



Dear Colleague:

After the challenges of this past fall, I hope the holidays left you rested and with renewed energy to tackle the new year. Please accept my best wishes for 2006 and for the new opportunities we will have to continue our progress in eliminating tuberculosis.

The 2005 Program Managers Course was held October 24–28, 2005, at the Sheraton Colony Square Hotel in Atlanta, Georgia. About 40 persons attended the course this year. Next year the Division of Tuberculosis Elimination (DTBE) will add a section on laboratory issues, which will be an important enhancement to this training course with excellent reviews. I would like to take this opportunity to thank the course instructors and organizers for their outstanding efforts in making this training course such a successful event. Much planning and hard work goes into the development and presentation of these training sessions. Those involved are deserving of our thanks and appreciation for taking on this important task each year.

The Advisory Council for the Elimination of Tuberculosis (ACET) met on November 16 and 17, 2005, in Atlanta, Georgia. After the welcome by Drs. Masae Kawamura and Ron Valdiserri, ACET heard updates on recent activities of DTBE and of the National Center for HIV, STD, and TB Prevention (NCHSTP). Dr. Valdiserri reported that Dr. Janet Collins, who had served as Acting Director of NCHSTP since June 2004, was named Director of the National Center for Chronic Disease Prevention and Health Promotion (NCCDPHP) in August 2005, and that a permanent NCHSTP director would be named in November. We have since learned that Kevin Fenton, M.D., Ph.D., has been selected as Director of NCHSTP. Dr. Fenton has been serving in the Division of STD Prevention as Chief of CDC's Syphilis Elimination Effort since January 2005, and has worked in research, epidemiology, and the prevention of HIV and other STDs since 1995. Dr. Fenton was previously the Director of the HIV and STI Department at the United Kingdom's Health Protection Agency. We welcome Dr. Fenton to this new position and look forward to working with him in the important work of our center.

Dr. Michael Iademarco gave the DTBE Director's Report in my absence. He reported that DTBE had completed eight Epi-aids in 2005, three of which involved Hmong refugees in Thailand and in California. He reported that in preliminary evaluation findings for the U.S.-Mexico Binational Card project, political will remains strong in support of the project. The evaluation has led to improvements, and the project is expanding to new sites; but insufficient funding is a critical constraint. He reported that a number of DTBE guidelines were at or near completion (they have since been published): the latest statement on controlling tuberculosis in the United States came out in November 2005 in the *Morbidity and Mortality Weekly Report (MMWR)*; guidelines on the use of QuantiFERON-Gold, on conducting contact investigations, and on preventing the transmission of *M. tuberculosis* in health care settings were published in December in the *MMWR*. Please see the "New CDC Publications" section of this

issue for the citations of these publications. Recommendations on managing TB in correctional settings are expected in 2006. We heard a report from Mr. Joe Posid of the Bioterrorism Preparedness and Response Program within the Coordinating Center for Infectious Diseases (of which NCHSTP is now a part) on CDC activities related to assessing biological agents of public health importance. With CDC working in concert with the Department of Homeland Security and DHHS, these activities will result in an updated list of potential biological terrorism agents, which should be finalized in 2006.

Dr. Valerie Robison, DTBE's surveillance team leader, gave an update on CDC's TB surveillance systems, and Dr. Tom Navin, chief of the Surveillance, Epidemiology, and Outbreak Investigations Branch, provided information on new TB surveillance initiatives. These include the development and release of the Online TB Information System (OTIS), a Web-based national TB surveillance dataset that allows individual researchers to generate TB surveillance reports; a system for reporting adverse events caused by any LTBI treatment; the availability of genotyping for outbreak detection; the revision of the Report of Verified Case of Tuberculosis (RVCT); and the data accuracy project.

ACET heard reviews of three articles. First, Dr. Dick Menzies of the Montreal Chest Institute in Canada gave a summary of the article, "Domestic returns from investment in the control of tuberculosis in other countries"; Drs. Kayla Laserson of DTBE and Susan Malone of the Division of Global Migration and Quarantine (DGMQ) were co-authors. The analysis showed that U.S.-funded expansion of national TB program DOTS programs in high-incidence countries such as Mexico would reduce TB-related illness and deaths among migrants, with net savings to the United States. This is based on the concept that U.S. financial assistance provided to the national TB programs of TB-prevalent countries will help decrease the burden of TB in those nations; this will reduce the number of TB-infected persons from that country migrating to the United States, and this will ultimately reduce TB and TB control costs in the United States. Next Dr. Henry Blumberg, Hospital Epidemiologist of Grady Hospital in Atlanta, discussed "How many sputum specimens are necessary to diagnose pulmonary tuberculosis?" Dr. Blumberg presented data showing that in the high-risk, inner-city patient population at Grady, the number of specimens needed to diagnose pulmonary TB disease may be reduced from three to two; a third smear did not appear to add much information in a robust TB-oriented health-care setting with excellent quality infection control systems in place. This was followed by a related discussion by Dr. Sundari Mase, a physician from California, on the yield of two vs. three AFB sputum smears for evaluating pulmonary TB suspects. Her review suggested that the mean incremental yield of a third smear is 3%–5%; if the yield of the first and second smears is improved, the yield of the third would be even lower. She pointed out that requiring only two smears would involve less work for the laboratory, fewer costs, and more time to perform the two smears. The "cons" would be decreased case detection and increased transmission, resulting in TB infection. Proposed next steps were to study the policy implications of two vs. three sputum smears and to review the WHO case definition of smear-positive pulmonary TB.

Dr. Bill Burman of Denver Public Health and a member of the TB Trials Consortium presented an exciting talk on opportunities and challenges in TB clinical trials for the next decade. He suggested that promising new anti-TB agents may permit reduction in

the length of TB treatment from 6 months to 2 if clinical trials could be adequately funded. After an exchange of comments and questions, ACET members decided to draft a letter to the Secretary of DHHS advocating for additional funding for multiple TB control components, including clinical trials. We then heard from Ms. Kimberly Lane, senior advisor to the Chief Management Official of CCID, who reviewed CDC's reorganization and discussed the proposed new design of CCID.

Dr. Charles Wells gave an overview of USAID's Tuberculosis Country Assistance Program (TB CAP), which is a follow-up project to the TB Coalition for Technical Assistance. TBCAP is a 5-year project based on a partnership between USAID and several international organizations, including the KNCV, ALA, ATS, WHO, CDC, and IUATLD. Its main components consist of advocacy and social mobilization, DOTS expansion, laboratory capacity building, TB/HIV services, and training and human resource development; its strengths are that it is an effective mechanism for coordination among TB organizations, it reduces duplication of efforts, and it allows close management of activities and high accountability for partners. Dr. Iademarco then discussed a USAID-funded and -sponsored project that has the goal of developing a set of international standards for TB care. The focus or intent is to ensure high-quality treatment for all patients in all settings. These standards will call for a level of care above the current WHO standards. A number of follow-up items were addressed, after which the meeting was adjourned. The group will reconvene in February 2006.

From October 17 to 23, 2005, DTBE staff attended and participated in the 36th World Conference on Lung Health, the annual meeting of the International Union Against Tuberculosis and Lung Disease (IUATLD), in Paris, France. The theme was "Scaling up and sustaining effective tuberculosis, HIV, and asthma prevention and control." CDC was well represented in the planning and organization of the meeting and in the outstanding presentations that were given. This meeting provided DTBE staff with the opportunity to contribute to global TB prevention and control efforts through ongoing collaboration with the Union, Stop TB, and other national TB prevention programs. As discussed during the last ACET meeting, recent publications have highlighted the importance of global TB control to the fulfillment of our domestic goals (Schwartzman K, Oxlade O, Graham Barr R, et al. Domestic returns from investment in the control of tuberculosis in other countries. *N Engl J Med* 2005; 353: 1008-1020; and Bloom BR, Salomon JA. Enlightened self-interest and the control of tuberculosis. *N Engl J Med* 2005; 353: 1057-1059).

Please note that the 2006 National TB Controllers Workshop will be held June 13 to 15, 2006, in Atlanta at the Sheraton Buckhead Hotel. Details will be forwarded as they become available. Hope to see you there!

Kenneth G. Castro, MD

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Number 1, 2006
**HIGHLIGHTS FROM STATE AND
LOCAL PROGRAMS**
**Hurricane Katrina's Impact on TB
Control in the Gulf States**

On August 29, 2005, Hurricane Katrina slammed into the Northern Gulf of Mexico, causing devastation and destruction that severely crippled social and medical institutions in Louisiana, Mississippi, and Alabama. At the urgent request of Louisiana Governor Kathleen Babineaux Blanco, Texas Governor Rick Perry agreed to allow hurricane victims taking shelter in the New Orleans Superdome to be moved to the Houston Astrodome, which is located in Harris County, Texas. Texas officials agreed to allow the Astrodome to be used as a shelter for the evacuees. The Astrodome was soon filled to capacity with 23,000 displaced hurricane evacuees. An additional 120,000 displaced evacuees were housed in 97 shelters in other cities in Texas including Houston, Dallas, San Antonio, and dozens of smaller cities across the state as far north as Midland and as far west as El Paso. Another 100,000 persons were housed in hotels and motels around the state. It is estimated that a total of 250,000 displaced residents from Louisiana are now in Texas.

On August 31, 2005, Mr. Charles DeGraw, Louisiana State TB Controller, called the Texas Department of State Health Services TB Program to inform the program that approximately 100 TB patients could be among the displaced residents. Mr. DeGraw noted that the Louisiana TB Program had been significantly impacted by the flood waters coming from Hurricane Katrina. Working with Mr. DeGraw, the Texas TB Program immediately began putting in place

support systems for those areas in the state receiving displaced residents from Louisiana. Local and regional health departments in Texas were notified to be on the lookout for persons with TB. Local and regional health departments were told to "Think TB" at all times because many of the persons diagnosed in Louisiana might not communicate their condition to the medical teams working in the shelters. Shelter workers were told to be alert to the signs and symptoms of TB. If shelter residents were identified as having TB, those persons were to be taken to the shelter medical triage stations for evaluation and isolation, if indicated. Mr. DeGraw also indicated that his medication supply was under water and thus his program would need TB medications. Mr. DeGraw asked the State of Texas to "loan" the Louisiana TB Program the necessary TB drugs to continue providing treatment to persons staying in Louisiana. The state agreed to provide the necessary medications for Louisiana. The Texas TB Program also worked with VersaPharm to arrange for medications to be sent to Louisiana. Mr. Joe Ware, President of VersaPharm, responded by shipping all the needed medications to the Louisiana TB Program at no cost to the State of Louisiana. The Texas Department of State Health Service TB Program organized a team comprised of staff from public health regions, local health departments, the data analysis unit at the Texas Department of State Health Services, and the Louisiana State Health Department TB Program to address the issues surrounding the management of persons in shelters who are found to have TB. Mr. DeGraw also requested laboratory support from the Texas Department of State Health Services. The Texas TB program arranged for the Texas State Laboratory to provide laboratory assistance.

