Executive Commentary

During 1999, a total of 17,531 TB cases (6.4 cases per 100,000 population) were reported to CDC from the 50 states and the District of Columbia, representing a 5% decrease from 1998 and a 34% 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 1999, 6% of cases were reported in children under 15 years old, 9% in persons aged 15-24 years, 35% in persons aged 25-44 years, 28% in persons aged 45-64 years, and 23% in persons aged 65 years and older (Table 2). During 1992-1999, there was a decline in both the number of cases reported in each of these age groups and the respective TB case rates.

An important consideration is that the overall national trends reflect the impact of varying changes within population subgroups. For example, the overall decrease in TB cases during 1992-1999 primarily reflected a 49% 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 a small increase among adults aged 25-44 years, a larger increase among adults aged $45 years, and a substantial decline among children aged <15 years. In terms of case rates, there was a 51% decrease in the case rate among U.S.-born persons (from 8.2 to 4.0 per 100,000), and there was a 15% decrease in the case rate among foreign-born persons (from 34.5 to 29.2 per 100,000), (Table 4).

The overall trends also reflect the impact of changes by geographic location. For example, during 1992-1999, the seven states (California, Florida, Georgia, Illinois, New Jersey, New York, and Texas) reporting the highest number of cases (59% of the total number of U.S. cases in 1999) experienced a substantial decrease in both the annual number of reported cases and case rate. Overall substantial decreases also occurred in 15 other states during the 8 year period. In the remaining 28 states and the District of Columbia, annual case counts fluctuated (e.g. an increase followed by a decrease) or remained relatively stable during 1992-1999. A majority of these (19 states) had case rates below 3.5 per 100,000 (15 states) or reported less than 100 cases (17 states) in 1999.

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 isolates from persons with culture-positive TB, resistance to at least isoniazid during 1993-1999 was relatively stable and MDR TB decreased substantially. In 1999, 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 influenced by a substantial decrease in New York City; however, during 1993-1999, the proportion of MDR TB cases reported from U.S. areas excluding New York City 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 1999, 57% of TB case reports for persons aged 25-44 years included information about HIV status. Twenty-three states, New York City, 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 match data to supplement reported HIV test results on the individual TB case report, minimum estimates of the proportion with HIV coinfection range from 15% in 1993-1994 to 10% in 1998 for persons of all ages reported with TB and from 29% in 1993-1994 to 20% in 1998 for persons aged 25 to 44 (Table 10). The impact of the HIV/AIDS epidemic also differs by geographic

location. For example, in 1999, over one-third of TB cases in persons aged 25-44 years reported from the District of Columbia, Florida, Georgia, New York City, and South Carolina were coinfected with HIV, whereas (among states with more than 5 cases in this age group), <10% of cases from Arkansas, Colorado, Mississippi, South Dakota, and Wisconsin were reported with HIV coinfection.

During 1992-1999, 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. Emphasizing the first priority of TB control[4] (i.e., promptly identifying persons with TB, initiating appropriate therapy, and ensuring completion of therapy) has likely been the most important factor in achieving this improvement, through the reduction of 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 is consistent with other analyses of TB surveillance data that indicate that most cases of TB among foreign-born persons residing in the United States result from infection with *M. tuberculosis* in the person's country of birth.[6] As the percentage 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] CDC, in collaboration with state and local health departments, has published recommendations for enhancing TB control efforts in the foreign-born,[7] 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 has emphasized that existing efforts must be sustained and enhanced.[8] The recent report from the Institute of Medicine, *Ending Neglect: The Elimination of Tuberculosis in the United States*, highlights 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."[9] 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.[10] 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) provides additional evidence to use in evaluating program success. As future efforts accelerate towards TB elimination, maintaining and adapting surveillance systems at the national, state, and local levels will remain critical to monitoring the burden and impact of TB, evaluating success of control and prevention efforts, and directing policy and planning development.

References

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