

October 2000

PUBLIC HEALTH

Trends in Tuberculosis  
in the United States



G A O

Accountability \* Integrity \* Reliability



---

# Contents

---

---

Letter		3
Appendixes	Appendix I: State TB and MDR-TB Cases and Case Rate, 1999	20
	Appendix II: Comments From CDC	22
Figures	Figure 1: CDC Funding for TB and Case Rate, United States, 1980-99	8
	Figure 2: TB Case Rates, 1999	11
	Figure 3: New MDR-TB Cases, United States, 1993-99	12
	Figure 4: New MDR-TB Cases, New York City and Other U.S. Areas	13
	Figure 5: Number of New MDR-TB and TB Cases, 1993-99	15
	Figure 6: Country of Origin for New Foreign-Born TB Cases, 1999	16

---

## Abbreviations

CDC	Centers for Disease Control and Prevention
HIV	human immunodeficiency virus
HHS	Department of Health and Human Services
IUATLD	International Union Against Tuberculosis and Lung Disease
MDR-TB	multidrug-resistant tuberculosis
USAID	U.S. Agency for International Development
WHO	World Health Organization

---

---



**United States General Accounting Office**  
**Washington, D.C. 20548**

October 31, 2000

The Honorable Tom Bliley  
Chairman, Committee on Commerce  
House of Representatives

The Honorable Fred Upton  
Chairman, Subcommittee on Oversight and Investigations  
Committee on Commerce  
House of Representatives

The World Health Organization (WHO) estimates that about 2 million people die each year from tuberculosis (TB), making it one of the leading infectious killers worldwide. In recent years, global public health efforts to combat TB have been complicated by the emergence of multidrug-resistant tuberculosis (MDR-TB), which is resistant to the two primary drugs used to treat this disease. Recent media reports have raised concern that the global prevalence of TB and the emergence of MDR-TB have increased the public health risk to the U.S. population. Accordingly, you asked that we review available data on the incidence and characteristics of TB cases in the United States. We analyzed the available data to determine answers to these questions:

- What are the trends in TB cases in the United States?
- What are the trends in MDR-TB in the United States?
- How are these trends affected by the prevalence of TB in other countries?

To respond to your request, we analyzed data from the TB surveillance system of the Department of Health and Human Services' (HHS) Centers for Disease Control and Prevention (CDC). This system includes data routinely reported by all states on the demographics of newly diagnosed cases of TB.<sup>1</sup> We also reviewed studies by WHO and other research, and interviewed public health researchers and officials from CDC, state and local TB prevention programs, the Advisory Council for the Elimination of Tuberculosis, and the National Tuberculosis Controllers Association. We

---

<sup>1</sup>We did not review the reliability of the CDC surveillance data. However, CDC checks for completeness and consistency in the data and relies on states and other reporting areas to conduct validation and completeness-of-reporting studies as part of their CDC funding.

---

conducted this work from July 2000 to September 2000 in accordance with generally accepted government auditing standards.

---

## Results in Brief

Following more than 3 decades of decline, the number of reported TB cases in the United States began to increase in the late 1980s and early 1990s, peaking at 26,673 new cases in 1992. Since that time, the number of new cases has steadily decreased. The rise in new TB cases in the late 1980s and early 1990s has been associated with several factors, including the emergence of the human immunodeficiency virus (HIV, the cause of AIDS), transmission in institutions such as hospitals, jails, and homeless shelters, cutbacks in TB programs, and MDR-TB outbreaks. Following an increase in TB control and prevention activities, the number of reported TB cases declined to 17,531 new cases in 1999—a 34 percent decrease from 1992. Despite this progress the United States has not reached the HHS year 2000 goal to reduce TB to 3.5 new cases per 100,000 population (the current rate is 6.4 cases per 100,000 population).

Consistent with the overall trends in TB cases, the number of new MDR-TB cases has also steadily declined since CDC began tracking them in 1993. In 1993, nearly 500 new MDR-TB cases were reported; in 1999 the number dropped to 154. Major reductions in MDR-TB cases resulted from a significant decline in such cases in New York City, where a considerable number of MDR-TB cases occurred in 1993. While the number of new MDR-TB cases is dropping, MDR-TB cases are no longer largely confined to New York City and a few other areas. Between 1993 and 1999, all but five states reported at least one case of MDR-TB.

Surveillance data suggest that further progress in reducing TB, including MDR-TB, in the United States will depend largely on progress made in addressing this disease in other countries, where WHO regards it as part of a growing global epidemic. While the numbers of TB and MDR-TB cases in the United States have declined overall, the numbers of cases in the United States involving foreign-born persons have remained relatively stable. As a result, the proportion of cases involving foreign-born persons has increased, more than doubling for MDR-TB between 1993 and 1997—from about 3 to more than 7 of every 10 new MDR-TB cases. Recognizing the effect of global TB on U.S. TB control efforts, the United States has undertaken several activities, such as providing technical assistance to set up international TB control programs and authorizing new funding for global TB prevention and control activities. In commenting on this report, CDC generally concurred with our findings.

---

---

## Background

---

### TB Infection and Disease

TB is a leading infectious killer of youth and adults worldwide. Each year, 8 million people around the world develop active TB, and about 2 million people die from it. TB is spread from person to person through the air and usually infects the lungs, although other organs are sometimes involved.

WHO estimates that about one-third of the world's population is infected with TB. However, most people infected with TB never develop an active case—their immune system stops the bacteria from growing. A skin test can determine if someone is infected with TB, even if they do not have an active case. If they are infected and are at high risk for developing an active case, health officials can give them preventive therapy to kill the TB bacteria before the disease becomes active.

