DEPARTMENT OF HEALTH & HUMAN SERVICES Public Health Service

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

TB Notes
No. 1, 2008

Dear Colleague:

The 38th Union World Conference on Lung Health was held in Cape Town, South Africa, November 8–12, 2007. Sponsored by the International Union Against Tuberculosis and Lung Disease (The Union), it was held at the Cape Town International Convention Centre (CTICC). The theme of the conference was "Confronting the Challenges of HIV and MDR in TB Prevention and Care." Other key international issues, such as tobacco control, child lung health, and asthma, were also addressed. Conference organizers believed it was appropriate for the World Conference to be held in Cape Town and to have a theme highly relevant for South African and other African colleagues. African health professionals daily confront the burden of HIV/AIDS and TB coinfection and its medical, health, social, and economic consequences, despite serious challenges and resource constraints. The conference addressed these constraints to effective prevention and care while taking into consideration broader issues.

The region of South Africa this year has attracted much medical attention from TB and lung health experts owing to the emergence of extensively drug-resistant strains of TB (XDR TB); the continuing epidemic of patients coinfected with TB and HIV; and the critical need for new drugs, diagnostic tools, and resources to address these problems. Speakers and delegates from more than 100 countries made presentations and led discussions. The conference included a special guest lecture and awards ceremony; three plenary sessions; 13 postgraduate courses; 11 full-day and two half-day courses; seven workshops; and 40 symposia. Topics ranged from rapid detection of drug resistance and transmission dynamics of MDR and XDR TB to ensuring integrated TB/HIV care and quality management for laboratory services. The Union/CDC latebreaker session was held again this year.

At the opening ceremony of the Union conference, plans for the 2008 World TB Day campaign were announced by Stop TB Ambassador Anna Cataldi. She announced that a campaign aimed at challenging people all over the world to do their part to fight TB will be launched in 2008 in the months before World TB Day, March 24. “The slogan, *‘I am stopping TB,’* says that everyone can take an active role in helping all people in need gain access to accurate TB diagnosis and effective treatment," Ms. Cataldi said. World TB Day is an opportunity for all of us in TB control to take stock of our progress and problems in overcoming TB worldwide and to renew our efforts.

The Advisory Council for the Elimination of Tuberculosis (ACET) convened November 27–28, 2007, in Atlanta. Dr. Hazel Dean, acting Deputy Director, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention (NCHHSTP), provided updates on NCHHSTP activities and staff. She discussed NCHHSTP priorities, which include reducing health disparities; implementing program collaboration and service integration (PCSI) activities at the client level; and maximizing relationships among NCHHSTP divisions that are global in nature. I provided the DTBE Director's update, including the announcement that the 2006 TB surveillance report is now available. Included in the report for the first time is a graph reflecting U.S. cases of extensively drug-resistant (XDR) TB during 1993–2006; there were 48 cases reported in 13 states and New York City. I reported that TBTC Study 28 has been completed; this trial assessed the impact on sputum conversion rates of substituting moxifloxacin for isoniazid in the standard intensive phase of TB treatment. The study found that the moxifloxacin arm had a slightly higher (although statistically nonsignificant) sputum conversion rate, and had excellent tolerability.

Ms. Fran DuMelle outlined several legislative proposals that could result in congressional funding for certain TB control activities such as the development of new tools for the elimination of TB, the expansion of DOTS coverage, and treatment of individuals with TB/HIV and those with MDR or XDR TB. We heard the latest update from Dr. Dolly Katz about the revision of the guidelines for controlling TB in foreign-born persons; first drafts have been completed for most sections. Dr. Drew Posey of the Division of Global Migration and Quarantine (DGMQ) reported that the CDC Technical Instructions for Panel Physicians were finalized and are posted on the CDC website. The instructions have been implemented in Mexico, the Philippines, and Thailand; Vietnam and other areas will begin soon. Dr. Francisco Averhoff of DGMQ discussed the use of homeland security tools for public health purposes, such as the "Do not board" order; since May 2007, CDC has requested 17 such orders for persons with known or suspected infectious TB. Dr. Diana Schneider gave a comprehensive presentation on case management and legal issues in the border region, and the progress being made by the Transnational TB Continuity of Care Workgroup.