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<http://www.cdc.gov/nchstp/tb>,
 for other publications, information, and
 resources available from DTBE.

The Texas State Laboratory agreed to receive and process TB specimens submitted by the State of Louisiana for evaluation. The Texas Laboratory provided the Louisiana TB Program with the containers needed to ship specimens to the Texas State Laboratory. As of October 31, there had been 307 specimens submitted to the Texas State Laboratory for processing.

In an effort to determine if any of the displaced Louisiana residents living in the shelters had been diagnosed, the Texas TB Program worked with the Texas Emergency Command Center, the Incident Command Center in Houston, the City of Houston and Harris County government officials, the Texas State Health Service Regions, local health departments throughout the state of Texas, local hospitals, the American Red Cross, and countless shelters across the state to match known tuberculosis patients with the listing of shelter residents. TB program staff confidentially worked with shelter administrators to match the lists. Persons identified were then evaluated and

placed on medication and in some cases hospitalized for treatment. The Texas Tuberculosis Program worked with the Texas State Pharmacy to ensure tuberculosis medications were stocked on the mobile pharmacies deployed to shelters.

On September 7, 2005, Ms. Phyllis Cruise, Senior CDC Public Health Advisor assigned to Texas, was deployed to work at the Incident Command Center at the Houston Astrodome. Ms. Cruise assisted in the medical follow-up of persons residing in the shelters. She worked primarily in the three large shelters located in Reliant Park, which is located in Houston–Harris County, Texas. Reliant Park includes the Reliant Dome (i.e., the Astrodome), the Reliant Arena, and the Reliant Center. All together this complex housed 25,000 displaced persons. Houston also had another large shelter in the downtown area of the city, the George R. Brown Center, which housed 2,800 persons. Ms. Cruise assisted the city and county TB programs in their efforts to develop and deliver to shelter staff and residents educational messages and materials on TB, including the development of posters detailing the signs and symptoms of TB. Ms. Cruise also assisted city and county staff in planning activities for locating the persons who were on the patient list from Louisiana. This included using contacts from other agencies, both public and private and traditional as well as nontraditional sources such as the Federal Emergency Management Agency (FEMA). Ms. Cruise worked with FEMA to secure current addresses and telephone numbers for registered evacuees who had been diagnosed with TB and started on treatment in Louisiana. By mid-October, TB control officials were very happy to report that all TB patients who had been evacuated from the affected areas as a result of the hurricane had been accounted for.

—Reported by Charles Wallace, Ph.D., M.P.H., and
 Phyllis Cruise, CDC Public Health Advisor
 Texas Department of State Health Services

DTBE Responds to Hurricane Katrina

Following Hurricane Katrina's landfall on August 29, 2005, staff of DTBE worked with the National TB Controllers Association (NTCA) to provide technical and logistical support and to facilitate communication for the TB programs affected by the sudden displacement of thousands of Gulf Coast residents.

At the request of the CDC Director's Emergency Operations Center, DTBE developed resource materials to provide TB-related guidance to staff of approximately 750 shelters and evacuation centers in at least 18 states. Resources included an up-to-date list of TB program contacts, guidance for identifying persons in evacuation centers who may have TB, and a list of relevant TB educational resources. These were posted on the CDC hurricane website, as well as the DTBE website: <http://www.cdc.gov/nchstp/tb/katrina/>. These resources emphasized the importance of immediately consulting the local or state TB program if evacuees were or had been taking anti-TB medications or had symptoms suggestive of TB disease. Katrina-related heightened public health surveillance resulted in the reporting of at least 10 evacuees as potentially having TB. Although most were subsequently diagnosed with other conditions (e.g., lung cancer and infection with nontuberculous mycobacteria), two new cases of confirmed TB were found and reported.

Along with many others throughout CDC and the U.S. Public Health Service, 18 DTBE staff were deployed to various locations to provide on-site support to areas affected by Katrina. For example, Ted Misselbeck and Dawn Tuckey were deployed to Louisiana. Other staff already assigned to the field, like Phyllis Cruise with the Texas TB Program, found that Katrina-related work soon demanded their full attention (see related article, "Hurricane Katrina's Impact on TB Control in the Gulf States"). Back in Atlanta, at least 10 others shifted their work priorities to focus on support for Katrina-related activities.

On September 2, DTBE established a Katrina Help Desk, with a team led by Gail Burns-Grant, to provide a 24/7 on-call system to respond to TB inquiries and to coordinate efforts by NTCA and the TB programs in Alabama, Louisiana, and Mississippi to account for all persons known by local public health authorities to be undergoing treatment for TB disease when the hurricane struck. Although most of the 180 TB patients in the most directly affected regions remained in their home states, others relocated to Arkansas, California, Colorado, Florida, Georgia, Illinois, Maryland, Massachusetts, Missouri, Ohio, South Carolina, Tennessee, Texas, and Washington State. Accounting for all these persons involved a great deal of collaboration and assistance from many state and local TB partners, as well as new partnerships with relief agencies and private companies to cross-match names for the purposes of locating displaced patients. As of October 13, all 180 had been located and were receiving follow-up attention and treatment continuity.

—Submitted by DTBE Atlanta and field staff:
*Gaby Benenson, Gail Burns-Grant,
 Phyllis Cruise (TX), Maryam Haddad,
 Michael Iademarco, Ted Misselbeck (TN),
 Patrick Moonan, Phil Talbo, and Dawn Tuckey*

KatrinaHealth.org

During Hurricane Katrina and its aftermath, a new secure, online service became available to help hurricane-affected individuals work with their health professionals to gain access to their own electronic prescription medication records. The new site allows authorized physicians and pharmacies to get records of medications evacuees were using before the storm hit, including the specific dosages. Having this information will help evacuees refill their medication prescriptions; it will also help health care professionals coordinate care and avoid harmful errors when prescribing new medications. Evacuees are spread out across the country; therefore, this information can be

accessed from anywhere in the United States through www.KatrinaHealth.org. The urgent effort to make www.KatrinaHealth.org available to health care professionals was facilitated by the Office of the National Coordinator for Health Information Technology (ONC), within the U.S. Department of Health and Human Services.

This project has been supported by more than 150 organizations that have participated in the planning, testing, and launching of the site. Important data and resources were contributed by the American Medical Association (AMA), Gold Standard, the Markle Foundation, RxHub, SureScripts, and the Louisiana and Mississippi departments of health. More information including a press release and frequently asked questions (FAQs) can be found at www.KatrinaHealth.org.

*—Reported by Mark D. Fussell
CDC Senior Management Official - Texas
Austin, Texas*

Eliminating Tuberculosis Case by Case: An Educational Initiative by New England TB Programs

Purpose and Goal of the TB Case Series. In an effort to reach several key partners using an educational venue, the six New England tuberculosis (TB) control programs organized a Web-based interactive "TB Case Series." The TB Case Series is designed to allow providers to present cases that illustrate public health principles and practices. The goal of the TB Case Series is to offer a forum for

- Discussing the public health importance of infectious TB
- Describing the clinical management of TB, and increasing awareness of national recommendations for TB diagnosis and treatment, and
- Discussing options for ongoing patient care.

The course will promote standard diagnostic procedures and national guidelines through analysis and discussion of TB cases. Additionally, the course offers continuing education credit for physicians, nurses, health educators, and other participants.

First Two Presentations a Big Success. On October 26, 2005, more than 80 persons participated in the first case presentation. The inaugural presentation featured C. Robert Horsburgh, MD, a local and national expert in TB and HIV treatment. Dr. Horsburgh, formerly with CDC, is now the Chair of the Department of Epidemiology and the Director of the Prevention Research Center at the Boston University School of Public Health and the Boston University Medical Center. Dr. Horsburgh laid the groundwork for future case presentations and skillfully led the discussion, drawing participants into an active dialogue around the case. The second presentation was given in October by C. Fordham von Reyn, MD, Chair, Infectious Diseases and International Health at Dartmouth-Hitchcock Medical Center. The presentation skillfully combined a case and review of TB-related lymphadenopathy. About 45 participants from New England called in to listen and discuss the case and other cases.

Evidence of the Need for Educational Activities Targeting TB Providers. Several sources of evidence indicate that TB care providers have ongoing educational needs. These sources include 1) a regional education needs assessment, 2) studies documenting nonadherence to national standards and guidelines by private providers, and 3) a CDC study documenting that 40% of private providers do not use a recommended treatment regimen (Sumartojo EM, Geiter LJ, Miller B, Hale BE. Can physicians treat tuberculosis? Report on a national survey of physician practices. *Am J Public Health* 1997;87:2008-11). In addition, in 2004 DTBE and the three Model TB Centers developed a national strategic plan for TB training and education in conjunction with experts

in TB and education, health care providers, and other partners. The plan states that private providers who serve high-risk populations need to learn about TB diagnosis, treatment, and management (www.nationaltbcenter.edu/strategicplan/strategic_plan.html).

Thanks to the Organizers. A coordinating group representing the New England TB programs, the Regional Training and Medical Consultation Centers (RTMCCs), and DTBE organized the course. These contributors to the New England TB Case Series included Kathy Hursen (Massachusetts TB Program), Judy Proctor (New Hampshire TB Program), Rajita Bhavaraju (Northeast RTMCC), and Mark Lobato, Subroto Banerji, Regina Bess, and Judy Gibson (DTBE).

—Reported by Erin Howe, Regional TB Medical Consultation Consortium – New England
Kathy Hursen, RN, MS, Massachusetts
Div of TB Prevention and Control
Mark Lobato, MD, Div of TB Elimination,
New England TB Consultant
Lisa Roy, TB Educator, New Hampshire TB Program
Div of Public Health Services

Standardized Nursing Case Management Interventions Described in the Evaluation of a TB Targeted Testing/Treatment Project

The evaluation of the CDC-funded Targeted Testing and Treatment of Latent TB Infection (TT TLTB) Program in Arlington County, Virginia, provided an opportunity to capture best practices and develop lessons learned that could benefit state and local TB programs. In describing the program for the purpose of evaluation, the role of the Pediatric TB Public Health Nurse (PHN) case manager was described. This description was used to develop a nursing practice logic model.

Public health nursing activities traditionally play a prominent role in TB control efforts. However, the process and the standards for those activities must be described before they can be evaluated. The TB Patient-Level Care Model 2002,

developed by the National TB Nurse Consultant Coalition, links TB-specific recommendations (statement and guidelines) associated with theory-based multiple determinants of behavior (from the patient's perspective) with the NANDA taxonomy of nursing practice, the Nursing Intervention Classification, and the Nursing Outcome Classification. The model serves to describe case management, what it is expected to achieve, and what activities it includes.

In a collaborative effort to describe the TT TLTB project in Virginia for evaluation, TB PHNs at the local, state, and national levels applied the TB Patient-Level Care Model to the case manager's role description and developed a nursing practice logic model. From this model, the team described process and outcome indicators for evaluation. Next steps include developing the tools to gather credible evidence, justifying conclusions based on this evidence, and using the lessons learned.

