



# CDC Southeast Asia Regional Office Annual Report FY 2008



# TB PROGRAM



*The TB Program helps improve diagnosis, treatment, and program management of TB.*

## Background

The TB program has worked with MOPH since 2003 to develop initiatives and research that lead to effective TB control policies. TB Program staff also provide technical assistance to other countries in the region, including Cambodia, Laos, and Vietnam, and to WHO regional offices in New Delhi and Manila. Among the strategies used to reduce the burden of TB in Thailand and Southeast Asia are developing models, measuring incidence and mortality, and promoting best practices. The program also collaborates with multilateral, national, and NGO partners on human capacity development.

In 2004, the TB Program began working with MOPH, the Bangkok Metropolitan Administration (BMA), the Research Institute of Tuberculosis (Japan), and provincial partners to develop the Thailand TB Active Surveillance Network. The network is a demonstration project being conducted in five provinces and one national referral hospital. It seeks to evaluate strategies for improving diagnosis, treatment, and program management of TB, TB/HIV and multidrug-resistant (MDR)-TB. Core activities include active surveillance; monitoring and evaluation of TB cases in public and private healthcare facilities; electronic recording and reporting; HIV counseling and testing of TB patients and

TB screening of HIV patients; and rapid culture and susceptibility testing at the province level. Many of the activities included in this project are recommended in WHO's Second Global Plan to Stop TB. The Active Surveillance Network has demonstrated that implementing the Second Global Plan to Stop TB in Thailand would increase TB case finding, MDR-TB diagnosis, linkage of HIV patients to HIV care and treatment, and collaboration with private sector TB providers.

### Major Partners

In Thailand, TB activities are planned in close collaboration with Royal Thai Government partners, including MOPH, BMA, and provincial public health offices. In some provinces, activities are coordinated with nongovernmental partners, including the Thai Red Cross, Médecins Sans Frontières, World Vision Foundation of Thailand, American Refugee Committee, and the International Organization for Migration.

In the region, TB Program staff work closely with national TB and HIV programs, nongovernmental organizations, and intergovernmental organizations, such as WHO.

Because TB is a priority area for the U.S. President's Emergency Plan for AIDS Relief (PEPFAR), the program's Thailand and regional activities are both coordinated with CDC's Global AIDS Program, USAID, and other U.S. government partners. The program's primary sources of funding are USAID and PEPFAR. Funds from these sources come directly to the TB program (see budget in box); additional funds are also overseen by the TB program, but are not counted in the budget because they are programmed directly through PEPFAR.

### Recent Accomplishments

A major component of the Active Surveillance Network is the expansion of TB culture capacity at the provincial level. In many countries, TB culture facilities are only available at national referral laboratories. The Active Surveillance Network demonstrated the feasibility and effectiveness of province-based laboratories using modern TB laboratory techniques such as liquid-based culture. These data were included in a report presented to WHO in 2007 and resulted in WHO recommending, for the first time, that high-burden TB countries invest in liquid-based culture for TB diagnosis. A package of standard operating procedures, quality assurance methods, and performance indicators has been developed and used for training public health laboratory staff in Thailand and Cambodia.

The Active Surveillance Network also demonstrated the feasibility of routine provider-initiated HIV testing and counseling of TB patients (PITC) in Thailand. As a result, MOPH adopted a national plan for routine PITC of TB patients in 2005. Over 250 hospitals in Thailand have now implemented routine PITC. In 2005 and 2006, WHO, MOPH, and CDC held training courses for TB and HIV program managers from 10 Asian countries about TB/HIV

### About TB

#### Established 2003

#### In-country Staff

1 CDC direct hire  
10 locally employed staff

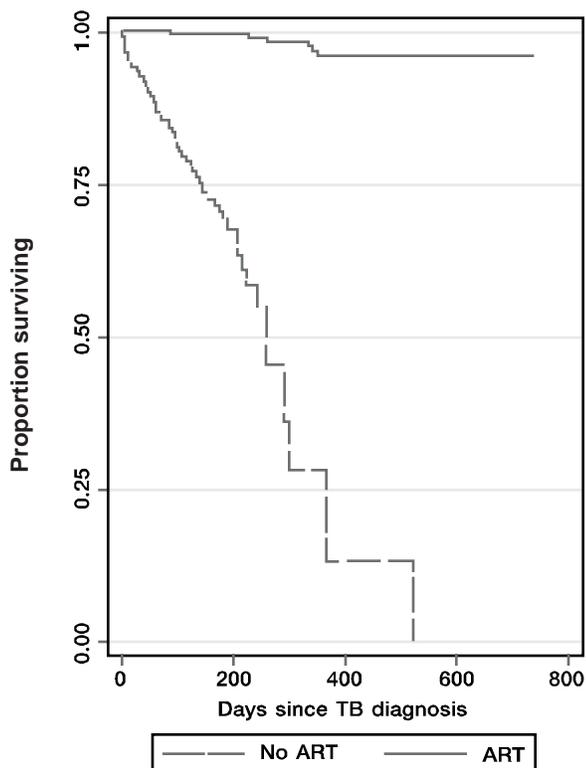
Dr. Sara Whitehead, Director

#### Purpose

To reduce the burden of TB in Thailand and Southeast Asia through programs and operational research