People who have prolonged, frequent, or intense contact with a person with active and infectious TB—such as family members, roommates, and coworkers—are at highest risk of becoming infected. Casual contact with an infectious person—someone with active, untreated TB in the lungs—in a public place such as a movie theater or subway is unlikely to lead to infection, although the risk is not zero. The disease is not likely to be transmitted through personal belongings, such as clothing, bedding, or other items an infected person has touched. Once infected with TB, people with weakened immune systems, especially those infected with HIV, are at higher risk of developing active TB. In the United States, a culture test is generally used to determine whether someone has an active case of TB.<sup>2</sup>

When the TB bacteria become active, the disease can generally be cured with multidrug therapy administered for 6 to 9 months. People who have been treated with appropriate drugs for at least 2 to 3 weeks are usually not infectious. However, treatment regimens must be followed vigilantly. Failure to follow the regimen for the full course of treatment will cause the patient to remain sick, and the bacteria may become resistant to the drugs being taken. Patients may stop taking their anti-TB drugs because they may feel better after only 2 to 4 weeks of treatment or because these drugs often have unpleasant side effects. To help ensure completion of therapy, CDC

---

<sup>2</sup>Approximately 20 percent of active TB cases in the United States are diagnosed clinically using other confirmation criteria.

---

recommends the use of directly observed therapy, in which a health care worker or caseworker watches the patient swallow each dose of TB medication.<sup>3</sup>

---

## Multidrug-Resistant TB Infection and Treatment

A TB case is considered to be MDR-TB if the bacteria are resistant to the two primary drugs—isoniazid and rifampin—used to treat TB. While some cases of MDR-TB develop in patients who have had prior TB treatment, other cases occur in people who have not been treated for TB in the past. These individuals become infected with MDR-TB from contact with people who have active MDR-TB.

MDR-TB cases are more difficult and significantly more costly to treat than other TB cases. When a person has MDR-TB, the treatment takes 2 to 4 times longer, the medication has more severe side effects, and the cure rate decreases from nearly 100 percent for drug-susceptible TB to 60 percent or less. WHO reports that treatment for an MDR-TB case—which requires expensive medications for 18 to 24 months and may involve costly hospitalizations—is often more than 100 times more expensive than treatment for drug-susceptible TB. While no comprehensive studies have been conducted on the average cost to treat a single case of MDR-TB in the United States, one referral hospital reported that treatment of one MDR-TB patient can cost more than \$200,000.<sup>4</sup> This is significantly higher than the cost for treating and monitoring contacts of a patient with drug-susceptible TB, which the Institute of Medicine reported to be \$16,391.<sup>5</sup>

---

## Federally Supported TB Prevention and Control Activities

The United States currently has an extensive TB prevention and control program administered at the federal, state, and local levels. CDC and other researchers conduct clinical, epidemiological, behavioral, and operational research to enhance TB prevention and control efforts and conduct ongoing surveys to evaluate the effectiveness of prevention efforts. CDC

---

<sup>3</sup>WHO recommends directly observed treatment for at least the intensive phase of treatment, which is the first 2 months.

<sup>4</sup>MD Iseman, DL Cohn, and JA Sbarbaro, “Directly Observed Treatment of Tuberculosis—We Can’t Afford Not to Try It,” *New England Journal of Medicine*, Vol. 328, No. 8 (1993), pp. 576-78.

<sup>5</sup>Institute of Medicine, *Ending Neglect: The Elimination of Tuberculosis in the United States* (Washington, D.C.: National Academy Press, 2000), p. 73.



---

supports TB prevention and control efforts, including surveillance activities to collect and report data on TB cases to CDC, in all 50 states, the District of Columbia, and other U.S. jurisdictions. In response to the emergence of drug-resistant TB in the early 1990s, CDC expanded the TB surveillance system to include information on drug-resistant cases in 1993. In 1999, information on drug resistance was reported for about 9 of every 10 TB cases that had been confirmed with a positive culture.<sup>6</sup>

---

## Number of TB Cases Is Again Declining

TB reemerged as a public health concern in the late 1980s and early 1990s, when the number of new TB cases in the United States increased following 3 decades of steady decline.<sup>7</sup> Several factors, including the emergence of MDR-TB as a public health concern, contributed to this resurgence. In response, CDC funding for TB prevention and control activities increased appreciably in the 1990s. This funding increase has been associated with more-effective TB control and prevention programs and the subsequent decline in the number of new TB cases and TB case rate (number of new cases per 100,000 population).<sup>8</sup> Figure 1 shows CDC TB funding and the case rate for 1980-99.