During the NTNCC meeting held June 27, 2005, in Atlanta, Georgia, a partial description of the evaluation for the CDC-funded TT TLTB program in Arlington County, Virginia, was presented. Virginia Thackery, Pediatric TB PHN case manager, presented an overview of the Arlington TT TLTB Project and her role as the Pediatric TB PHN case manager. Judy Gibson, Nursing Consultant, Field Services and Evaluation Branch, DTBE, presented the methods used in developing the nursing practice logic model and an overview of the team-developed model. Jane Moore, Nursing Consultant, Virginia Department of Health, presented the TB Service Plan, developed in Virginia, that lists nursing actions tailored to patient needs. The TB Service Plan was also used in reviewing the role description of the Pediatric TB PHN case manager.

—Reported by Jane Moore, RN
Virginia Department of Health,
and Judy Gibson, RN
Div of TB Elimination

TB EDUCATION AND TRAINING NETWORK UPDATES

TB ETN Member Highlight

David L. Oeser is a Health Program Representative for TB Control and Missouri's Refugee Health Coordinator for the Missouri Department of Health and Senior Services.

His job responsibilities include serving as a TB Training Focal Point, Refugee Health Coordinator, and Diagnostic Services Program Manager. He is also responsible for reviewing all latent TB infection reports for appropriate diagnosis and treatment, and providing technical assistance to the state's Department of Corrections and all local public health agencies in regard to TB and refugee health.

David first learned of TB ETN when he was browsing DTBE's Internet home page, saw the link for TB ETN, and investigated it. He joined to keep up to date on available TB resources, training, and information. He is also a member of TB ETN's Communications and Membership Subcommittee. "This is a very valuable resource, and I have gotten a lot of information from TB ETN and wanted to give back by contributing in some way," David said. He hopes to continue the excellent work accomplished by the members of the Communications and Membership Subcommittee.

He recently completed six TB in-services for all TB staff in the local public health agencies in Missouri. He held a TB Grand Rounds session via Missouri's Telemedicine Network, during which several difficult TB cases were discussed among nurses, doctors, and other interested personnel.

Annually, David coordinates Missouri's TB Fortnight activities. Missouri's TB Fortnight is held during the last 2 weeks of March to raise

awareness about TB. David and his coworkers in Missouri conduct seminars, TB Grand Rounds, and radio interviews, and also host a Governor's Proclamation event. "Missouri has had speakers such as Drs. Michael Iseman and Ram Koppaka at these functions," he relates.

In his spare time, he enjoys hiking, reading, researching family history, and doing cross stitch and plastic canvas craft work. Interestingly, David came to TB control after a career in the Navy. He retired from the U.S. Navy in 1995 after 25 years of service.

If you'd like to join David as a TB ETN member and take advantage of all TB ETN has to offer, please send an e-mail requesting a TB ETN registration form to tbetn@cdc.gov. You can also send a request by fax at (404) 639-8960 or by mail at TB ETN, CEBSB, DTBE, CDC, 1600 Clifton Rd., N.E., MS E10, Atlanta, Georgia 30333. If you would like additional information about the TB ETN, visit the website at <http://www.cdc.gov.nchstp/tb/TBETN/default.htm>.

*—Reported by Regina Bess
Div of TB Elimination*

Communications and Membership Subcommittee

One of the goals of the TB ETN Communications and Membership Subcommittee during 2005 was to develop new methods for sharing information among members. To that end, the Subcommittee decided to use a Web board hosted by CDC on a trial basis. The Web board is an electronic site for posting messages that members can read when they log in.

On the Web board, a discussion board was created for TB ETN. This discussion board has been open to members of the Communications and Membership Subcommittee on a trial basis starting in February 2005 and to the Cultural Competency subcommittee in May 2005. As part of this trial, three discussion board orientations

were conducted to familiarize subcommittee members with this communication tool.

Initial feedback from members of these two subcommittees has indicated that they have found the discussion board difficult to use. Members have also indicated that they prefer to visit the TB ETN website to view subcommittee minutes and to use e-mails for correspondence.

The trial use of the discussion board will continue for several more months. At the end of the trial, a determination will be made about further use of the discussion board. If a decision is made to continue using the discussion board, access to it may be expanded to other subcommittees. If not, the Communications and Membership Subcommittee will explore other ways to improve and expand information dissemination among members.

—Reported by Linette McElroy, R.N.
Vancouver Island Health Authority TB Clinic
Victoria, British Columbia
and Scott McCoy, M.Ed.
Div of TB Elimination

Cultural Competency Subcommittee

The Cultural Competency Subcommittee welcomes Ms. Margaret Rohter, MPH, from the Suburban Cook County TB Sanitarium District to the helm as committee chair, and Mr. Bill Bower from the Charles Felton TB Center in New York as co-chair. In addition to this transition in leadership, the subcommittee is considering changing the day and time of monthly conference calls in an effort to enable more members to actively participate.

During the 2005 Annual TB ETN Meeting in Atlanta, the subcommittee conducted a needs assessment among the meeting attendees. We would like to thank the 47 individuals who took the time to respond. The results were analyzed by Beth Kingdon and presented in a written report. The subcommittee will use the findings

from this report as part of their continuing effort to meet the cultural competency needs of the TB ETN membership.

Finally, if you or your colleagues have had a culturally challenging experience that provided professional growth or insight and that you would like to share, the subcommittee encourages you to contact Lauren Moschetta at the New Jersey Medical School National TB Center (NJMS NTBC), by telephone at (973) 972-1261 or by e-mail at moschelb@umdnj.edu. Your experience could be presented as a case study in the NJMS NTBC's Cultural Competency Newsletter.

—Submitted by Joan Mangan, PhD, MST
University of Alabama at Birmingham
Lung Health Center
Div of Pulmonary, Allergy, and
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Cultural Competency Tip

Accessing, using, and understanding the U.S. health care system is difficult for almost everyone. However, for immigrants new to this country, it can sometimes seem impossible. For some suggestions you can use to make health care in the United States more accessible, usable, and understandable for people new to this country, read "In Other Words.... Communicating about Health with New Immigrants," an article by Helen Osborne, MEd, OTR/L, President, Health Literacy Consulting, at <http://www.healthliteracy.com/oncallnov2003.html>

TB EPIDEMIOLOGIC STUDIES CONSORTIUM UPDATE

TBESC Task Order #3: Zero Tolerance for Pediatric Tuberculosis

Background and Methods. Tuberculosis (TB) in young children represents a sentinel event and may indicate an undetected case of infectious TB in the community. The incidence of TB in young children is also an important indicator that defines insufficiencies in TB program

interventions to prevent TB transmission. We conducted this study to learn more about the problems encountered by TB programs in identifying, evaluating, and treating children <5 years of age with TB and latent TB infection (LTBI). We also sought to define missed opportunities to prevent TB and LTBI in children and improve outcomes related to their evaluation and treatment. The study took place in three areas of the country with diverse populations: Harlem and Washington Heights in New York City, Alameda and San Diego counties in California, and Tarrant County, Texas.

Results. In this study, 428 children were enrolled (67% in California). Of these children, 124 were diagnosed with TB and 304 had LTBI. The children had the following characteristics: 65% were Hispanic, 51% were born in the United States, and 19% were born in Mexico. Treatment was by directly observed therapy for 87% of TB cases, but for only 7% of LTBI cases. Children with active TB were primarily identified when they sought medical care for symptoms (45%) or were detected through contact investigations (20%). Children with LTBI were most often found through screening (44%). Three children had a prolonged symptomatic period before diagnosis (112–144 days). About 10% of children had a ≥ 14 day delay from TST to chest radiograph. The mean time from the chest radiograph to the start of treatment was 5 days for children with TB and 19 days for children with LTBI. In addition, 10% of children with TB and 18% of children with LTBI had a ≥ 14 day delay from radiograph to the start of therapy. Adherence to appointments was measured. Missing three or more appointments was experienced by 8% of children with TB and 14% of children with LTBI. Completion of therapy was greater for children with TB compared with those who had LTBI, 82% (11% on treatment at the end of the study) and 58%, respectively.

Conclusion. We detected important missed opportunities and delays in the diagnosis and evaluation of children with TB and LTBI. An in-depth review of each case of pediatric TB and of

child contacts allows health departments to evaluate their success in preventing TB and LTBI in young children. As case rates among children continue to decline, the possibility of eliminating TB in children becomes real.

—Reported by Mark Lobato, MD
Div of TB Elimination
for the Pediatric TB Working Group, TO #3, TBESC

TB TRIALS CONSORTIUM UPDATE

TBTC Study Enrollment

Study 24 is a single-arm study of largely intermittent, short-course therapy for patients with INH-resistant TB or INH intolerance. Enrollment closed December 2004 with a total of 98 patients. By mid 2007, all patients will have reached the end of follow-up for study outcomes (e.g., treatment failure and relapse).

Study 26 is a trial of short-course treatment of latent TB infection among contacts of active cases, using a 3-month, once-weekly regimen of isoniazid 900 mg and rifapentine 900 mg, compared to standard 9-month daily therapy with isoniazid 300 mg. As of January 19, 2006, Study 26 enrollment was up to 5,485, over 68% of the intended subjects for total enrollment. These 5,485 subjects include 294 persons under 18 years of age.

Study 27 is a double-blind, placebo-controlled evaluation of 2-month culture conversion rates when substituting moxifloxacin for *ethambutol* in the 2-month intensive phase of treatment of pulmonary TB. A total of 336 patients were enrolled between July 2003 and March 2005. Over 50% of patients were enrolled from two African study sites. The first preliminary results were presented in May 2005. There was no difference between the moxifloxacin and the ethambutol study arms in 2-month culture conversion; these rates were both 71%. There were differences, however, between North

American sites and African sites, with significantly more North American patients converting their sputum to negative by 2 months (85%) compared to African patients (63%). Further analyses are ongoing.

Study 28 is a double-blind, placebo-controlled study of 2-month culture conversion rates when substituting moxifloxacin for *isoniazid* in the 2-month intensive phase of treatment of pulmonary TB. This isoniazid-sparing regimen for TB treatment is based on data from the murine model of tuberculosis. In the murine model, the substitution of moxifloxacin for isoniazid resulted in significant reduction in the time to sterilization when compared to the standard combination of rifampin, isoniazid, and pyrazinamide. Improved sputum culture conversion after 2 months of treatment with a moxifloxacin-containing regimen would support movement to phase-3 clinical trials of moxifloxacin-based treatment regimens of less than the current 6-month standard duration. Study 28 will enroll 410 patients from both domestic and international TBTC sites. Enrollment is expected to begin in early 2006.

