

TESTIMONY

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*Protecting Americans from the Rising Threat of Drug
Resistant Tuberculosis*

before the

**U. S. Senate Health, Education, Labor and Pensions
Committee**

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Good morning Senator Brown, Senator Enzi, and Members of the Committee. I am Dr. Tom Frieden, Health Commissioner for New York City. Thank you for this opportunity to discuss the important issue of TB control, a problem on which I have spent much of my career.

When I ran the New York City TB control program, I spent mornings in our clinics caring for TB patients. For nearly two years in the mid-1990s, I cared for a man from India with extensively drug-resistant (XDR)-TB. He nearly died. But with intensive treatment, surgery, and experimental medicines, he was cured. The cost was well over \$100,000. Several years later, I helped start a Directly Observed Treatment Shortcourse (DOTS) program in his home town in India, along with programs that now cover all of India. The cost to prevent a case of drug-resistant TB there: about \$10.

As a Centers for Disease Control and Prevention (CDC) employee detailed to New York City in the 1990s, I documented and helped stop both hospital and community spread of multidrug-resistant TB (MDR-TB). Cases had nearly tripled in a decade, and 1 in 5 patients had MDR-TB. The attached chart (Attachment 1) illustrates the decline of new TB and MDR-TB cases as the DOTS strategy was implemented in the City. After TB declined rapidly in New York City as a result of our efforts, I spent five years in India on loan from the CDC to work with the World Health Organization helping India develop what is now one of the world's most effective TB control programs. India has now treated nearly 8 million patients and saved more than a million lives.

Tuberculosis remains a serious disease that will be with us for a long time. It is an indictment of all of us that more than 1.5 million people will die this year from a disease that is nearly 100% curable. TB is not just a New York City problem, or a national problem, but a global problem that can only be solved with a global approach. TB reminds us that we all live in the same world community and we are all connected by the air we breathe. Until tuberculosis is controlled worldwide, it will continue to cause avoidable suffering and death in developing countries and will be a continuing threat in developed countries.

The greatest enemy to TB control is complacency. Fighting TB is hard work that doesn't end. Our biggest need is persistence and energy, not only on the part of patients and our programs, but also policy-makers. This is a winnable battle. We need sustained national and global political commitment to fight TB. The three critical issues for the future of tuberculosis control are sustained funding, technical rigor, and good management

MDR- and XDR- TB are the result of failure to implement effective TB control programs – programs that cost a small fraction of the medical care and treatment costs for patients with MDR or XDR-TB. No program can treat MDR/XDR TB faster than a bad program can create it, no matter how many resources are available. Protecting the US from drug-resistant tuberculosis means developing and ensuring effective and continued implementation of both domestic and international TB control programs.

As the overall caseload has fallen dramatically in New York City, non-US born patients now are more than 70% cases, compared to only 18% in 1992; nationally, as you have heard, the proportion is only slightly lower, and is growing. And increasingly, TB cases are found in the

workplace and among business travelers, Wall Street executives, sales personnel, teachers, lawyers, and others.

The story of the fall and rise and fall of TB in the US provides valuable lessons for how to control a serious communicable disease – and how not to. Just as patients with tuberculosis are tempted to stop medicines when the symptoms are gone, so also governments are tempted to neglect tuberculosis control programs when TB is no longer in the headlines. But doing so will lead, both in the individual and in the governmental case, to interruption of treatment, development and spread of drug-resistant TB, and death.

When TB is in the headlines, resources increase. Once those resources succeed in reducing the disease, we neglect the modest investment that needs to be maintained to prevent future epidemics – epidemics that will cost lives and money. Rates go up, funding goes up; rates come down, funding comes down. The attached chart shows that CDC's tuberculosis control funding has declined steadily, in real dollars, over the past 15 years. New York City's funding has declined even faster

The TB and drug-resistant TB epidemic that began in the 1980s in New York City was in large part a result of the funding cuts to TB programs in the previous decade, further fueled by the rise in HIV/AIDS in the City. The TB epidemic ultimately cost the City's medical care system \$1 billion. Today, New York City again faces federal funding cuts that threaten to undermine the public health infrastructure that can maintain this success. In 2007, the City's CDC grant of about \$13.8 million is less than *half* its 1996 funding level of almost \$30 million, and, after adjustment for inflation, is worth less than *one third* of that year's support. (Attachment 2) Although we successfully contained the epidemic, we still have far to go. The Healthy People 2010 objective for tuberculosis is less than 1 case per 100,000 people; New York City had 12 cases per 100,000 people in 2006.