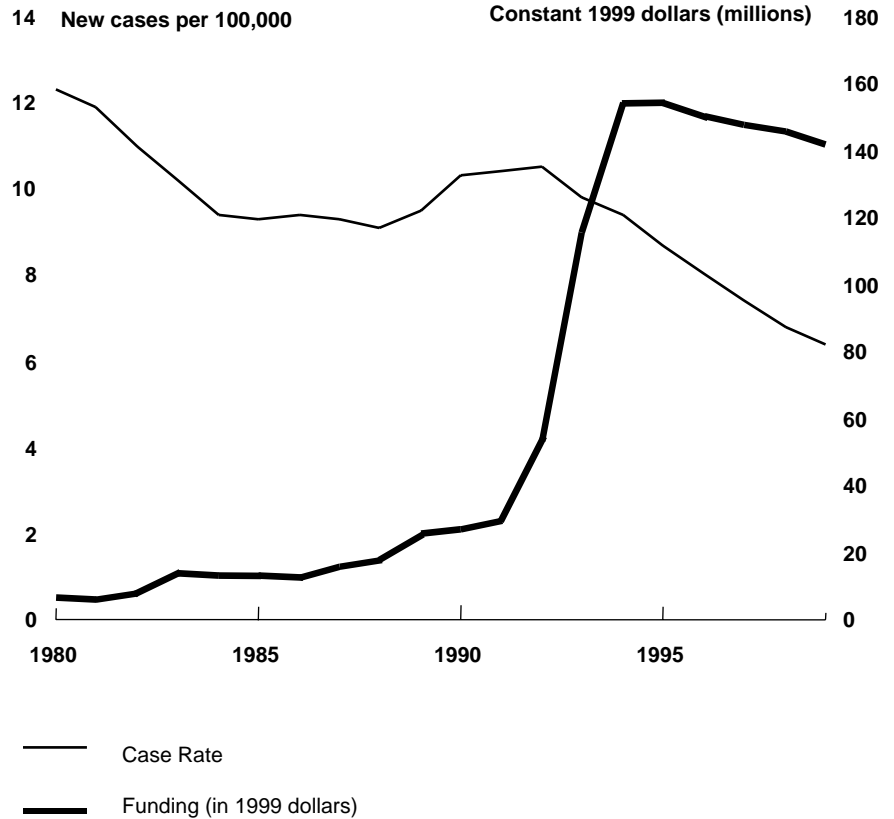
---

<sup>6</sup>Drug susceptibility testing is only performed for TB cases confirmed with a positive culture. In 1999, 13,997 of the 17,531 new cases of active TB were confirmed with a positive culture. Results of susceptibility testing for at least isoniazid and rifampin were reported for 12,854 of these confirmed cases.

<sup>7</sup>The numbers of cases and case rates in this report refer to new cases identified in the year in question. From 1953 to 1985 the number of TB cases reported annually in the United States dropped 74 percent—from 84,304 to 22,201.

<sup>8</sup>See CDC, "Tuberculosis Elimination Revisited: Obstacles, Opportunities and a Renewed Commitment—Advisory Council for the Elimination of Tuberculosis (ACET)," *Morbidity and Mortality Weekly Report*, Vol. 48, No. RR09 (Aug. 13, 1999), pp. 1-13; and American Lung Association, Epidemiology and Statistics Unit, *Trends in Tuberculosis Morbidity and Mortality* (New York: American Lung Association, 2000).

**Figure 1: CDC Funding for TB and Case Rate, United States, 1980-99**



Source: CDC data, including CDC HIV appropriations used for TB in HIV populations.

During the resurgence in TB cases, the number of new cases reported per 100,000 population peaked at 10.5 in 1992. Researchers and CDC officials have identified several factors associated with the resurgence in the late 1980s and early 1990s. These include the following:

- The HIV epidemic. Among people who are infected with TB, those who are also infected with HIV are more than 40 times more likely to develop active cases and become infectious than people not infected with HIV.
- Transmission in institutions. Transmission within institutions such as hospitals, correctional facilities, residential care facilities, and shelters for homeless populations was a major factor in the TB resurgence.
- Cutbacks in TB programs. Because TB was no longer perceived to be a threat and because of other budget priorities, funding for TB prevention

---

and control activities was relatively low at all levels of government before the resurgence, leading to cutbacks in many TB control programs. As a result, health departments reported that they did not have adequate resources to deal with all potentially noncompliant patients or to bring outbreaks under control.

- The emergence of MDR-TB. MDR-TB emerged in outbreaks in institutional settings such as hospitals where HIV-infected persons received care. Because drug-resistant cases were not recognized promptly, initiation of effective treatment was delayed, and the infectiousness of these cases was prolonged.

The resurgence of TB prompted increased CDC funding for TB prevention and control activities including monitoring the disease, improving laboratory capacity, expanding the use of health care workers to help ensure patients take their medication, and expediting investigations of close contacts of TB patients. CDC funding for TB prevention and control increased from about \$25 million in fiscal year 1991 to more than \$140 million each year since fiscal year 1994.<sup>9</sup> In many areas, TB screening and preventive therapy services directed toward high-risk groups, especially persons at risk for HIV infection and persons in correctional facilities, have expanded substantially. In fiscal year 1999, CDC funding for TB prevention and control activities totaled \$141.9 million and supported over 1,100 outreach workers.<sup>10</sup>

Most CDC funding for TB prevention and control activities is provided to states and localities.<sup>11</sup> In fiscal year 1999, CDC awarded \$124.5 million to 50 states, 10 localities, such as the District of Columbia and New York City, and 8 other jurisdictions, such as Puerto Rico.<sup>12</sup> In fiscal year 2000, the

---

<sup>9</sup>CDC funding is only part of the total funding devoted to TB control; comparable data on state and local TB funding are not available. Since 1988, a portion of CDC funding for TB was appropriated as HIV funds and used for TB activities in HIV populations.

<sup>10</sup>Of this total, \$22 million was appropriated as HIV funds and used for TB activities in HIV populations.

<sup>11</sup>CDC funds may be used for activities such as keeping clinics open longer hours; however, CDC does not permit funds to be used to procure pharmaceuticals to treat TB.