—Reported by Susan Ray, MD
Emory University School of Medicine
Member, Advocacy & External Relations Committee
TB Trials Consortium

CLINICAL AND HEALTH SYSTEMS RESEARCH BRANCH UPDATE

Potential TB Treatment Cost Savings Using Moxifloxacin-Based Regimens

Moxifloxacin has been proposed as a first-line anti-TB medication that may permit shortening of therapy for TB disease from 6 months to 4. In TB Trials Consortium Study 28, a phase-2 trial, moxifloxacin (M) will be substituted for isoniazid (H) in the initial 2-month intensive phase of TB treatment. The study will assess whether this new regimen will shorten the time to sputum culture conversion; studies in mice have

suggested that it will. An anticipated 4-month regimen would consist of 2 months of moxifloxacin, rifampin, pyrazinamide, and ethambutol (2MRZE) followed by 2 months of moxifloxacin and rifampin (2MR) administered 5 days per week. Other regimens containing moxifloxacin that might be considered for study in the future include twice-weekly dosing in both initial and continuation phases (2MRZE₂/2MR₂), twice-weekly dosing in both initial and continuation phases substituting rifapentine for rifampin (2MPZE₂/2MP₂), and a Denver-like regimen of 2 weeks' daily dosing of MRZE followed by 6 weeks of MRZE taken twice weekly followed by 2 months of MR twice weekly (.5MRZE/1.5MRZE₂/2MR₂).

As a follow-up to an article published in *TB Notes* No. 4, 2003, describing the potential cost savings of all recommended TB treatment regimens compared with the daily standard, we now add the TBTC Study 28 initial phase moxifloxacin study regimen with a 2MR continuation phase regimen. The table presents estimated costs per patient to TB programs and to society for implementing the various regimens. Direct costs are those incurred by TB programs for medications and personnel to conduct directly observed therapy (DOT). Total costs add patient productivity losses to the direct costs, to estimate the costs to society. All doses are assumed to be administered by DOT. The costs of DOT were estimated by applying the 2001 Medicare allowable charge for a home DOT visit (\$49),¹ updating it to 2004 dollars (\$56), and converting it to a cost by multiplying it by 0.502, which is the average cost-to-charge ratio for pulmonary diseases.² Patient productivity losses are estimated based on computations of a daily wage from the Bureau of Labor Statistics Average Weekly Earnings,³ adjusted upwards by 22% to include benefits.⁴ Since most TB programs purchase their medications through the Public Health Service (PHS), estimates of PHS prices are used. All costs have been updated and are reported in 2004 dollars.

The standard regimen of 2 months of daily HRZE followed by 4 months of daily HR is estimated to cost \$3,970 in direct costs and \$8,162 total. The least costly approved regimen (at \$1,469 in direct costs and \$2,758 total) is 2 weeks of HRZE followed by 6 weeks of twice weekly HRZE followed by 4 months of isoniazid and rifapentine taken once weekly (0.5HRZE / 1.5HRZE₂ / 4HRPT₁), which is currently restricted to use in HIV-uninfected patients who do not have cavitory disease and are not culture-positive at 2 months. The 2MRZE/2MR regimen, the initial phase of which is to be investigated in Study 28, is estimated to cost \$2,843 in direct costs and \$5,423 total, a potential savings of 34% over the standard daily regimen. While it is not the least costly regimen, the proposed Study 28-derived 4-month regimen, if of equal efficacy compared to approved regimens, would add to our list of potential treatment choices that might be quite cost-effective (and very likely to be cost-saving) over the standard daily 6-month regimen. This would be especially true if a new 4-month regimen resulted in significantly greater adherence to treatment and completion, caused similar or fewer adverse events, and was not associated with initial or acquired drug resistance in the populations in which it will be used. The other potential moxifloxacin regimens are projected to be among the least expensive regimens ever, with 2MRZE₂/2MR₂ potentially saving 73% over the standard daily regimen, 2MPZE₂/2MP₂ saving 69%, and .5MRZE/1.5MRZE₂/2MR₂ saving 67%.

It should be emphasized that these moxifloxacin-based regimens are under active study presently. No published trials yet support the safety and efficacy of these proposed regimens, but their promise is substantial. CDC is working in partnership with Bayer pharmaceuticals, the Global Alliance for TB Drug Development, the National Institutes of Health, and other collaborators to evaluate these potential improvements in treatment of TB.

Table. TB Treatment Regimen Implementation Costs -- See next page

—Reported by Suzanne Marks, MPH, MA
Div of TB Elimination

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3. US Department of Labor. Bureau of Labor Statistics. Average Weekly Earnings of Production Workers. Average for 2001. (www.bls.gov)
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COMMUNICATIONS, EDUCATION, AND BEHAVIORAL STUDIES BRANCH UPDATES

Notice of Updated Patient TB Educational Materials

The Communications, Education, and Behavioral Studies Branch (CEBSB) is pleased to announce the availability of three patient TB educational materials that were updated in 2005:

- *Questions and Answers About TB*
- *Tuberculosis: Get the Facts*
- *Tuberculosis: The Connection Between TB and HIV*

Questions and Answers About TB uses a question-and-answer format to describe TB transmission, the differences between latent TB infection and active TB disease, treatment, and

Table. TB Treatment Regimen Implementation Costs

Regimen	Total	PHS	Estimated DOT Personnel Cost	Estimated Pt. Prod Loss	Estimated Direct Costs	Estimated Total Cost	Percent Cost Reduction From Daily Standard	
	Doses	Tot Med Cost						Cost/Dose
Initial phase for active TB								
1 2HRZE (300, 600, 1500, 1200)	40	\$235	\$6	\$1,118	\$1,290	\$1,354	\$2,644	
2 .5HRZE/1.5HRZE2 (300,600,1500,1200/900,600,3000,2800)	22	\$198	\$9	\$615	\$709	\$813	\$1,522	
3 2HRZE3 (900, 600, 2500, 2000)	24	\$221	\$9	\$671	\$774	\$892	\$1,666	
4 2HRE (300, 600, 1200)	40	\$137	\$3	\$1,118	\$1,290	\$1,255	\$2,545	
Study 28 2MRZE (400, 600, 1500, 1200)	40	\$399	\$10	\$1,118	\$1,290	\$1,517	\$2,807	
2MRZE2 (400, 600, 1500, 1200)	16	\$159	\$10	\$447	\$516	\$607	\$1,123	
2MRZE3 (400, 600, 1500, 1200)	24	\$239	\$10	\$671	\$774	\$910	\$1,684	
2MPZE2 (400, 900, 1500, 1200)	16	\$341	\$21	\$447	\$516	\$788	\$1,304	
2MPZE2 (400, 1200, 1500, 1200)	16	\$407	\$25	\$447	\$516	\$854	\$1,370	
.5MRZE/1.5MRZE2 (400,600,1500,1200/400,600,3000,2800)	22	\$286	\$13	\$615	\$709	\$901	\$1,610	
.5MPZE/1.5MPZE2 (400,900,1500,1200/400,900,3000,2800)	22	\$535	\$24	\$615	\$709	\$1,150	\$1,860	
.5MPZE/1.5MPZE2 (400,1200,1500,1200/400,1200,3000,2800)	22	\$626	\$28	\$615	\$709	\$1,241	\$1,950	
2HPZE2 (600, 900, 1500, 1200)	16	\$277	\$17	\$447	\$516	\$724	\$1,240	
2HRZE2 (900, 900, 1500, 1200)	16	\$105	\$7	\$447	\$516	\$552	\$1,068	
Continuation phase for active TB								
1a 4HR (300, 600)	90	\$100	\$1	\$2,517	\$2,902	\$2,617	\$5,518	
1b,2a 4HR2 (900, 600)	36	\$45	\$1	\$1,007	\$1,161	\$1,052	\$2,213	
3a 4HR3 (900, 600)	54	\$68	\$1	\$1,510	\$1,741	\$1,578	\$3,319	
1c,2b 4HP1 (900, 600)	18	\$153	\$8	\$503	\$580	\$656	\$1,236	
4HP1 (900, 900)	18	\$227	\$13	\$503	\$580	\$730	\$1,310	
4HP2 (900, 600)	36	\$305	\$8	\$1,007	\$1,161	\$1,312	\$2,473	
4HP2 (900, 900)	36	\$454	\$13	\$1,007	\$1,161	\$1,460	\$2,621	
4a 7HR (300, 600)	155	\$173	\$1	\$4,334	\$4,998	\$4,507	\$9,504	
4b 7HR2 (900, 600)	62	\$78	\$1	\$1,734	\$1,999	\$1,812	\$3,811	
2MR (400, 600)	40	\$208	\$5	\$1,118	\$1,290	\$1,326	\$2,616	
2MR2 (400, 600)	16	\$83	\$5	\$447	\$516	\$531	\$1,046	
2MR3 (400, 600)	24	\$125	\$5	\$671	\$774	\$796	\$1,570	
2MP2 (400, 900)	16	\$265	\$17	\$447	\$516	\$712	\$1,228	
2MP2 (400, 1200)	16	\$331	\$21	\$447	\$516	\$778	\$1,294	
Initial and continuation phases for active TB								
1/1a 2HRZE/4HR	130	\$336	\$3	\$3,635	\$4,191	\$3,970	\$8,162	
1/1b 2HRZE/4HR2	76	\$281	\$4	\$2,125	\$2,450	\$2,406	\$4,856	41%
1/1c 2HRZE/4HP1	58	\$388	\$7	\$1,622	\$1,870	\$2,010	\$3,880	52%
2/2a .5HRZE/1.5HRZE2/4HR2	58	\$243	\$4	\$1,622	\$1,870	\$1,865	\$3,735	54%
2/2b .5HRZE/1.5HRZE2/4HP1 (600 mg of P)	40	\$350	\$9	\$1,118	\$1,290	\$1,469	\$2,758	66%
3/3a 2HRZE3/4HR3	78	\$289	\$4	\$2,181	\$2,515	\$2,470	\$4,985	39%
4/4a 2HRE/7HR	195	\$309	\$2	\$5,452	\$6,287	\$5,762	\$12,049	-48%
4/4b 2HRE/7HR2	102	\$215	\$2	\$2,852	\$3,289	\$3,067	\$6,356	22%
2MRZE/2MR	80	\$607	\$8	\$2,237	\$2,579	\$2,843	\$5,423	34%
2MRZE2/2MR2	32	\$243	\$8	\$895	\$1,032	\$1,137	\$2,169	73%
2MRZE3/2MR3	48	\$364	\$8	\$1,342	\$1,548	\$1,706	\$3,254	60%
.5MRZE/1.5MRZE2/2MR2	38	\$369	\$10	\$1,063	\$1,225	\$1,431	\$2,657	67%
.5MPZE/1.5MPZE2/2MP2 (900 mg of P)	38	\$800	\$21	\$1,063	\$1,225	\$1,862	\$3,088	62%
.5MPZE/1.5MPZE2/2MP2 (1200 mg of P)	38	\$957	\$25	\$1,063	\$1,225	\$2,019	\$3,244	60%
2MPZE2/2MP2 (900 mg of P)	32	\$606	\$19	\$895	\$1,032	\$1,500	\$2,532	69%
2MPZE2/2MP2 (1200 mg of P)	32	\$737	\$23	\$895	\$1,032	\$1,632	\$2,664	67%

how multidrug-resistant TB develops. This booklet, written at an 11th grade reading level, is appropriate for distribution to service providers, correctional facility staff, and patients.

