HIV infection, including 20.1% whose infections had not been diagnosed. HIV prevalence per 100,000 population was 1.819 among blacks or African Americans, 593 among Hispanics or Latinos, and 238 among whites. Nearly 50% of those living with HIV infection were men who have sex with men.

**What are the implications for public health practice?**

To achieve the goals of the National HIV/AIDS Strategy, HIV prevention, care, and treatment programs must continue their efforts to reduce incidence, increase access to care, improve health outcomes among persons living with HIV, and reduce HIV-related health disparities.

HIV prevention efforts averted an estimated 350,000 HIV infections during 1991-2006 and saved $125 billion in medical care costs. However, despite these efforts and widespread knowledge of how to prevent HIV, CDC estimates that 50,000 persons are infected each year in the United States. More than half of the newly infected are MSM, and nearly half are black or African American. In addition, the findings in this report indicate that, of the estimated 1,178,330 living with HIV infection in the United States, 20.1% had undiagnosed HIV infections.

Surveillance data show that the proportion of HIV diagnoses occurring in MSM continues to grow. HIV incidence among MSM has increased steadily since the early 1990s. In 2009, MSM accounted for 57% of all persons and 75% of men with a diagnosis of HIV infection in the 40 states with longstanding, confidential, name-based HIV infection reporting. Syphilis and gonorrhea are endemic among MSM; outbreaks or hyperendemic sexually transmitted infections have been reported from many communities where HIV infection also is prevalent, further increasing the risk for acquiring and transmitting HIV.

Late diagnosis of HIV infection is common. Among persons with newly diagnosed HIV in 2008, 33% developed AIDS within 1 year of initial HIV diagnosis. These persons likely were infected an average of 10 years before diagnosis. During this period, they missed opportunities to obtain medical care and to prevent unwitting transmission of HIV to others. Persons with a late diagnosis of HIV infection also are at greater risk for short-term mortality than those who receive an HIV diagnosis earlier in the course of infection. Initiation of care soon after diagnosis is recommended, yet a meta-analysis of 28 studies from multiple U.S. regions found that 28% of persons did not enter care within 4 months of HIV diagnosis. In addition, an estimated 41% of HIV-infected persons did not average at least two care visits in a year, as recommended by the U.S. Department of Health and Human Services.

The findings in this report are subject to at least three limitations. First, reported HIV data used in the extended back-calculation method represent only a portion of persons in the United States who received a diagnosis of HIV infection; some areas with high incidence, including Maryland and DC, did not contribute HIV data. Availability of HIV data from these areas will increase accuracy of future prevalence estimates. Second, not all persons with HIV have received a diagnosis of HIV infection, and so, have not been reported to the public health surveillance system; data must be estimated for persons with undiagnosed HIV. Finally, the data have been adjusted statistically to account for delays in reporting new cases and deaths and for missing risk factor information, which might result in less stable results.

The National HIV/AIDS Strategy has three primary goals: (1) reduce HIV incidence, (2) increase access to care and improve health outcomes for persons living with HIV, and (3) reduce HIV-related health disparities. The strategy refocuses efforts toward intensified HIV prevention in communities where HIV infection is most prevalent, using a combination of effective strategies that seek to optimize entry into and retention in care and maintenance of viral suppression. CDC, in partnership with state and local health departments, will use surveillance data to evaluate the measurable outcomes of this strategy, including new diagnoses, early detection, entry into care, retention in care, and viral suppression, as well as progression to AIDS and death.

**REFERENCES**


Cigarette Package Health Warnings and Interest in Quitting Smoking—14 Countries, 2008-2010

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The World Health Organization (WHO) Framework Convention on Tobacco Control (FCTC) requires health warnings on tobacco product packages sold in countries that ratified the WHO FCTC treaty. These warnings are expected to (1) describe the harmful effects of tobacco use; (2) be approved by the appropriate national authority; (3) appear on at least 30%, and ideally 50% or more, of the package’s principal display areas; (4) be large, clear, visible, and legible in the country’s principal language(s); (5) have multiple, rotating messages; and (6) preferably use pictures or pictograms. To assess the effects of cigarette package health warnings on interest in quitting smoking among smokers of manufactured cigarettes aged ≥15 years, this report examines 2008-2010 data from the Global Adult Tobacco Survey (GATS) in 14 WHO FCTC countries. Among men, the prevalence of manufactured cigarette smoking ranged from 9.6% in India to 59.3% in Russia. Among men in 12 of the countries and women in seven countries, >90% of smokers reported noticing a package warning in the previous 30 days. The percentage of smokers thinking about quitting because of the warnings was >50% in six countries and >25% in men and women in all countries except Poland. WHO has identified providing tobacco health information, including graphic health warnings on tobacco packages, as a powerful “best buy” in combating noncommunicable disease. Implementing effective warning labels as a component of a comprehensive approach can help decrease tobacco use and its many health consequences.

GATS is a nationally representative household survey conducted among persons aged ≥15 years using a standardized questionnaire, sample design, data collection method, and analysis protocol to obtain measures on key tobacco control indicators and ensure comparability across countries. GATS was conducted once in each of the 14 countries during 2008-2010 by national governments, ministries of health, survey-implementing agencies, and international partners. In each country, a multistage cluster sample design is used, with households selected proportional to population size. Data are weighted to reflect the noninstitutionalized population aged ≥15 years in each country. For this analysis, current smokers of manufactured cigarettes were asked whether they had noticed health warnings on a cigarette package in the previous 30 days, and whether the label led them to think about quitting smoking. Responses were analyzed by sex and, within sex strata, by age and education level using bivariate analysis within individual countries. Differences in response estimates were considered statistically significant if 95% confidence intervals did not overlap. Overall response rates ranged from 65.1% in Poland to 97.7% in Russia.

The health warnings on cigarette packages in each country at the time GATS was conducted were described according to WHO FCTC guidelines. All GATS countries had warning labels on cigarette packages describing harmful effects of smoking at the time their survey was conducted. Four of the 14 countries (Brazil, Egypt, Thailand, and Uruguay) had pictorial warnings. A fifth country, India, introduced pictorial warnings in 2009, and had both text and pictorial warnings in circulation when GATS was conducted.

In all 14 countries, men were more likely to be cigarette smokers than women. Among men, prevalence of smoking ranged from 9.6% in India to 59.3% in Russia. Among women, prevalence of smoking was <25% in all countries and <2% in Bangladesh, China, Egypt, India, Thailand, and Vietnam.

In all countries except India (78.4%) and Mexico (83.5%), >90% of men reported noticing a health warning on a cigarette package. Among women, the percentage who noticed warnings was ≥75% in all countries except China (60.1%) and India (18.9%), and >90% in seven countries. In Bangladesh and Egypt, not enough women reported current smoking to calculate this percentage.

Smokers aged ≥65 years were less likely to notice warnings in Bangladesh (men), Brazil (men and women), Mexico (men), Philippines (men and women), Thailand (men), and Ukraine (men). Smokers who had not completed primary school education were less likely to have noticed warnings in Bangladesh (men), China (men and women), India (men), Mexico (women), Philippines (men and women), Turkey (women), and Vietnam (men).