<sup>12</sup>In addition to the District of Columbia and New York City, other cities are Baltimore, Chicago, Detroit, Houston, Los Angeles, Philadelphia, San Diego, and San Francisco. In addition to Puerto Rico, jurisdictions are American Samoa, Guam, Marshall Islands, Micronesia, the Commonwealth of the Northern Mariana Islands, Republic of Palau, and the U.S. Virgin Islands.

---

funding mechanisms—cooperative agreements between the federal government and state or local governments—included funding for core activities and separate targeted testing and treatment of patients in high-risk groups with inactive TB infection. Core activities include the direct observation of patients taking their medication to better ensure completion of therapy, contact investigations, surveillance and reporting of all newly diagnosed cases of TB, and laboratory activities.

Since the substantial increase in CDC funding for TB prevention and control activities, the TB case rate and number of newly reported TB cases have decreased. In 1999 the TB case rate was 6.4 new cases per 100,000 population—a nearly 40 percent decline from the peak of 10.5 new cases per 100,000 population in 1992. Also during the same period, the total number of new cases reported each year decreased by about one-third—from 26,673 in 1992 to 17,531 in 1999.<sup>13</sup>

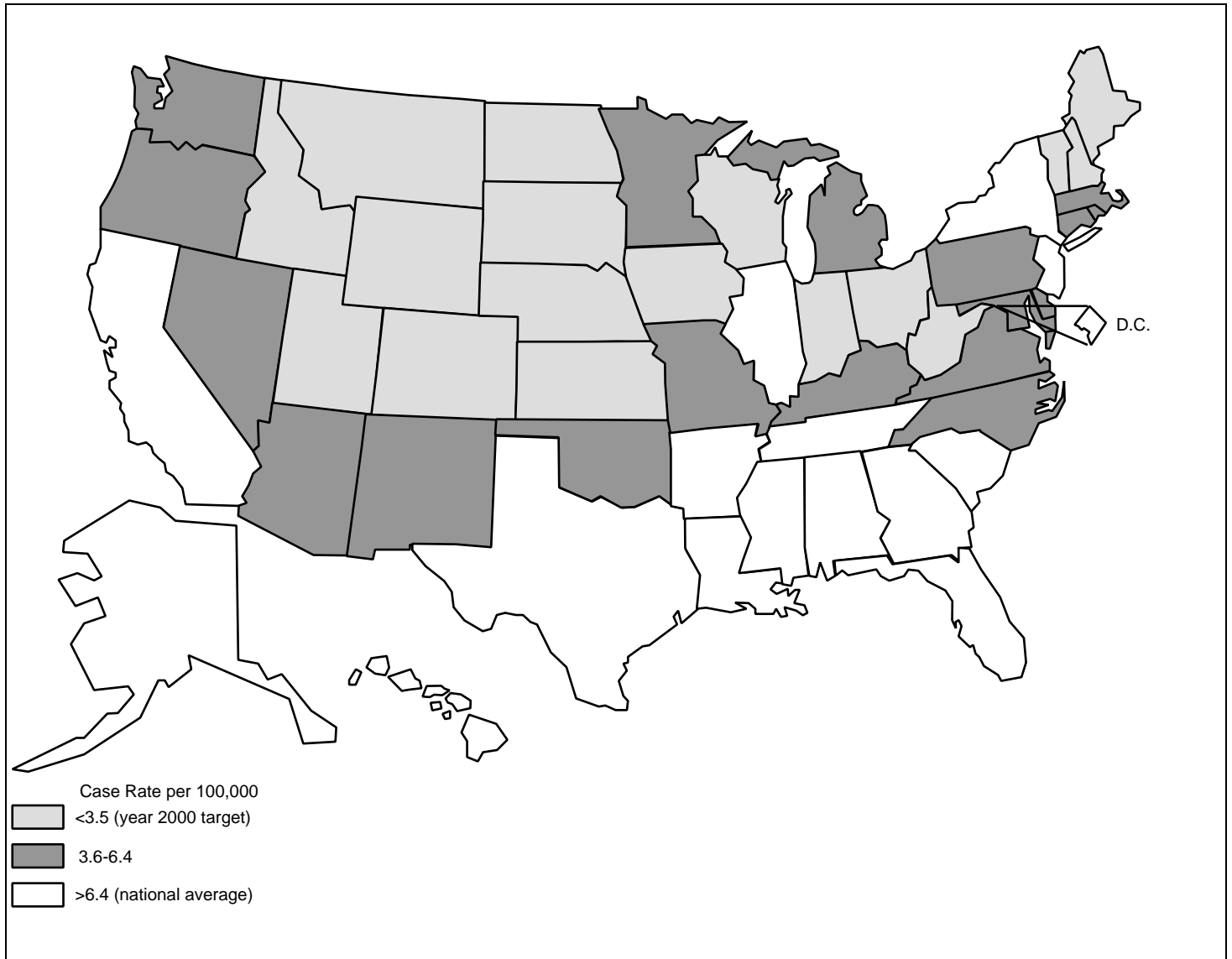
Despite the decline the national TB case rate in 1999 was higher than targets set by HHS. The HHS Healthy People 2000 initiative set a target of 3.5 cases per 100,000 population for 2000. Seventeen states had case rates at or below this target in 1999 (see fig. 2). For 2010, HHS set an even more ambitious target of 1 case per 100,000 population in its Healthy People 2010 initiative.<sup>14</sup>

---

<sup>13</sup>Cases reported from all 50 states and the District of Columbia.

<sup>14</sup>Department of Health and Human Services, “Immunization and Infectious Diseases,” *Healthy People 2010*, Conference Edition, data as of Nov. 30, 1999.