Tuberculosis: Get the Facts is a pamphlet on basic facts about TB transmission, infection, disease, and TB testing. *Tuberculosis: The Connection Between TB and HIV* (the AIDS virus) is a pamphlet on why it is important to know if a person has TB and HIV coinfection. Both of these pamphlets, written at a 5th grade reading level, are appropriate for distribution to patients or the general public.

These and other TB materials may be viewed and downloaded in HTML and PDF versions from the DTBE website at www.cdc.gov/tb. They may also be ordered online by visiting www2.cdc.gov/nchstp_od/piweb/tborderform.asp.

—Submitted by Scott McCoy, M.Ed.
Div of TB Elimination

Have You Visited the **TB Education & Training Resources Website** Lately?

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- Link to the TB Education and Training Network (TB ETN) webpage. Connect directly to this network of TB education and training professionals for opportunities to share resources and build education and training skills.

—Submitted by Sandra Kong, MPH
Div of TB Elimination

INTERNATIONAL UPDATE

Workshop Helps Prepare Botswana for Scale-up of HIV Testing in TB Clinics

Staff of two DTBE branches, the International Research and Programs Branch (IRPB) and the Communications, Education, and Behavioral Studies Branch (CEBSB), collaborated with CDC's Global AIDS Program (GAP) to develop training materials and present a TB/HIV Surveillance Training of Trainers (TOT) Workshop last July in Gaborone, Botswana. Botswana's Ministry of Health (MOH) and National TB Programme (BNTP), BOTUSA (CDC-GAP office in Botswana), the International Union Against TB and Lung Disease (IUATLD), and the World Health Organization (WHO) also supported the workshop.

The purpose of the workshop was to

- Expand routine HIV testing (with counseling and referral) of TB patients in Botswana
- Introduce the new TB recording forms that include variables on HIV status, antiretroviral therapy (ART) use, and isoniazid preventive therapy (IPT) use
- Learn how to properly collect and record TB/HIV data using the TB treatment card and TB register
- Build capacity by creating a cadre of district-level trainers

About 80 participants attended the workshop, including TB coordinators, community health nurses, and AIDS/STD unit representatives, from all 24 districts in Botswana. These participants will serve as trainers during Botswana's upcoming national rollout of TB/HIV surveillance training to facility-level staff in each district.



The facilitators used the “Teachback” methodology, allowing the participants to both receive and present core module materials that incorporate CDC and WHO best practices for TB/HIV surveillance. This methodology develops the training skills of participants, thereby building future training capacity in the country.

The following TB/HIV core training modules were field tested at the workshop:

- Introduction to TB/HIV

- Expanding routine HIV testing of TB patients
- TB recording and reporting and new HIV variables
- Use of TB/HIV data at the facility level

Updated versions of these core modules will be used in the Botswana districts and by other sub-Saharan African countries that are experiencing high rates of TB/HIV coinfection.

The remaining six modules, specifically targeting district-level staff, were also field tested at the workshop. These modules will not be used in the facility-level trainings, but did teach essential skills for TB/HIV recording and reporting at the district level, including

- Supervision of surveillance activities
- Using surveillance for monitoring and evaluation
- Use of TB/HIV data at the district level
- Using the Electronic TB Register
- TB surveillance in HIV care and treatment settings
- IPT surveillance
- Development of training strategies (Action Plans)

The workshop was well received by the course participants as well as the supporting facilitators. Dr. Robert Makombe of the WHO Regional Office for Africa (AFRO) and a facilitator for the training course, called the workshop “a most wonderful time spent learning and teaching new things, sharing experiences, and working out future areas of collaboration, all in a friendly and professional atmosphere.”

Since the TOT workshop ended on August 1, 2005, the DTBE/GAP team has worked with BNTP and BOTUSA staff to modify the core modules and prepare for a Botswana national rollout of TB/HIV facility-level trainings, scheduled to take place between October 2005 and May 2006. To date, seven districts have conducted trainings for various health staff

involved in TB recording and reporting, including nurses, doctors, family welfare educators, pharmacy technicians, and midwives.



The TB/HIV Surveillance Training-of-Trainers Workshop training materials are currently undergoing final revisions and will be submitted for CDC clearance in early 2006. These materials will be available for use in other GAP countries at that time. Please contact Lisa Nelson (lbn9@cd.gov), Kelly Stinson (kqw0@cdc.gov), or Bryan Kim (bkim@cdc.gov) for further information.

—Submitted by Kelly Stinson, MPH
Div of TB Elimination

LABORATORY UPDATES

New Association of Public Health Laboratories (APHL) TB Steering Committee Formed

Following the publication of the 2004 APHL TB Task Force report, “The Future of TB Laboratory Services, A Framework for Integration, Collaboration, and Leadership,” the association will begin implementing the report recommendations. Heading this endeavor is a new APHL TB Steering Committee. The committee is a joint venture with APHL members, CDC staff, a National TB Controllers Association (NTCA) representative, and laboratorians from the clinical sector. It will also be tasked with

reviewing other important TB laboratory and cross-cutting programmatic issues.

There are three benchmarks that the Steering Committee will be tasked with implementing. Benchmark one suggests that an ongoing assessment of available TB laboratory services is needed to determine the current status and capacity of services and to identify unmet needs, obstacles to obtaining laboratory services, and opportunities for improvement. Benchmark two addresses the need for an assessment of the true costs of providing TB laboratory services. The third and final benchmark involves the development of a strategic plan for implementing and maintaining a systems approach for TB control. The Committee met at APHL headquarters on November 21 and 22, 2005, to strategize a plan of action for implementing these benchmarks.

—Submitted by APHL TB Steering Committee:
Nancy Warren, Chair, PA; John Bernardo, NTCA;
Edward Desmond, CA; Wendy Gross, VA Medical
Ctr, CT; Bruce Hanna, NY Univ School of Medicine;
Nancy Hooper, MD; Ken Jost, TX; Anthony Tran,
APHL; David Warshauer, WI; Michael Iademarco,
John Ridderhof, and Tom Shinnick, CDC

Laboratory Issues from the Northeastern TB Controllers Meeting Summary

The Northeastern TB Controllers Meeting was held on September 26 and 27, 2005, at the New York State Department of Health, Albany, New York. The Northeast Regional Training and Medical Consultation Center in New Jersey serves the following states and cities: Maine, New Hampshire, Vermont, Rhode Island, Massachusetts, Connecticut, New Jersey, New York, Delaware, Maryland, Pennsylvania, West Virginia, Ohio, Indiana, Michigan, New York City, Philadelphia, Baltimore, Detroit, and Washington, DC. For the first time, TB laboratory partners from each of these jurisdictions were invited to attend the meeting.

Day one of the meeting included separate morning breakout sessions for the TB controllers and laboratorians, allowing them to discuss issues of significance in their particular realm. During the laboratory session, there were several key issues noted by the laboratory participants:

- A discussion regarding funding brought to light the fact that laboratories do not feel that they are seen as equal partners in TB prevention and control. Federal guidelines (i.e., Healthy People 2010) are now requiring faster turnaround times by laboratories in identifying and reporting TB. However, to meet these shorter turnaround times, the laboratories must use more sophisticated and expensive diagnostic tools such as the Mycobacterium Tuberculosis Direct (MTD) assays and QuantiFERON-TB Gold (QFT-G). In addition, the costs of liquid media, probes, and reagents increase each year, as do workforce salaries and benefits. TB funding has remained level since 1995, and this lack of increased funding results in the decreased ability to keep pace with laboratory requirements. Flat funding affords less buying power for the laboratories.
- Each year the TB Laboratory Upgrade component of the Cooperative Agreement requests laboratories to fill in a “true needs” budget assessment, but no additional funds for meeting these needs had been provided until FY 2005. However, the laboratories that received less funding in FY 2005 as a result of the funding formula did receive a slight increase to help make up for this shortfall.

Several laboratory panel members also felt disconnected with CDC in terms of support and guidance during the Cooperative Agreement writing process. Still others felt that the goals CDC set are unrealistic without the promise of more financial support. These funding issues must be dealt with at the federal and state level in order for change to occur. The APHL TB

Steering Committee has been addressing TB funding issues and will continue to be committed to helping the TB laboratory find equality of funding.

- A proposal was made that TB training and education for the performance of laboratory assays could be supported by the TB Regional Training and Medical Consultation Centers (RTMCCs), since they receive a large share of the total TB funding.

The afternoon session consisted of a joint roundtable session with both program and laboratory members. The roundtable discussion focused on the QFT-G assay, including issues surrounding funding, transportation of specimens, and cost, which is estimated to be \$35 per test. While laboratorians agree that the QFT-G data look encouraging, the aforementioned questions still need to be answered before implementation can take place. New York State is currently the only jurisdiction in the region performing the QFT-G assay; however, this is only done on Department of Corrections patients. This specialized population was chosen in order to address the specimen stability problem. Inmates are transported from the prison to a site closer to the laboratory where blood is drawn and samples can be processed immediately.

Day two of the meeting was packed with plenary sessions on TB contact investigation guidelines, program evaluation plans, the role of the National TB Controllers Association (NTCA), implementation of QFT and real-time genotyping, surveillance in low-incidence populations, and the investigation of an *M. bovis* cluster in New York City.

The overall sentiment from participants was positive towards the first joint meeting of TB controllers and laboratorians in the Northeast region. Attendees felt that the meeting provided a good forum for sharing information from their respective jurisdictions and learning from others.

In general, TB controllers and their laboratory partners have worked hard to establish good working relationships. Joint meetings afford all parties involved the opportunity to work together to improve funding, understand the limitations of new procedures, and address the obstacles encountered in new testing methods. This speaks to the need for collaborative education for both groups, in order to improve communication and maximize the use of resources. Hopefully future meetings with more time for discussion will help alleviate some of these issues.

For questions about APHL or the APHL TB Steering Committee, please contact Anthony Tran, HIV, STD, and TB program manager, at anthony.tran@aphl.org or at (240) 485-2783.

—Submitted by Anthony Tran, MPH, MT(ASCP)
Association of Public Health Laboratories
On behalf of the APHL TB Steering Committee

SURVEILLANCE UPDATES

Update on Surveillance Data: Release of 2004 Annual Report and Slide Set

Beginning in 1953, through the cooperation of state and local health departments, CDC has been collecting information on the numbers of newly reported cases of TB disease in the United States. Since its initial publication in 1963 (then entitled *Reported Tuberculosis Data*, and now *Reported Tuberculosis in the United States*), the annual summary of TB surveillance has been revised periodically to improve the interpretation and dissemination of TB surveillance data.