#### FY 2008 Program Budget

\$1.1 Million



*TB patients with HIV disease live longer when they are on antiretroviral therapy (ART).*

policies and practices. The courses included site visits and field exercises at the Active Surveillance Network sites in Chiang Rai and Ubon Ratchathani.

CDC projects in Thailand, Cambodia, and Vietnam have now documented the unique epidemiology of HIV-associated TB in Southeast Asia. Most importantly, these studies have documented effective public health strategies for increasing HIV testing of TB patients and TB screening of HIV patients, and have documented the reduction in mortality associated with providing co-trimoxazole and antiretroviral therapy to HIV-infected TB patients.

### Current Activities

CDC continues to support the development of the Thailand TB Active Surveillance Network and the translation of its important components into national policies and programs. The network's electronic recording and reporting system is being integrated with the country's health insurance scheme and is being used to implement Global Fund-supported TB activities. The cost effectiveness of the province-based TB culture network is being assessed to help inform national plans for laboratory capacity expansion. Findings of high rates of drug-resistant TB in provinces bordering Burma have prompted initiatives to strengthen diagnosis and treatment of drug-resistant TB. CDC has supported annual training of MOPH health staff in epidemiologic data analysis. These staff work together with CDC to answer important operational research questions using the surveillance database. Ongoing projects include assessment of barriers to HIV testing among TB patients, evaluation of risk factors for defaulting TB treatment among HIV patients, and evaluation of TB treatment outcomes in public and private facilities.

In collaboration with MOPH, two provinces, and the national infectious diseases hospital, CDC conducted a prospective observational study of risk factors and causes of death in HIV-infected TB patients, with enrollment completed in September 2007. Data analysis demonstrated important findings about the magnitude of benefit and optimal timing of antiretroviral therapy in HIV-infected TB patients, as well as clinical, behavioral, and health systems factors associated with poor outcomes in these patients. As a result of this study, MOPH developed a curriculum, and WHO/WPRO incorporated findings into its new strategic framework, both aimed at increasing the early initiation of antiretroviral therapy in HIV-infected TB patients.

In Cambodia and Vietnam, the TB Program continues to provide technical support for initiatives to increase TB screening of HIV patients and HIV testing of TB patients in multiple provinces, and to expand TB culture capacity. In Vietnam, TB preventive therapy pilot projects have also been initiated.

In Thailand, Cambodia, and Vietnam, CDC conducted a large multi-country study, “Improving Diagnosis of TB in HIV-Infected Patients: The ID-TB/HIV Study.” This multi-center, cross-sectional study enrolled HIV-infected patients from five sites across Thailand, Cambodia, and Vietnam to determine the optimum algorithm to screen for and diagnose TB in HIV-infected patients. Enrollment of 2,149 patients was completed in July 2008 and results are expected in early 2009.

At the regional and global level, CDC continues to provide technical assistance to WHO. CDC TB program staff are working with WHO to conduct a meta-analysis of studies on the diagnosis of TB in HIV-infected patients and will contribute to revising WHO policy guidelines on this issue.

#### Plans for FY 2009

In 2009, the TB Program will conduct studies to evaluate the public health impact of new diagnostic tests for TB and drug-resistant TB. The program will conduct a cost-effectiveness study of algorithms to screen for and diagnose TB in HIV-infected patients, and will continue initiatives to increase the number of people with TB and HIV who get timely access to antiretroviral medicines.

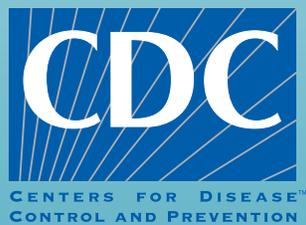
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#### TB 2008 Publications

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11. Srisuwanvilai L, Monkongdee P, Podewils LJ, Ngamlert K, Pobkeeree V, Kanjanamongkolsiri P, Chiamwongpaet S, Subhachaturas S, Akarasewi P, Wells CD, and Varma JK. **Performance of the BACTEC MGIT 960 compared to solid media for detection of Mycobacterium in Bangkok, Thailand.** *Diagn Microbiol Infect Dis* 2008;61:402-7.
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