Figure 2: TB Case Rates, 1999



## MDR-TB Cases Are Declining

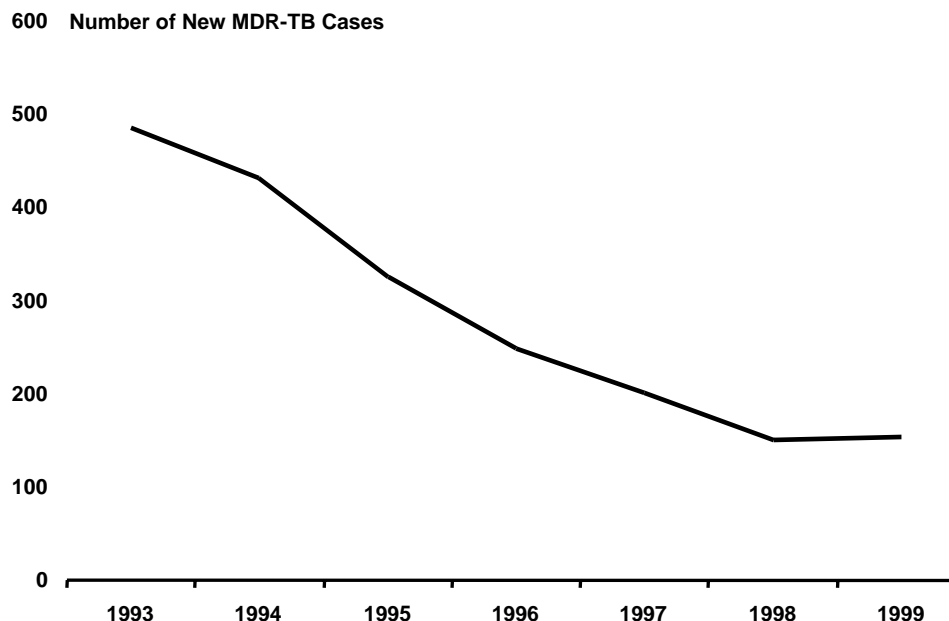
Similar to the trend for all TB cases, the number of new MDR-TB cases in the United States has also declined since 1993, the first year CDC collected comprehensive data on them. According to CDC officials, improvements in the TB infrastructure, infection control procedures in institutions, and

---

rapid laboratory techniques for identifying MDR-TB have contributed to the success in controlling MDR-TB. Between 1993 and 1999, the percentage of new TB cases that were MDR-TB declined from 2.7 percent in 1993 to 1.2 percent in 1999.<sup>15</sup> At the same time, the number of new MDR-TB cases in the United States dropped nearly 70 percent—from nearly 500 to 154 cases (see fig. 3).

---

**Figure 3: New MDR-TB Cases, United States, 1993-99**



The steady decrease in new MDR-TB cases was influenced by a substantial decrease of the disease in New York City—the percentage of new TB cases in New York City that were MDR-TB decreased from 9.1 percent in 1993 to 3.3 percent in 1999. At the same time, the percentage of new TB cases that were MDR-TB in areas outside of New York City also decreased, from 1.7 percent to 1 percent (see fig. 4).

---

<sup>15</sup>Percentages of new TB cases that were MDR-TB are based on cases with initial drug susceptibility testing performed.

**Figure 4: New MDR-TB Cases, New York City and Other U.S. Areas**



<sup>a</sup>Other U.S. Areas includes the 50 states and the District of Columbia, excluding New York City.

Although the number of new MDR-TB cases has declined, these cases have been reported across the country. When CDC conducted a special survey on MDR-TB for the first quarter of 1991, only 13 states and New York City reported MDR-TB cases. Since then, MDR-TB has been reported in additional states—45 states and the District of Columbia reported at least one new case of MDR-TB between 1993 and 1999.<sup>16</sup>

<sup>16</sup>App. I shows the number of TB cases and MDR-TB cases reported in 1999.

---

---

## Progress Toward Reducing TB in the United States Is Linked to Global TB Control Efforts

Foreign-born persons make up an increasing proportion of TB and MDR-TB cases in the United States. Research indicates that most foreign-born TB patients in the United States were probably infected before they arrived.<sup>17</sup> Therefore, trends in the number of reported new TB cases in the United States that involve foreign-born individuals provide some insight on how the effectiveness of TB control efforts is linked internationally. One of every 10 people in the U.S. population is foreign-born, but foreign-born individuals accounted for more than 4 of every 10 new TB cases and 7 of every 10 new MDR-TB cases in the United States in 1999.<sup>18</sup>

The number of cases per year involving foreign-born persons has remained relatively stable since 1993, despite the decline in the overall numbers of new TB and MDR-TB cases in the United States. As a result, the proportion of cases involving foreign-born persons has increased, particularly for MDR-TB cases (see fig. 5).