New York City's success in controlling tuberculosis would not have been possible without the financial support from the federal, state and local governments, and without the partnership with the CDC. Through a cooperative agreement with CDC, we not only received essential financial support but also important technical expertise. I would add that the cooperative agreement approach is a successful model, and I hope that Congress will expand its implementation to areas such as diabetes prevention and control, colon cancer prevention, tobacco control, and heart disease prevention, which are now the leading killers in this country.

The key to the NYC TB program's success was using policies that had been rigorously proven to work, strong program management, and a focus on supporting the front lines – patients, laboratory workers, TB control and other health staff, and program managers. Support from public officials, hospital staff, and the academic community was also important

Diagnosis: Rapid diagnosis of infectious tuberculosis by simple sputum smear for acid-fast bacilli remains an important tool, and more rapid molecular techniques hold promise. New techniques for diagnosing latent infection may be useful, but they are expensive: in New York City we have not applied these tests widely solely because we do not have sufficient funds. Globally, we need to greatly improve basic laboratory capacity, as part of a general health

systems strengthening approach. It is key to start with simple smears, which diagnose the most seriously ill and infectious patients, and proceed to cultures, which are important to diagnose some patients, especially children and HIV-infected people, and then on to high-quality drug-susceptibility testing. While new tools are needed, it is unethical not to ensure effective use of existing tools – which are highly accurate, relatively inexpensive, but unavailable in most of the world.

Treatment: Treatment can cure more than 95% of patients; direct observation of treatment, a component of the recommended five-element DOTS strategy, is the standard of care. In the US and globally, we need to strengthen our health care system, including TB care systems such as chest clinics. This means investing in education and training to improve the quality of laboratory and primary care services, building state and local public health laboratory capacity, and assuring that all drug-resistant patient isolates are tested for second-line drug susceptibility and isolates genotyped to identify outbreak patterns. We need new drugs, but we also need to ensure effective use of existing drugs worldwide. One of the highest priorities for global TB programs is an adequate supply of high quality drugs, as well as trained personnel to ensure an effective DOTS strategy. Hence I urge you to support the Global Anti-Tuberculosis Drug Facility with at least an annual allocation of \$15 million and to provide funding for expanded technical assistance for TB control, as outlined in the “Stop TB Now Act” (S. 968/H.R. 1567.)

Monitoring: Systematic monitoring of case detection and treatment outcomes is essential to effective service delivery. The proportion of patients diagnosed and treated effectively has increased greatly over the past decade but is still far short of global targets. New York City’s program had a system of accountability that enabled us to tell policy makers the number of people we could – and did – cure for the dollars provided. Effective TB control includes a standardized reporting system which documents the outcomes of every patient and which is a model for effective care management.

Good TB control is basically good management. That means supporting well-trained personnel for direct service and supervision, from those who provide or supervise DOT to lab technicians, to national program managers. Programs must have the ability to hire staff, purchase supplies, and contract for services efficiently without unnecessary administrative constraints.

Strengthen Health Systems: We need to build and maintain a strong health care and public health infrastructure in order to implement good tuberculosis control. The global HIV epidemic has created increasing challenges for TB control, especially in sub-Saharan Africa. HIV exposes any weaknesses in TB control programs. We don’t currently have the tools to control the epidemic of TB in high-HIV prevalence regions of sub-Saharan Africa, but we can prevent deaths and drug resistance by ensuring prompt and accurate diagnosis and treatment, including use of directly observed therapy. DOTS can prolong lives, prevent drug resistance, and blunt the increase in cases.

Research: Efforts to develop more effective tuberculosis vaccines are underway, and deserve support. But even if a vaccine is identified, more effective treatment systems are likely to be required for decades. Other modes of tuberculosis control, such as treatment of latent

infection, have a potentially important role in some contexts, such as infectious TB patients and patients co-infected with HIV. And we must face the tragic fact that at present we cannot control tuberculosis in sub-Saharan Africa with current technologies. We must explore ways to make improved care and control possible and prevent the spread of TB in hospitals.

The current funding level for CDC's domestic TB activities is inadequate and represents a 27% decrease over the past decade when adjusted for inflation. Substantial increases in funding are needed to strengthen state and local TB control programs. I urge you to enact and fully fund S. 1551/H.R.1532, the Comprehensive TB Elimination Act, which would provide essential support to domestic TB control efforts and for needed research for new diagnostic tools, drugs, and vaccines.

Importantly, there is an urgent need for substantially increased support of global TB control programs. I also urge the enactment and full funding of the Stop TB Now Act, S. 968/H.R. 1567. Preventing TB and drug-resistant TB abroad will not only save millions of lives, but it is the **only** effective way to protect this country from the disease.

Thank you for your support for tuberculosis control and for the opportunity to comment.

Attachments (2)

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