

Executive Commentary

Since 1953, when CDC began conducting public health surveillance for TB in the United States (U.S.), the TB case rate has declined more than tenfold from 53 cases per 100,000 to 5.2 per 100,000 in 2002 (Table 1). During 2002, a total of 15,075 cases (5.2 cases per 100,000 population) of TB were reported to CDC from the 50 states and the District of Columbia (DC), representing a 5.7% decrease from 2001 and a 43.5% decrease from 1992 when the number of cases and case rate most recently peaked in the United States. In 2002 for the first time since birth country was added to the case report form in 1986, the proportion of total cases occurring in foreign-born persons exceeded 50%. In addition, the case rate among foreign-born persons is now at least eight times higher than among U.S.-born persons (Table 4). To address the high rate among the foreign-born, CDC is collaborating with public health partners to implement TB control initiatives among recent international arrivals and residents along the border between the United States and Mexico and to strengthen TB programs in countries with a high incidence of TB disease (1).

The declining numbers of TB cases and TB case rates during the last decade varied by factors such as age, race/ethnicity, and country of origin. The largest declines occurred in children under 15 years of age (from 3.1 per 100,000 in 1992 to 1.5 in 2002) and in adults aged 25 to 44 years (from 12.7 to 6.2), 45 to 64 years (from 13.4 to 6.3), and 65 years and older (from 18.7 to 8.8), each group having decreased approximately 50%. The case rate declined by 33% in those 15 to 24 years of age (from 5.5 to 3.7) (Table 2). Asians and Pacific Islanders had the highest TB rates, which declined from 46 per 100,000 in 1992 to 28 in 2002, but the least percentage decline over the decade (38%). Rates declined more than 50% over the decade in the other racial/ethnic groups: among non-Hispanic blacks from 32 in 1992 to 13 in 2002, among Hispanics from 22 to 10, among American Indians and Alaska Natives from 16 to 7, and among non-Hispanic whites from 4 to 2 (Table 3).

In 1992, 73% of reported cases were among U.S.-born persons (8.2 cases per 100,000) while 27% were in foreign-born persons (34.2 per 100,000). In comparison in 2002, 51% of reported cases occurred among the foreign-born, and the respective case rates were 2.9 per 100,000 for U.S.-born persons and 23.1 for foreign-born persons (Table 4). However, rates varied by racial/ethnic group. U.S.-born blacks had the highest rate of any U.S.-born racial/ethnic population (2), and comprised the largest number of TB cases among both U.S.-born and foreign-born populations, representing 46% of TB cases in U.S.-born persons and nearly one fourth of all cases (Tables 14 and 15).

The number of states with $\geq 50\%$ of their annual total of reported TB cases among foreign-born persons increased from four in 1992 to 22 in 2002. Of these 22 states, California, Colorado, Hawaii, Idaho, Massachusetts, Minnesota, and New Hampshire had $\geq 70\%$ of their annual total of cases among foreign-born persons (Table 20).

During 1997 through 2002, the top five countries of origin of TB cases among foreign-born persons were Mexico, the Philippines, Vietnam, India, and China (Table 5). However, expected cycles in immigration patterns have led to changes in the distribution of TB cases by global region of origin (as designated by the World Health Organization [WHO]) (3). In 2002, of the 7,659 cases of TB in foreign-born persons, 43% occurred among persons from the Americas (Central and South America or the Caribbean), and 30% were in persons from the Western Pacific. These regions also had the largest number of cases in 1992 (44% and 40%, respectively). During 1992 through 2002, the number of cases approximately doubled among persons from the Eastern Mediterranean (2% in 1992 and 4% in 2002) and among persons from Southeast Asia (6% in 1992 and 10% in 2002), while the number of cases among persons from Africa more than tripled (2% in 1992 and 7% in 2002) (Table 16).

Since 1993, when the case report was expanded to include drug susceptibility results, the proportion of patients with primary MDR TB decreased from 2.5% to 1.0% each year during 1998-2001, with an increase to 1.2% in 2002. Both the U.S.-born and foreign-born have seen decreases in the percentage of cases with primary MDR TB, although the decline in the U.S.-born has been greater. In 2002, however, for the first time since data on drug resistance has been collected by the national system, the percentage of U.S.-born persons with MDR TB increased, from 0.6% in 2001 to 0.8% in 2002. However, of the total number of reported MDR TB cases, the proportion occurring in foreign-born persons increased from 31% (150 of 485) in 1993 to 72% (105 of 146) in 2002 (Tables 8 and 9). The proportion of TB patients placed on a recommended initial treatment regimen (i.e., isoniazid, rifampin, pyrazinamide, and streptomycin or ethambutol [4]), increased during 1993 through 2002 (Table 10). The proportions of patients who completed treatment within 1 year, and of persons who were treated with directly observed therapy (at least for a portion of treatment), also increased from 1993 through 2000, the latest year with available outcome data (Table 10).

During 1992 through 2002, TB case rates in the United States decreased for U.S.-born and foreign-born persons; however, the decrease among foreign-born persons was less substantial. Both groups have seen decreases in the number and proportion of cases with primary MDR TB, although the decline in the U.S.-born has been greater. The overall improvement is consistent with the finding of an increasing proportion of patients receiving initial four drug regimens, completing treatment within 1 year, and being treated with directly observed therapy.

Despite the decreased case rate among foreign-born persons, more than half of the TB cases in the United States in 2002 occurred in this population, and the case rate was eight times greater in this population than among U.S.-born persons. To address the high rate, CDC is collaborating with other national and international public health organizations to 1) improve overseas screening of immigrants and refugees by developing systematic tools for monitoring and evaluating the screening process; 2) improve the current notification system that alerts local health departments about the arrival of immigrants or refugees with suspected TB to assist patients in obtaining a medical evaluation and, if necessary, in completing a course of recommended drugs; 3) improve coordination of and communication about TB control activities between the United States and Mexico to ensure completion of treatment among TB patients who cross the border; and 4) test recent arrivals from high-incidence countries for latent TB infection and ensure completion of treatment. In addition, CDC continues to strengthen collaborations with international partners, including the World Health Organization, to improve TB control in high-incidence countries.

Accelerating progress in national TB elimination activities, however, will require broader prevention efforts to evaluate and address unmet needs in other population risk groups such as African Americans, persons living with HIV, and persons living in poverty with limited access to medical care and adequate housing and nutrition. In addition, low-incidence areas in the United States need continued support to ensure they maintain the capacity and expertise to respond to cases when they occur (5). CDC has recently updated its comprehensive national action plan to reflect the alignment of its priorities with the Institute of Medicine report (6) and to ensure that priority prevention activities are undertaken with optimal collaboration and coordination among national and international public health partners (7). Commitment and participation by CDC in efforts towards curtailing the global TB epidemic remains a critical component of the national plan.

References

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