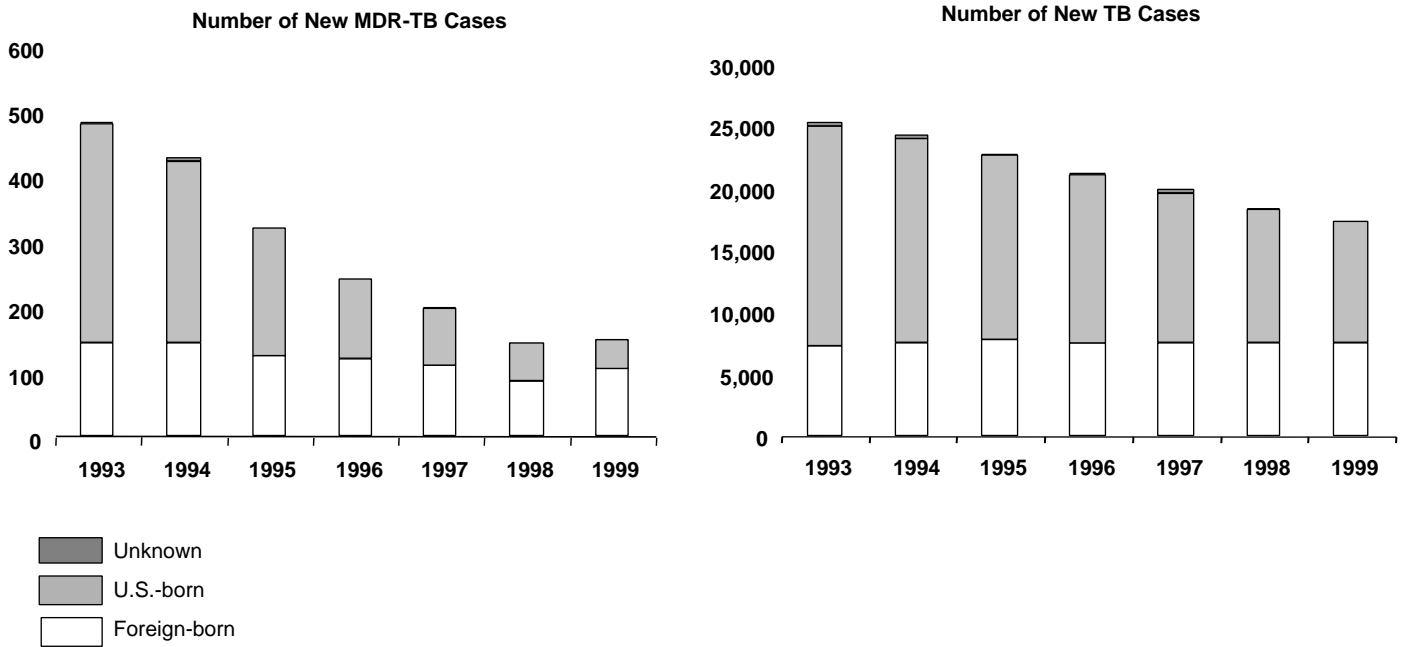
---

<sup>17</sup>See PLF Zuber, MT McKenna, NJ Binkin, IM Onorato, and KG Castro, "Long-Term Risk of Tuberculosis Among Foreign-Born Persons in the United States," *Journal of the American Medical Association*, Vol. 278 (1997), pp. 304-7. In addition, a CDC Working Group reported that although some transmission is probably occurring in the United States, most TB cases among foreign-born persons are likely the result of remotely acquired infection. See CDC, "Recommendations for Prevention and Control of Tuberculosis Among Foreign-Born Persons: Report of the Working Group on Tuberculosis Among Foreign-Born Persons," *Morbidity and Mortality Weekly Report*, Vol. 47, No. RR16 (1998), pp. 1-26.

<sup>18</sup>In 1999, 26.4 million foreign-born people resided in the United States, representing 9.7 percent of the total U.S. population. See U.S. Census Bureau, *The Foreign-Born Population in the United States: Population Characteristics, March 1999* (Washington, D.C.: U.S. Department of Commerce, Economics and Statistics Administration, U.S. Census Bureau, 1999), p. 1. In developing statistics on foreign-born TB and MDR-TB cases, CDC asks states and localities to report on those cases receiving anti-TB therapy in the United States for at least 90 days. See CDC, "Recommendations for Counting Reported Tuberculosis Cases" (revised July 1997), *Reported Tuberculosis in the United States, 1999* (Atlanta, Ga.: CDC), <http://www.cdc.gov/nchstp/tb/surv/surv99/surv99pdf/recom99.pdf> (cited August 2000).

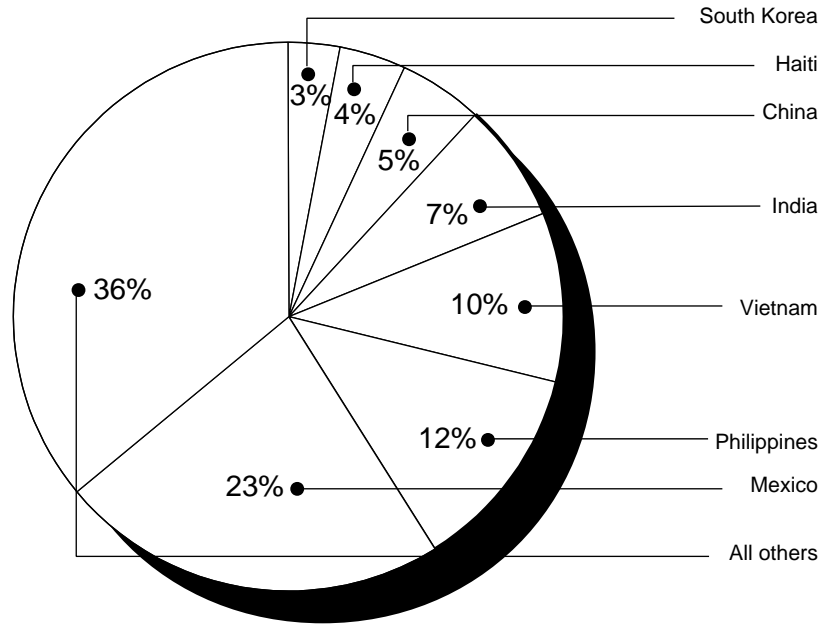


Figure 5: Number of New MDR-TB and TB Cases, 1993-99



About two-thirds of the new foreign-born TB and MDR-TB cases in 1999 were from seven countries: China, Haiti, India, South Korea, Mexico, the Philippines, and Vietnam. Figure 6 shows the distribution of new foreign-born TB cases, which also generally approximates the distribution of new foreign-born MDR-TB cases.

