

Executive Commentary

During 2000, a total of 16,377 TB cases (5.8 cases per 100,000 population) were reported to CDC from the 50 states and the District of Columbia, representing a 7% decrease from 1999 and a 39% decrease from 1992, when the number of cases peaked during the resurgence of TB in the United States. The national TB case rate also steadily decreased during this period (Table 1). In 2000, 6% of cases were reported in children under 15 years old, 10% in persons aged 15-24 years, 34% in persons aged 25-44 years, 28% in persons aged 45-64 years, and 22% in persons aged 65 years and older (Table 2). During 1992-2000, there was a decline in both the number of cases reported in each of these age groups and the respective TB case rates.

The overall national trends reflect the impact of varying changes within population subgroups. For example, the overall decrease in TB cases during 1992-2000 primarily reflects a 55% decrease in the number of cases among U.S.-born persons, with substantial declines in all age groups. In contrast, the total number of cases among foreign-born persons increased 4% during this period, reflecting small to moderate increases in adult age groups, but a substantial decline among children aged <15 years. In terms of case rates, the case rate among U.S.-born persons decreased from 8.2 to 3.5 per 100,000 population, and the case rate among foreign-born persons decreased from 34.2 to 25.8 per 100,000 population (Table 4). *[Note: The case rates in Table 4 were calculated using two U.S. Census sources: one for 1992-1999 rates and one applied to the April 2000 Census total U.S. population for the 2000 rate. Thus, the 1992 and 2000 estimates may not be directly comparable. Using the first source, the case rate in the foreign-born decreased from 34.2 to 29.2 per 100,000 (15%) between 1992 and 1999.]*

The overall trends also reflect the impact of changes by geographic location. For example, during 1992-2000, the seven states with the highest number of cases (California, Florida, Georgia, Illinois, New Jersey, New York, and Texas, accounting for 59% of the total number of U.S. cases in 2000) experienced a substantial decrease in both annual number of reported cases and case rate. Overall decreases also occurred in 17 other states and the District of Columbia during the 9-year period. In the remaining 26 states, annual case counts fluctuated (e.g., increased, then decreased) or remained relatively stable during 1992-2000. Eighteen of these states had case rates ≤ 3.5 per 100,000 (16 states) or reported less than 100 cases (16 states) in 2000.

The resurgence of TB in the United States in the late 1980s and early 1990s was associated with the emergence of multidrug-resistant TB (MDR TB) and the HIV/AIDS epidemic.^{1,2} Based on initial drug susceptibility test results for *Mycobacterium tuberculosis* isolates from persons with culture-positive TB, resistance to at least isoniazid during 1993-2000 was relatively stable and MDR TB decreased substantially. In 2000, 8% of isolates were resistant to at least isoniazid and 1% were resistant to at least isoniazid and rifampin (MDR TB) (Table 30). The decrease in the level of MDR TB was largely influenced by the decrease in New York City; however, during 1993-2000, the proportion of TB cases reported from U.S. areas excluding New York City that were MDR TB decreased from 1.7% to 1%. Trends in primary resistance, based on results for isolates from persons with no prior history of TB, were similar (Table 7).

Incomplete reporting has limited the analysis of national TB surveillance data by HIV status. Reporting of HIV status has improved slowly since 1993, the year such information was first included on TB case reports submitted to CDC. In 2000, 58% of TB case reports for persons aged 25-44 years included information about HIV status. Nineteen states and the District of Columbia reported this information for at least 75% of cases among persons in this age group (Table 31). To help estimate the proportion of reported TB cases with HIV coinfection, state health departments have compared TB and AIDS registries.³ Using registry matched data to supplement HIV test results reported on the individual TB case report, minimum estimates of the

proportion with HIV coinfection range from 15% in 1993-1994 to 10% in 1998-1999 for persons of all ages reported with TB and from 29% in 1993-1994 to 19% in 1999 for persons aged 25-44 (Table 10). The impact of the HIV/AIDS epidemic also differs by geographic location. For example, in 2000, over one-quarter of TB cases in persons aged 25-44 years from the District of Columbia, Florida, Georgia, North Carolina, and South Carolina were coinfecting with HIV, whereas (among states with more than 5 cases in this age group), <10% of cases from Kansas, Minnesota, Oklahoma, Oregon, and Wisconsin were reported with HIV coinfection.

During 1992-2000, the declines in the overall number of reported TB cases and in the level of MDR TB appear to reflect successful efforts to strengthen TB control following the resurgence of TB and the emergence of MDR TB. Activities emphasizing the first priority of TB control⁴ (i.e., promptly identifying persons with TB, initiating appropriate therapy, and ensuring completion of therapy) have likely been the most important factors in achieving this improvement. Such activities reduced community transmission of *M. tuberculosis*, particularly in areas with a high incidence of AIDS.⁵ Improvements in infection control practices in nosocomial and other congregate settings, declining AIDS incidence, and the decreasing number of MDR TB cases also appear to have contributed to the overall decrease; however, the contribution of these factors has been difficult to measure. The substantial decline in both the number of reported cases among U.S.-born persons and the case rate for U.S.-born persons supports these inferences. In comparison, the relatively stable number of reported cases among foreign-born persons, along with the modest decline in the case rate among foreign-born persons (supported by examination of case rates during 1992-1999 using the same method and source for estimating foreign-born populations), is consistent with other analyses of TB surveillance data that indicate that most cases of TB among foreign-born U.S. residents result from infection with *M. tuberculosis* in the person's country of birth.⁶ As the proportion of reported TB cases among foreign-born persons continues to increase, the elimination of TB in the United States will depend increasingly on the elimination of TB among foreign-born persons.^{7,8} CDC, in collaboration with state and local health departments, has published recommendations for enhancing TB control efforts in the foreign-born,^{7,9} and is currently working with these jurisdictions to expand efforts based on these recommendations.

To move from TB control to TB elimination in the United States, the Advisory Council for the Elimination of Tuberculosis (ACET) has emphasized that existing efforts must be sustained and enhanced.¹⁰ The recent report from the Institute of Medicine, *Ending Neglect: The Elimination of Tuberculosis in the United States*, affirms ACET's recommendation and also poses the important question that now confronts the nation, "whether another cycle of neglect will be allowed to begin, or whether, instead, decisive action will be taken to eliminate the disease."¹¹ The expanded national TB surveillance system has proven its usefulness in assisting in the evaluation of the success of TB control efforts and monitoring the status of the epidemic, particularly through the collection of data on initial drug susceptibility results.¹² Information on the use of initial regimens of four first-line drugs, directly observed therapy, and completion of therapy in 1 year or less (Table 9) can also be used as measures to evaluate program success. As future efforts towards TB elimination increase, both existing and new surveillance systems at the national, state, and local levels will become ever more critical to monitor the burden and impact of TB, evaluate the success of control and prevention efforts, and direct planning and policy development.

References

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