Reported Tuberculosis in the United States, 2004 features the following methodological changes:

- In contrast to previous annual summaries in which TB case counts of preceding years were not updated, the current summary reports the number of cases of confirmed TB for each year from 1993 to 2003 based on updated information. Therefore, case counts for these years may differ from those

reported in the annual summaries previously published.

- Tables 1–5, 20, 28, and 46, in addition to case count (numerator) updates, apply population updates (denominator) to calculate TB case rates for 1993–2004.
- The method for calculating the annual percentage change in the TB case rate was modified. In contrast to methods used in previous summaries, “unrounded” figures are now applied to calculate the percentage change in the case rate, lending a degree of precision and accuracy greater than those reported in the past.

Other notable changes and enhancements are as follows:

- The slide set for *Reported Tuberculosis in the United States, 2004*, can be directly downloaded into PowerPoint format at <http://www.cdc.gov/nchstp/tb/pubs/slidesets/surv/surv2004/default.htm>.
- Slide sets for 1997–2003 can also be directly downloaded into PowerPoint format at <http://www.cdc.gov/nchstp/tb/pubs/slidesets/surv/default.htm>.
- Addition of a technical note to clarify a point of confusion generated by a note from the 2003 report, in which two new species were added to the *M. tuberculosis* complex.

Statistical highlights of *Reported Tuberculosis in the United States, 2004*, include the following:

- 14,517 TB cases were reported to CDC from the 50 states and the District of Columbia, representing a 2.3% decrease from 2003
- Foreign-born persons constituted 54% of the total number of cases in the United States in 2004
- The TB case rate declined to 4.9 per 100,000
- 19 states reported increases in case counts
- For the first time, Hispanics exceeded blacks as the racial/ethnic group with the largest percentage of all cases: 29% vs. 28%

- U.S.-born blacks represented 45% of TB cases in U.S.-born persons and more than one fifth of all cases
- The TB case rate was 2.6 per 100,000 for U.S.-born persons and 22.8 for foreign-born persons
- Asians continue to have the highest case rate among all racial and ethnic groups
- The proportion of all cases with primary multidrug-resistant TB remained approximately 1.0%, and the proportion of these cases occurring in foreign-born persons increased to 73%

Reported Tuberculosis in the United States, 2004, released October 2005, is available in hard copy and is posted on the Internet at <http://www.cdc.gov/nchstp/tb/surv/surv.htm>.

Following are suggested citations for hard copy and online versions:

Hard copy: CDC. *Reported Tuberculosis in the United States, 2004*. Atlanta, GA: U.S. Department of Health and Human Services, CDC, September 2005.

Online: Centers for Disease Control and Prevention. *Reported Tuberculosis in the United States, 2004* [online]. Atlanta, GA: U.S. Department of Health and Human Services, CDC; 2005. Available at <http://www.cdc.gov/nchstp/tb/surv/surv2004/default.htm>.

—Reported by Valerie Robison, DDS, MPH, PhD
Div of TB Elimination

Updating the TB Biotechnology Engagement Project in the Republics of Armenia and Georgia, 2005

Background. The Biotechnology Engagement Program (BTEP) is a congressionally mandated program residing in the U.S. Department of Health and Human Services (DHHS), Office of Global Health Affairs.¹ The BTEP enables former biologic weapons scientists from Russia and Northern Eurasia to work collaboratively with U.S. experts in conducting operational research that addresses critical in-county public health

concerns using evidence-based science. BTEP projects are funded for 12–36 months. Priority diseases funded through BTEP include TB, HIV/AIDS, hepatitis, influenza, other infectious diseases, and food and waterborne diseases.

CDC staff, in collaboration with the Ministries of Health in the Republics of Armenia and Georgia, developed a TB BTEP project described in *TB Notes* No.1, 2003, called the “Development of Multiple-drug Resistant Tuberculosis Surveillance and National TB Program Evaluations, Republics of Armenia and Georgia.” This project, which was awarded 3 years of funding effective October 2004, consists of the nine tasks further described in *TB Notes* No. 2, 2005. Tasks 1 (description of TB surveillance system in Armenia) and 2 (evaluation of current TB surveillance system in Armenia) have been completed. Task 3 is to assess the prevalence of *M. tuberculosis* in the Republic of Armenia because of uncertainty around current estimates.

TB in Armenia. Armenia has a 3.2 million population² and is located between Turkey, Georgia, Iran, and Azerbaijan. It is divided into 11 administrative regions (or marzes), with over a third (36%) of the country’s population residing in the capital of Yerevan. The collapse of the former Soviet Union in 1991 and subsequent social, political, and economic transitions have had a negative impact on health and healthcare in the newly independent states (Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Republic of Moldova, Russian Federation, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan). Population migration, decreases in life conditions, lack of essential health care services, and lack of access to essential drugs³ have created conditions favorable for the rise and spread of infectious diseases, including TB.

Before the collapse of the Soviet Union, TB surveillance and treatment systems in Armenia and each of the former Republics of the FSU followed the Soviet model and were centrally planned. After the collapse of the Soviet Union,

there was officially still a TB system in place in Armenia. However, in-country experts state that for several years after 1991, there was in reality no functioning TB system in the country. There was a subsequent two-fold increase in TB morbidity. The incidence (number of new cases per year) of TB in Armenia more than doubled from 932 in 1990 to 2146 in 2003.⁴ The number of TB cases notified or reported (WHO definition of a TB case notification which includes new and relapse cases) tripled during 1990–2003 from 590 to 1538.

With the assistance of foreign partners such as the International Committee of the Red Cross (ICRC), GTZ (the German equivalent of the US Agency for International Development), and WHO, the TB program in Armenia has started to rebuild. In December 2003, the Armenian National TB Program (NTP) was approved by the Armenian government. TB continues to be a major public health problem in Armenia; however, there have been no recent TB prevalence surveys done, nor is there accurate information about the magnitude of multidrug-resistant TB (MDR TB). In the absence of knowledge about the magnitude of TB, it is imperative to conduct a TB prevalence survey to estimate the prevalence of TB in the country.

According to WHO, conducting population-based surveys as epidemiological measurements for TB control can provide an accurate measure of bacteriologically confirmed disease. National TB prevalence surveys have been conducted in developing countries and used to measure decreases in TB prevalence due to successful implementation of short-course chemotherapy following WHO guidelines,⁵ set targets for NTP and gain political will and financial support for TB control,⁶⁻⁷ and show TB trends over time.⁸

Task 3. The purpose of Task 3 is to conduct a cross-sectional population-based survey using multi-stage stratified cluster sampling in Yerevan, the capital of Armenia. This survey will provide much-needed insight on how to combine public

health surveillance and public health action to not only support, but also enhance, Armenia's NTP and further the country's TB reform goals.

—Reported by Nita Patel, MPH, Kashef Ijaz, MD, MPH, and Scott J.N. McNabb, PhD, MS
Div of TB Elimination



Nita Patel and Kashef Ijaz with the Armenian TB BTEP Team Members, Yerevan, Armenia, June 2005.

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Conference on the Economics of TB Prevention and Control

The second annual conference on the economics of TB prevention and control was held at the University of North Texas Health Science Center at Fort Worth on October 11 and 12, 2005 (c.f., photo below of attendees). The conference built on the previous gathering in Fort Worth in 2004. The purpose of the conference was to bring together national, state, and local TB officials and academics to explore techniques and tools for monitoring and evaluating TB programs, leading to enhanced efficiency and effectiveness.

Organized by Dr. Peter Hilsenrath of the School of Public Health at the University of North Texas Health Science Center, this conference was supported by Task Order #10 of the TB Epidemiologic Studies Consortium. Task Order #10 began in 2003 at two locations: Hillsborough County (Tampa), Florida, and Tarrant County (Fort Worth), Texas. A primary objective of Task Order #10 is to develop techniques and tools to monitor and evaluate TB programs.

Epidemiologists in Florida and Texas have compiled cost data and performance measures of national TB goals to help evaluate the efficiency and effectiveness of TB programs. Preliminary work has resulted in a number of presentations and publications, including two papers in the *Annals of Epidemiology*. The latest, authored by Thaddeus Miller, Steve Weis, and others, is titled "Using Cost and Health Impacts to Prioritize the Targeted Testing of Tuberculosis in the United States." The paper compared TB programs for homeless and jail populations. It found that resources generate relatively better results among the homeless than among jail inmates. This suggests that for a given level of TB funds, efficiency would be improved by shifting resources to the homeless. The Florida

and Texas teams presented some of these and other findings at a recent conference of the American and Canadian Evaluation Associations in Toronto on October 29, 2005.

The Fort Worth conference emphasized both practical and theoretical issues on the first day. Following an update on Task Order #10, there was a presentation of the Florida experience and tool by Betial Teweldemedhin. Participants then heard a talk about the principles of cost accounting by Joseph Coyne of Washington State University, two presentations by Victoria Phillips, an economist with Emory University, about cost-effectiveness analysis, and a presentation by Travis Porco of the State of California Department of Health on epidemiology and the measurement of health outcomes. The second day focused more on implementation issues and the differing perspectives of local, state, and federal organizations. The day began with a presentation by Gerry Burgess Drewyer with the Tarrant County TB program about the primary concerns of local health departments such as hers. This was followed by two talks by state officials familiar with the allocation of resources to TB surveillance, control, and treatment. First, Keith Hughes discussed the evolution of budgeting for TB in Florida and what really matters most in determining these allocations. Second, Charles Wallace with the State of Texas provided valuable insights about how resources have been allocated in Texas for TB. This was followed by a presentation from Heather Duncan of CDC who offered a view from the federal perspective.

In the afternoon of October 12, there was a return to theoretical issues with an overview of discounting by Todd Jewell of the University of North Texas at Denton. This helped participants understand the sometimes-arcane logic of economists and finance departments who do not typically view the value of money as static and commonly discount future revenues and costs for the purposes of decision making. The conference

wrapped up with a roundtable discussion about accomplishments and directions for future work.

The concept of compiling basic accounting data to measure costs and linking these with health outcome data is not a breakthrough in management thinking. However, there is growing realization throughout the United States and within international and federal circles (especially at CDC) that greater attention must be paid to efficiency and to monitoring and measuring health impacts. This extends well beyond simply producing at low cost. It also means being better at making difficult decisions about where to allocate scarce resources.

One just has to look at the World Health Organization (WHO) as it transforms itself by results-based budgeting and management. Now in its fourth budgeting cycle based on program performance and health impacts, the Director General of the WHO, Dr. Jong-wook Lee, believes that the transition to results-based budgeting and management has been a “considerable success” in building a WHO-wide focus on results, improving the targeting of resources, and achieving greater accountability (WHO Budget 2006–2007).

So, why not CDC and the state and local TB programs?