**Figure 6: Country of Origin for New Foreign-Born TB Cases, 1999**



Note: Total = 7,553 foreign-born TB cases.

All seven countries have TB rates that are significantly higher than those in the United States, according to data published by WHO. For example, WHO estimates that India, the Philippines, and Vietnam had TB case rates that were more than 25 times the U.S. rate in 1998, the most recent year for which data are available. Similarly, based on available data for selected locations in four of the seven countries—China, India, Korea, and Mexico—WHO estimated that the proportion of TB cases that are MDR-TB in those locations is significantly higher than in the United States.<sup>19</sup>

While immigrants and certain other individuals seeking entry into the United States are required to be screened for TB, this process cannot be

<sup>19</sup>Based on available data for 1996-99, WHO estimated the percentage of MDR-TB among new TB cases in these countries ranged from 2.2 percent in Korea to 10.8 percent in the Henan Province of China. In the United States, 1.2 percent of new TB cases were MDR-TB. See WHO/International Union Against Tuberculosis and Lung Disease (IUATLD), *Anti-tuberculosis Drug Resistance in the World*, Report No. 2 (Advance Printing) (WHO/IUATLD Global Project on Anti-tuberculosis Drug Resistance Surveillance, 2000), p. 95.

---

expected to fully protect against the spread of TB for two key reasons.<sup>20</sup> First, the process mainly identifies immigrants with active TB cases at the time they apply for permanent residence, but active cases might not develop until several years after infection. Second, the current screening process misses millions of people, including tourists, students, and workers who are in the United States temporarily and illegal immigrants.

Given these limitations, progress toward HHS' goals to reduce TB in the United States will depend in part on TB control efforts in other countries. Recognizing the effect of global TB on U.S. TB control efforts, the United States is involved in various efforts to prevent and control TB in other countries. Some of these efforts are aimed at providing grants for better TB surveillance, providing technical support for developing and testing new interventions, and funding CDC and WHO efforts to implement TB prevention and control programs. The United States is involved in various TB programs and initiatives undertaken by the U.S. Agency for International Development (USAID), WHO, the World Bank, and nongovernmental organizations in countries that have high rates of TB, such as India, the Philippines, and Russia. In addition, Congress passed the Global AIDS and Tuberculosis Relief Act of 2000 (P.L. 106-264). Signed into law on August 19, 2000, the act authorizes \$60 million for USAID for each of fiscal years 2001 and 2002 for foreign assistance for tuberculosis prevention, treatment, control, and elimination activities.

---

## Conclusions

While the number of TB cases, including MDR-TB cases, in the United States has steadily declined since 1992, continued vigilance is needed to further reduce TB and MDR-TB in the United States. A relaxation of TB control efforts has been associated with the disease's resurgence in the late 1980s and early 1990s. Further, CDC and WHO data suggest that the presence of TB as a major public health problem in other countries has likely been a key contributor to the number of new TB and MDR-TB cases identified each year in the United States. Given the growing proportion of TB cases involving foreign-born persons, control of TB in other countries will become increasingly important to meeting HHS' goals for reducing TB in the United States.

---

<sup>20</sup>Part 34 of Title 42 of the *Code of Federal Regulations* requires, among other things, that immigrants and certain other individuals seeking entry into the United States, as part of their application, receive a medical examination, which may include a chest x-ray and a test for active TB.

---

---

## Agency Comments

In commenting on this report, CDC generally concurred with our findings. It stated that the need for the United States to combat tuberculosis internationally through financial and technical assistance measures is burgeoning, and that it is developing strategic actions involving both domestic and international agendas to eliminate tuberculosis in the United States.

CDC also provided technical comments, which we incorporated where appropriate. CDC's comments are included as appendix II.

---

As agreed with your offices, unless you publicly announce its contents earlier, we plan no further distribution of this letter for 30 days. At that time, we will send copies to the Honorable Donna E. Shalala, Secretary of HHS; the Honorable Jeffrey P. Koplan, Director of CDC; and other interested parties. We will also make copies available to others on request.

The information in this letter was developed by Frank Pasquier, Dominic Nadarski, Kim Yamane, and Stan Stenersen. Please contact me at (202) 512-7119 or Frank Pasquier at (206) 287-4861 if you or your staffs have any questions.



Janet Heinrich  
Director, Health Care—Public Health Issues

---

---

# State TB and MDR-TB Cases and Case Rate, 1999

	MDR-TB cases	All TB <sup>a</sup>	
		Cases	Cases per 100,000 population
<b>United States<sup>b</sup></b>	<b>154</b>	<b>17,531</b>	<b>6.4</b>
Alabama	0	314	7.2
Alaska	0	61	9.9
Arizona	2	262	5.5
Arkansas	0	181	7.1
California	33	3,606	10.9
Colorado	0	88	2.2
Connecticut	2	121	3.7
Delaware	0	34	4.5
District of Columbia	1	70	13.5
Florida	12	1,277	8.5
Georgia	4	665	8.5
Hawaii	2	184	15.5
Idaho	<sup>c</sup>	16	1.3
Illinois	9	825	6.8
Indiana	1	150	2.5
Iowa	1	58	2.0
Kansas	0	69	2.6
Kentucky	2	209	5.3
Louisiana	0	357	8.2
Maine	0	23	1.8
Maryland	3	294	5.7
Massachusetts	0	270	4.4
Michigan	7	351	3.6
Minnesota	4	201	4.2
Mississippi	0	215	7.8
Missouri	2	208	3.8
Montana	0	14	1.6
Nebraska	0	18	1.1
Nevada	0	93	5.1
New Hampshire	0	19	1.6
New Jersey	6	571	7.0
New Mexico	0	64	3.7

