Tuberculosis:

STILL A PUBLIC HEALTH THREAT!

By Kathleen Moser, MD, MPH

World TB Day is March 24th. It is a day to observe that tuberculosis remains one of the world's leading infectious killers. Tuberculosis (TB), acquired immunodeficiency syndrome (AIDS), and malaria are the top three causes of infectious deaths among adults worldwide. The World Health Organization reports that the level of drug-resistant TB is increasing in most parts of the world (1).

Yet, as TB rages in most of the world, the number of cases in the United States is at an all-time low (14,517) — complacency may be setting in just as we are reaching a critical moment in domestic efforts to eliminate TB (2). Lee Reichman, MD, from the National TB Center in New Jersey, made famous the U-shaped curve of concern. As the rates of a disease decline, concern declines, and funds for the disease are allocated elsewhere, allowing the disease to rebound. This happened before in the fight against TB, resulting in a national epidemic in the early '90s in which the number of cases rose 20 percent in seven years (2). Over $100 million in new annual funding was needed to reverse the TB resurgence (3).

Federal funding for TB programs and TB research has now been level for several years. Federal rescissions actually reduced TB program funding throughout California in 2005, and larger rescissions are expected before the end of 2006. The Division of TB Elimination at the Centers for Disease Control and Prevention (CDC) is currently identifying areas for funding reductions and must choose among research, education, and assistance to local TB programs. All three may be affected.

In the last 15 years, San Diego has been able to improve TB surveillance, create linkages with physicians, build a strong directly observed therapy program, provide housing for homeless TB patients, work with community organizations, and collaborate with Mexican partners. The number of cases in San Diego has decreased 35 percent since 1993 (469 to 305), yet the rate of decline has slowed in recent years (4). The local public health system must continue the successful strategies that it has relied upon, yet should also move more aggressively into prevention, earlier case finding, regional projects with Baja California, and education for high-risk groups and providers serving them. Compared to all areas funded by the CDC, San Diego County already receives less than the median in dollars per case and new rounds of cuts may set our region further behind.

Recent research has started to bring innovation in TB diagnosis and treatment. The QuantiFERON® blood test to detect TB infection was recently approved by the U.S. Food and Drug Administration (5). This test represents the first step forward in the diagnosis of TB infection in 50 years. Yet, TB programs across the nation are struggling to operationalize this test due to the funding squeeze. The CDC's TB Clinical Trials Consortium is a multi-national research effort (University of California, San Diego is a consortium member) to identify better treatment regimens for TB, including a 12-dose treatment course for TB infection (12 doses of isoniazid/rifapentene vs. 9 months of isoniazid) and the use of moxifloxacin in the treatment of active disease. In 2005, human trials were started for five new anti-TB drugs that have shown promise in animal models. These drugs appear to have the ability to shorten treatment to under four months and are highly active when given intermittently. Yet, funding reductions are poised to restrict research efforts.

The crisis in domestic funding comes at a moment when the International Stop TB Partnership is urging the tripling of global investment in TB control. The executive membership includes Bill Gates, who urged funding for international programs to implement the Global Plan to StopTB (2006–2015). The plan's goal is to improve access to TB programs worldwide and continue research on new tools to fight TB disease, including vaccine development. Because over 70 percent of San Diego's TB cases are among persons born outside the United States, improvements in global TB control are essential for our region (4). Yet, long-term global initiatives will be insufficient to control TB at home in the short term.

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It is easy to forget that TB is a worldwide killer and that it is among the most successful organisms ever encountered. It is easy to forget that the number of cases in San Diego rose over 200 percent between 1989 and 1993, less than 20 years ago (4). Time and again, the TB bacillus has been successful exploiting the inattention of its human hosts. World TB Day is a moment to pause and consider our choices.

References:

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4. County of San Diego Health and Human Services Agency, TB Control Branch.
5. Centers for Disease Control and Prevention. Guidelines for using the QuantiFERON® — TB Gold test for detecting Mycobacterium tuberculosis infection, United States. MMWR 2005; 54(No. RR-15) (Accessed March 1, 2006 at www.cdc.gov/mmwr/pdf/rr/rr5415.pdf).

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San Diego County Health Stats: Tuberculosis

- San Diego County reported 305 cases of active TB in 2005. Persons born outside the United States comprised 71% (218 of 305) of the reported cases. The most frequent countries of birth were Mexico (106 cases), the Philippines (55 cases), and Viet Nam (18 cases) (1).
- Of the 305 cases reported in San Diego County, TB drug susceptibility information was obtained on 249 (82%) of them. Resistance to at least one of the four major first-line drugs was found among 21% (53) of these specimens. Multidrug-resistant strains were found in 1% (3) of the cases (1).

March 24, 2006 is World Tuberculosis Day. For more information, go to The Stop TB Partnership website at www.stoptb.org. To request additional health statistics describing health behaviors, diseases, and injuries for specific populations, health trends and comparisons to national targets, please call the County's Community Health Statistics Unit at (619) 285-6479. To access the latest data and data links, including the 2004 Core Public Health Indicator document, go to www.sdhealthstatistics.com.

References: ■ 1. County of San Diego Tuberculosis Control Program, 2005.