As stated by CDC Director Julie Gerberding, MD, MPH, in a letter to partners, “We are refocusing our efforts to address goals that truly have an impact on people’s health and safety across their lifespan...Our new structure better aligns CDC to achieve these goals. Our new coordinating centers will help CDC’s scientists collaborate and innovate across organizational boundaries, improve efficiency so that more money can be redirected to science and programs in our divisions, and improve the internal services that support and develop CDC staff.”

As we work in an era of accelerating change, CDC can flourish by enhancing results-based

decision-making. Results-based management is all about aligning TB goals and CDC agencywide health goals to the program planning process—i.e., to program performance and the budget. Once done, it makes sense to fund programs (and projects within those programs) that support agreed-upon health goals and perform well, so as to achieve the results that ultimately lead to positive health impacts.

The participants in Task Order #10 believe that our work has the potential to contribute to more efficient TB control and hope that future work will develop user-friendly products that can be tested in a variety of demonstration sites around the country.

—Submitted by Peter Hilsenrath, Ph.D., Professor,
Dept of Health Management and Policy,
School of Public Health,
University of North Texas Health Science Center,
and Scott J.N. McNabb, Ph.D., M.S.,
Distinguished Consultant
Div of TB Elimination



Participants of the Economics of TB Prevention and Control Conference, Ft. Worth, TX, October, 2005.

Preliminary Findings of the NTCA/CDC Genotyping Survey

At the request of attendees of last year's National TB Controllers Association (NTCA) meeting, a small NTCA/CDC workgroup formed to increase our understanding of the current needs of the

national genotyping program. The workgroup's focus has been to determine what resources are available or required to assist states in managing genotyping data. An initial study conducted in 2004 determined that many state and local TB control programs were at the planning and development stages for implementation of universal genotyping programs.

A second NTCA/CDC web-based study in August 2005 reassessed states' use of genotyping data. Specifically, the study was designed to obtain feedback on improving the current universal genotyping program: how programs were using genotyping data, what programs would like to do differently, better, or more easily with genotyping surveillance, and how NTCA and CDC might be able to facilitate these improvements.

A total of 49 (94%) of 52 TB programs completed the survey. Forty-six (94%) reported that they were conducting universal genotyping (submitting one isolate per culture-positive case). Of the three that do not conduct universal genotyping now, two plan to transition to universal genotyping by the end of 2006. Twenty-six (53%) programs mandated submission of isolates to a county or state public health laboratory.

Isolate tracking. Forty-four (88%) programs reported having some system for tracking isolates, but only 15 (31%) had the capability of tracking isolates during the genotyping submission process that could provide an alert when results were delayed.

Genotyping Data Management. Thirty-one (63%) of the programs received genotyping results directly at the TB program, while 14 (29%) received results via the state public health laboratory only. A majority of the programs reviewed genotyping results as soon as they were reported; 34 (69%) and 38 (78%) reviewed genotyping results to decide whether to request RFLP or conduct a cluster investigation, respectively. Three programs review data only two to three times per year, suggesting they were

not using genotyping data to direct the implementation of real-time interventions. To manage the reports received from the reference laboratories, 24 (49%) programs merged new genotype reports with prior reports in a single cumulative Microsoft Excel spreadsheet, while 18 (37%) used another database program such as Microsoft Access.

Linking Data to Epidemiologic Information.

Twelve (25%) programs routinely linked epidemiologic information to genotyping results on all of their isolates; 15 (31%) linked epidemiologic information only on clustered isolates. Under certain circumstances, such as assessing suspected outbreaks or unusual clusters, eight (16%) programs linked epidemiological information. Of the programs that linked epidemiologic and genotyping data to characterize clusters, more than half were able to do so by geographic distribution (72%), drug susceptibility (62%), country of origin (64%), race or ethnicity (56%), and other TB risk factors such as alcoholism or homelessness (74%). Only 10 programs (20%) made no attempt to link genotype data with epidemiologic data. The following reasons emerged as potential barriers to making such linkages: lack of resources, few reported cases, and difficulty in determining which unique identifiers to use to link the data.

Communication. Six (12%) of the programs routinely held cluster conferences to discuss the status of ongoing genotype cluster investigations, 18 (37%) held meetings as needed, and 23 (47%) held no conferences or meetings. Eighteen (37%) programs reported occasionally communicating with other programs. However, 30 (61%) rarely or never communicated with neighboring jurisdictions or states to compare or discuss genotyping results.

Satisfaction. Only four (8%) of the programs were very satisfied with their state's current use of genotyping data. Many responders felt that their current program depended too much on one or two key personnel to review data (31%), they

could not easily link epidemiologic information (31%), they needed more education on how to interpret results (33%), or they could not easily compare state results to national results (53%).

This survey provided much-needed insight into the programmatic use of genotyping across the United States. Several important issues have emerged as challenges for continued success of the national genotyping program. Improving local access to useful data management tools that help facilitate linking epidemiologic variables and sharing interstate genotyping information is needed. Even though 61% of the programs reported rarely or never communicating with neighboring jurisdictions, about 80% of responders were willing to share genotyping results with other TB controllers, and another seven were willing to do so if certain criteria were met, such as approval from leadership and assurance of confidentiality. DTBE continues to collaborate with the NTCA Genotyping Workgroup to develop new tools to manage and query genotyping data. Specifically, we are currently developing an online system to help local TB programs share genotyping information related to interstate clusters. CDC is committed to improving the programmatic use of genotyping data for local interventions and will provide consultation and education to local programs. If programs have questions about genotyping laboratory procedures, they should call Lauren Cowen at (404) 639-1481 (los4@cdc.gov); for questions concerning the interpretation of genotyping results, call Patrick Moonan at (404) 639-5310 (bng3@cdc.gov).

—Submitted by Patrick Moonan, Epidemiologist
Michele Hlavsa, EIS Officer
Div of TB Elimination
and Phil Griffin, co-Chair
NTCA Genotyping Workgroup
Kansas Department of Health and Environment

NEW CDC PUBLICATIONS

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PERSONNEL NOTES

Gaby Benenson, MPH, has accepted an offer to join the Division of Global Migration and Quarantine (DGMQ) as Senior Health Education Specialist, effective February 21, 2006. Gaby received her bachelor of science degree in health science from James Madison University in Harrisonburg, Virginia, then a masters degree in public health in health behavior and health education from the University of Michigan. Gaby joined CDC as an Association of Schools of Public Health fellow assigned to DTBE in 1999 and was quickly hired by DTBE permanently upon completion of the fellowship in 2001. Gaby was instrumental in the development of numerous TB education and training related activities, including the Mantoux Tuberculin Skin Testing Materials, the www.findTBresources.org database, and the annual TB Education and Training Network meeting. Gaby

also served on the DTBE Outbreak Evaluation Unit, and was involved in outbreak-related education and training activities in Indiana, as well as with the Hmong in California and Thailand. In her new position in DGMQ, Gaby will be responsible for establishing and implementing a strategic vision for ongoing training of DGMQ field staff and their many partners in the airports, in private industry, and in communities. We are happy that Gaby has this opportunity, but we will miss her very much.

Puneet Dewan, MD, joined the International Research and Programs Branch of DTBE on December 2, 2005, and he has been seconded to the World Health Organization, Southeast Asia Regional Office in New Delhi, India. Before joining CDC in 2001, he was an internal medicine resident at the University of Washington, Seattle, and earned an MD degree from the University of California at Los Angeles (UCLA). Puneet previously served as an Epidemic Intelligence Service Officer with DTBE's International Research and Programs Branch and was the project officer for a variety of TB epidemiologic research and program-building efforts in the former Soviet Union and Southeast Asia. He also previously served as a WHO consultant evaluating TB program collaborations with the private medical sector in India. From 2003 to 2005 Puneet served in the Field Services and Evaluation Branch, DTBE, where he was assigned to the San Francisco Department of Public Health. In San Francisco, Puneet was responsible for the city-wide switch from tuberculin skin testing for *M. tuberculosis* infection to the use of blood assays for *M. tuberculosis*. He also conducted outbreak investigations, operational research, and locally implemented studies for the TB Epidemiologic Studies Consortium.

Derrick Felix was selected for the Public Health Advisor position in Honolulu, Hawaii, and began his new assignment on November 28, 2005. Derrick recently completed a 1-year assignment with the Fort Wayne–Allen County Department of Health TB Control Program in Fort Wayne, Indiana. During this time, he provided leadership, direction, and technical assistance to the local public health department in the midst of a TB outbreak in the local African-American community. Derrick assisted with the development of policies, procedures, and plans necessary to meet the changing needs of the program. He also mentored newly hired staff, trained them in how to conduct TB

control activities, reviewed all cases and suspects to ensure appropriate case management, developed and implemented monthly case conference, and created a database that is being used to store and analyze data collected by the program. Derrick joined DTBE's Field Services and Evaluation Branch in April 2003 and began his first assignment with the Chicago Department of Public Health TB Program in Chicago, Illinois. He led and participated in monthly case conferences; conducted surveillance activities, case management, and contact and source case investigations, and provided DOT. Derrick also participated in large screenings within worksites and schools. He developed a database to track contacts identified during contact investigations and made modifications to another database to analyze Class B1/B2 immigrant screening data. Additionally, Derrick participated in temporary duty assignments in Portland, Maine, to assist in a TB outbreak among the homeless; Augusta, Maine, to implement a database allowing outbreak analysis and oversight at the state; Fort Wayne, Indiana, to assist in an outbreak among the African-American community; and Baton Rouge, Louisiana, to assist with TB control activities during the aftermath of Hurricane Katrina. Prior to joining CDC, Derrick worked for the Florida Department of Health TB Program in Palm Beach County June 2002 to April 2003. As a Health Services Representative, he provided DOT and case management to TB patients in the field and clinic settings. Derrick, a graduate of the University of Florida, has a BS degree in Health Science Education.

Odile Ferroussier, MPH, has left DTBE after serving for 4 years in the International Research and Programs Branch. She co-led the formal evaluation of the pilot of the Binational Card Project; designed, implemented, and is currently analyzing a study to assess the cost-effectiveness of four MDR TB treatment strategies based on the use of standardized and individualized drug regimens in Peru; evaluated the cost of private-public mix partnerships to improve TB case detection in Kannur district in India; and taught and mentored staff in numerous operational research projects in Russia and Latin America. Currently Odile is working for the International Union Against TB and Lung Disease in the TB/HIV Department. She is coordinating the work of the International Advisory Committee for the Union's Integrated HIV care initiative, the goal being to integrate TB and HIV care in pilot areas in Benin, the

Democratic Republic of Congo (DRC), and Myanmar. She is also overseeing the development of the information system for this initiative. Odile is developing the protocol and instruments for a survey of patient costs, to be administered to coinfecting patients in DRC and Benin. Finally, she is adapting a TB Program Management course (originally in English) for francophone countries and organizing the first session to be held in Cotonou, Benin, in late November 2006.