**Appendix I**  
**State TB and MDR-TB Cases and Case Rate,**  
**1999**

Continued from Previous Page

	MDR-TB cases	All TB <sup>a</sup>	
		Cases	Cases per 100,000 population
New York	35 <sup>d</sup>	1,837	10.1
North Carolina	3	488	6.4
North Dakota	<sup>c</sup>	7	1.1
Ohio	2	317	2.8
Oklahoma	0	208	6.2
Oregon	0	123	3.7
Pennsylvania	4	454	3.8
Rhode Island	1	53	5.3
South Carolina	0	315	8.1
South Dakota	0	21	2.9
Tennessee	0	382	7.0
Texas	10	1,649	8.2
Utah	0	40	1.9
Vermont	0	3	0.5
Virginia	4	334	4.9
Washington	2	258	4.5
West Virginia	0	41	2.3
Wisconsin	2	110	2.1
Wyoming	0	3	0.6
<b>Other U.S. jurisdictions</b>			
American Samoa	<sup>c</sup>	4	6.3
Federated States of Micronesia	<sup>c</sup>	<sup>c</sup>	<sup>c</sup>
Guam	0	69	45.4
Northern Mariana Islands	0	66	95.4
Puerto Rico	1	200	5.1
Republic of Palau	2	11	59.7
U.S. Virgin Islands	<sup>c</sup>	<sup>c</sup>	<sup>c</sup>

<sup>a</sup>Includes MDR-TB cases.

<sup>b</sup>Figures for the United States are based on data from 50 states and the District of Columbia.

<sup>c</sup>Data not available.

<sup>d</sup>Thirty-four of the 35 MDR-TB cases in New York were reported from New York City.

Source: CDC, *Reported Tuberculosis in the United States, 1999* (Atlanta, Ga.: CDC, August 2000).

# Comments From CDC



DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Centers for Disease Control  
and Prevention (CDC)  
Atlanta GA 30333

OCT 19 2000

Janet Heinrich  
Director, Health Care–Public Health Issues  
U.S. General Accounting Office  
441 G Street  
Washington, D.C. 20548

Dear Ms. Heinrich:

The Centers for Disease Control and Prevention (CDC) appreciates the opportunity to comment on the GAO draft report entitled, “Public Health: Trends in Tuberculosis in the United States” (GAO/01-82).

In general, CDC concurs with the contents of this report. The need for the United States to combat tuberculosis internationally through financial and technical assistance measures is burgeoning. Technical assistance provided to foreign countries by CDC is frequently supported by the domestic tuberculosis budget. Ideally, domestic tuberculosis activities should not be compromised to meet increasing international needs. Both international and domestic activities can be balanced with an increased CDC TB appropriation that addresses both needs. CDC is currently developing strategic actions that will address the specific recommendations of the Institute of Medicine (IOM) report. These actions will include CDC’s domestic and international agendas to eliminate tuberculosis in the United States.

The CDC provided technical comments earlier. If you have any questions regarding this correspondence or the technical comments, please have your staff contact me, or Joe Davis at (404) 639-0440.

Sincerely,

A handwritten signature in cursive script that reads "Carolyn Russell".

Carolyn Russell  
Director, Management Analysis  
and Services Office



---

---

## Ordering Information

The first copy of each GAO report is free. Additional copies of reports are \$2 each. A check or money order should be made out to the Superintendent of Documents. VISA and MasterCard credit cards are accepted, also.

Orders for 100 or more copies to be mailed to a single address are discounted 25 percent.

***Orders by mail:***

U.S. General Accounting Office  
P.O. Box 37050  
Washington, DC 20013

***Orders by visiting:***

Room 1100  
700 4th St. NW (corner of 4th and G Sts. NW)  
U.S. General Accounting Office  
Washington, DC

***Orders by phone:***

(202) 512-6000  
fax: (202) 512-6061  
TDD (202) 512-2537

Each day, GAO issues a list of newly available reports and testimony. To receive facsimile copies of the daily list or any list from the past 30 days, please call (202) 512-6000 using a touchtone phone. A recorded menu will provide information on how to obtain these lists.

***Orders by Internet:***

For information on how to access GAO reports on the Internet, send an e-mail message with "info" in the body to:

[info@www.gao.gov](mailto:info@www.gao.gov)

or visit GAO's World Wide Web home page at:

<http://www.gao.gov>

---

## To Report Fraud, Waste, or Abuse in Federal Programs

***Contact one:***

- Web site: <http://www.gao.gov/fraudnet/fraudnet.htm>
- e-mail: [fraudnet@gao.gov](mailto:fraudnet@gao.gov)
- 1-800-424-5454 (automated answering system)





---

**United States  
General Accounting Office  
Washington, D.C. 20548-0001**

**Official Business  
Penalty for Private Use \$300**

**Address Correction Requested**

---

<p><b>Bulk Rate Postage &amp; Fees Paid GAO Permit No. GI00</b></p>
---