Stacy Harper has joined DTBE in the Clinical and Health Systems Research Branch as a Senior Public Health Advisor (PHA) and will work particularly on facilitating cross-branch activities and procurements. Stacy has served as a PHA for CDC for nearly 15 years, with field assignments including West Palm Beach, Florida, Washington, DC, and San Diego, California. In these previous assignments she served as a disease intervention specialist (DIS), Training and Education Coordinator, and Surveillance Coordinator before coming to CDC headquarters in Atlanta. In her assignment as a Public Health Advisor and Training Specialist, she provided training, developed surveillance and epidemiology courses, and provided technical assistance to the STD/HIV Prevention Training Centers. She has served on details to San Antonio to assist Katrina evacuees; to the newly formed Office of Workforce and Career Development (OWCD); to the West Nile Virus program (blood transfusion and organ transplant team); to the Smallpox Vaccine Program Plan, training states for implementation of Smallpox Vaccine; and to SARS assignments. Most recently she served as a Project Officer for the National Center for Injury Prevention and Control, Division of Injury Response (proposed). She is the current President of the Watsonian Society and serves as Chair of the Professional Development Committee for the Society. Stacy holds degrees in optometry and music, and attended graduate school at the University of Washington in epidemiology.

Jimmy Keller has accepted the Senior Public Health Advisor position with the Florida Bureau of TB and Refugee Health. For the 14 years that Jimmy has worked in public health, this assignment to Florida will be his sixth geographic location of assignment. He started at the Dade County Public Health Unit, Miami, Florida, in May 1991 as a Public Health Associate II, in the STD program. In September 1992, he was

transferred to New York City, New York, where he worked in the STD program at the Ft. Greene Health Center, Brooklyn, and the Jamaica Health Center, Queens, until January 1995. At that time, he accepted a position as a Supervisory Public Health Advisor with the New York City TB Program and served at the Morrisania Chest Clinic, Bronx and Chelsea Chest Clinic in Lower Manhattan. In May 1998, Jimmy accepted the position as the Public Health Advisor (Special Projects Coordinator) with the Detroit, Michigan, TB Program. This assignment broadened his scope of experience beyond the realm of service delivery into issues of program management and performance. In January 2001, he accepted a transfer to the Ohio TB Program which brought him the responsibility of coordinating programmatic activities for a state-level TB program, including such things as contracting for TB medical consultant services and participating in planning for cooperative agreement fund allocations; development of funds carry-over requests; and personnel and staffing administration. In November 2003, Jimmy accepted the Public Health Advisor position at the North Carolina TB Program. Here he encountered the full spectrum of program management activities related to planning operational activities; organizing staff meetings; controlling funds expenditures; carrying out staffing functions related to preparing position descriptions and developing new positions; and directing focus on national TB objectives. Jimmy began his service in the role of Senior Public Health Advisor for the Florida Bureau of TB and Refugee Health on November 28, 2005.

Kayla Laserson, ScD, has left DTBE. She has accepted an exciting new position as the Director of CDC's field station in Kisumu, Kenya, managing a staff of 600 people and directing an international health portfolio that includes research and program activities for malaria, TB, HIV, and other emerging infectious diseases. She and her family moved to Kenya during the last week of January, and she assumed her new role on February 1, 2006. Though we in DTBE are happy for Kayla to have this wonderful opportunity, we are sad to see her leave the division, to which she has contributed so much since arriving as a new Epidemic Intelligence Service (EIS) officer in the International Research and Programs Branch (previously International Activities unit) in July 1997. During her nearly 9 years with DTBE, Kayla has made very significant contributions

to the global control of TB as well as to the efforts to eliminate TB in the United States. One of her major areas of focus has been the improvement of TB control in Latin America. Her work in that area in DTBE has been built upon her previous years of experience living and working in the region, conducting research on malaria. As another part of her DTBE work with Latin America, in particular Mexico, and also building on her efforts to improve TB screening, treatment, and care among immigrants in the United States, Kayla led efforts to design and implement the very successful binational TB card referral project, which was launched in 2003. Since its inception and launch, this project with Mexico—which required extensive negotiations and consensus building among two federal governments, multiple state governments from both countries, as well as a number of commissions and nongovernmental organizations—has generated much-needed information on the volume of TB patients who migrate across the U.S.-Mexico border while under active treatment, and has helped ensure that these patients actually complete treatment. In addition to the binational referral project, Kayla has conducted extensive epidemiologic studies on multidrug-resistant (MDR) TB, TB/HIV, and TB among healthcare workers; has led or contributed to multiple outbreak investigations in the region; and has worked with the Pan American Health Organization (PAHO) as the CDC representative to facilitate a number of TB program capacity-building and policy development exercises in the region as well. In addition to her work with Latin America, she has provided extensive technical assistance and epidemiologic expertise for DTBE's work in Southeast Asia, Africa, and Eastern Europe. For Southeast Asia, she has worked closely with staff of other DTBE branches, the DTBE field assignee for Southeast Asia, and staff of the Division of Global Migration and Quarantine to improve the immigrant and refugee screening process through the conduct of a number of studies and capacity-building exercises. Within Africa, she has worked extensively to develop TB program capacity for a number of countries for conducting operations research as a way to empower TB program staff to use program data and resources to identify problems and make key improvements in program performance. Additionally, she developed and refined strategies for assessing TB drug quality within the TB program context to help ensure the availability of quality drugs for treating patients, and carried out extensive training

for the methodology with TB staff from a number of countries. At the global policy level, Kayla led the effort to develop and refine new case registry and treatment outcome definitions for MDR TB patients, which are now widely used as the standards for registration and cohort analysis of MDR TB by a large number of TB programs throughout the world implementing DOTS-Plus projects for the treatment and management of MDR TB. Furthermore, she has made significant contributions to efforts of the World Health Organization (WHO) to develop new reporting and recording standards to accommodate the new 2006–2015 Stop-TB Global Plan's call for integrating MDR TB and TB/HIV within the DOTS strategy. Last but not least, Kayla's enthusiasm, love of teaching, and great epidemiologic talent have been integral and critical to DTBE's success in attracting the best and the brightest EIS officers for several years running. Though she will be sorely missed, we know that Kayla will continue to make incredible contributions to public health in Kenya and the Africa region, where her talents are greatly needed. We wish her and her family the very best in their new life in Kenya and take comfort in the fact that she will continue to have impact on global TB control in her new position.

Gabe Palumbo, MBA, MPH, has left DTBE and accepted a position with the Division of Global Migration and Quarantine as the Detroit Quarantine Station Officer in Charge. He began his new position on December 12, 2005. Gabe joined the DTBE field staff in 1993 with an assignment to the New York City TB Program. In 1996, he was reassigned to the New York State TB Control Program with responsibilities for both Nassau and Suffolk counties. Gabe was subsequently reassigned to the Wisconsin TB Program in 1997, where he provided consultation and technical advice on statewide TB program development and assistance to local jurisdictions. In January 1999, he was selected for the senior PHA position in Hawaii, where he was responsible for TB program management activities. In 2001, Gabe reported to Lansing, Michigan, where he was responsible for providing technical advice and assistance to the Michigan TB Program, as well as working with local health departments in TB prevention and control efforts. Most recently, Gabe was the senior PHA for the California TB program. During his tenure in this position, Gabe served as the Chief, Resource Planning and Management Section,

with primary responsibility for managing TB Branch fiscal resources and contractual awards.

Laura Jean Podewils, MS, PhD, has joined the Clinical and Health Systems Research Branch of the DTBE as an Epidemiologist for the Tuberculosis Trials Consortium (TBTC). The TBTC's main purpose is to carry out targeted clinical studies to investigate TB research questions that will improve TB treatment and prevention strategies. Laura holds a doctorate in epidemiology from Johns Hopkins Bloomberg School of Public Health, and completed 2 years at CDC as an Epidemic Intelligence Service (EIS) Officer in the Respiratory and Enteric Viruses Branch of the Division of Viral and Rickettsial Diseases in June 2005. She has previous clinical trials experience working as a data manager and research associate for a multicenter trial assessing walking as a means to attenuate fatigue in women with breast cancer, and as the principal investigator for a randomized trial evaluating the role of a home-based exercise program on maintaining physical function in persons with Alzheimer's disease. In her new assignment, Laura will be serving as a project officer and epidemiologist in support of multiple TBTC trials. Laura's initial activities include the assessment of the antibiotic moxifloxacin as a potential new antituberculosis agent and the assessment of side effects associated with the intermittent use of rifamycins for treatment of latent TB infection.

Susan Spaethe of the Information Technology and Statistics Branch left DTBE on Feb. 3, 2006, having accepted a career promotion with the National Center for Public Health Informatics, in the BioSense Program. Susan joined DTBE 6 years ago as a Computer Specialist and became Team Leader for the Software Application Development Team, supporting the DTBE data management activities. She was also the DTBE Technical Contact for the CITS contractors, assisting DTBE/OD in managing our CITS resources. She performed these and many more duties, such as serving as our Combined Federal Campaign coordinator for several years, outstandingly well. She always held a can-do attitude toward the bureaucratic barriers that sometimes delay our progress as we attempt to meet our goals and objectives. We will miss her humor and friendship and wish her well.

CALENDAR OF EVENTS

March 2–4, 2006

10th Annual Conference of the International Union
Against Tuberculosis and Lung Disease (IUATLD)
North American Region
Chicago, Illinois
American Lung Association of Metropolitan Chicago
http://www.lungchicago.org/site/epage/23955_487.htm

March 9–10, 2006

The TB Cohort Review Process
New York City, New York
Charles P. Felton National TB Center at Harlem
Hospital
Tel: (212) 939-8258; fax: (212) 939-8259

April 19–21, 2006

TB Vaccines for the World – TBV 2006
Vienna, AUSTRIA
http://www.meetingsmanagement.com/tbv_2006/index.htm

April 24–28, 2006

55th Annual EIS Conference
Atlanta, GA
Epidemic Intelligence Service, CDC
<http://www.cdc.gov/eis/conference/conference.htm>

April 26–29, 2006

The Denver TB Course
Denver, CO
National Jewish Medical and Research Center
<https://www.njc.org/about/calendar/event-details.aspx?setID=186>

May 10, 2006

TB Case Management and Contact Investigation
Workshop
Anaheim, California
Francis J. Curry National TB Center
This is a workshop for nurses, communicable disease
investigators, and medical social workers who work in
TB programs. It covers the basics of TB case
management, the new contact investigation
guidelines, medical management of TB/LTBI cases,
and patient adherence, and is approved for 6.5
continuing education hours. Faculty: Dr. Karen Smith,
Carol Pozsik, and Barbara Cole, among others. For a

complete course description and application
information, please visit

http://www.nationaltbcenter.edu/training/tb_case_management_workshop.cfm

June 12–15, 2006

2006 National TB Controllers Workshop: *"Eliminating
TB: Fighting the Enemy"*
Division of Tuberculosis Elimination, CDC
Atlanta, GA
Sheraton Buckhead