Dan Ruggiero of DTBE and Donna Wegener of the Southeast Regional Training and Medical Consultation Center (RTMCC) gave updates about the activities and accomplishments of the four RTMCCs. In 2006, the RTMCCs provided over 100 courses that resulted in the training of 7,126 health care workers, disseminated 3,850 products online, and provided 1,720 medical consultations. Dr. Wanda Walton and Dr. Tony Catanzaro gave updates on the National Strategic Plan for TB Training and Education and the National Tuberculosis Curriculum Consortium (NTCC), respectively. Both are coming to the end of their coverage period and must review options for future development and activities. Dr. Rick Goodman reviewed the issues relevant to public health TB control laws in the setting of emerging drug-resistant TB and described options for conducting an updated review of TB control laws. Dr. John Ridderhof discussed the capacity of U.S.

laboratories to do second-line drug-susceptibility testing (DST) and areas needing improvement, such as turn-around time. He also summarized a World Health Organization (WHO) Expert Meeting held July 2007 to discuss policy guidance on second-line DST; meeting participants concluded by recommending rapid rifampicin testing in high-risk settings for screening, but said that conventional DST is still the gold standard.

Dr. Ann Buff summarized the contact investigation around the traveler with suspected XDR TB; the extensive investigation found no evidence of *M. tuberculosis* transmission from the patient. Mr. Shannon Jones briefed us on action steps and recommendations developed by the TB in African Americans workgroup. Dr. Michael Leonard, representing the Infectious Diseases Society of America (IDSA), gave an update on the letter sent to the American Thoracic Society (ATS) and IDSA expressing concerns about use of fluoroquinolones in treating community-acquired pneumonia. Concerns are that the use of fluoroquinolones could delay a diagnosis of TB, and also that fluoroquinolone monotherapy could lead to resistance. ATS agreed with these concerns, but suggested CDC should address them in its guidelines. I suggested resubmitting the letter to other infectious and respiratory disease groups; this discussion will continue. Edward Nardell gave an update on the BCG workgroup, which is revisiting the use of BCG for the protection of health care workers, students, and others in foreign settings having a high prevalence of MDR or XDR TB. After discussing additional business, we adjourned and will reconvene in March 2008.

As I mentioned above, March 24 is observed as World TB Day around the globe. World TB Day provides an opportunity to communicate TB-related problems and solutions and to support worldwide TB-control efforts. Every year, DTBE posts data on U.S. trends in TB, reports of state and local World TB Day activities, and training and educational materials that can be ordered or downloaded. Please visit the DTBE website for information about the 2008 campaign and materials you can use to promote TB control efforts in your area.

Kenneth G. Castro, MD

In This Issue

Note: The use of trade names in this issue is for identification purposes only and does not imply endorsement by the Public Health Service or the U.S. Department of Health and Human Services.

TB Notes

Centers for Disease Control and Prevention
Atlanta, Georgia 30333
Division of Tuberculosis Elimination ♦
National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention

Number 1, 2008

HIGHLIGHTS FROM STATE AND LOCAL PROGRAMS

TB Outreach Educator Honored

Juan Valerio, TB Outreach Educator for the Massachusetts Division of TB Prevention and Control, was recently honored as part of the Commonwealth of Massachusetts Performance Recognition Program. This program recognizes the outstanding contributions of individuals and groups of state employees who play a major role in the successful delivery of quality services to the citizens of Massachusetts. Juan, as well as nine other state employees across all state agencies, was a recipient of the 2007 Manuel Carballo Governor's Award for Excellence in Public Service. This award is named in honor of the late Secretary of Human Services of Massachusetts and is given annually to no more than 10 employees of state agencies who exemplify the highest standards of public service. Nominations are screened by a selection committee comprised of the Massachusetts Speaker of the House, the President of the Senate, and gubernatorial appointees from business, labor, community groups, academia, and the media. The selection criteria include exceptional accomplishments; exemplary leadership, initiative, or dedication; and creativity or innovation. Juan was honored at a special awards ceremony on October 5 at the Sheraton Boston, where he was given his citation by Governor Deval Patrick.

The Massachusetts TB Division is extraordinarily proud of Juan. He is on the "front lines" of TB control every day, serving what are sometimes the hardest-to-reach populations in Massachusetts. He has given 19 years of service to the TB Division as a fulltime Outreach Educator covering the Boston neighborhoods and TB Clinic sessions at Boston TB clinics. In that role he has worked with Hispanic as well as non-Hispanic TB patients, their families, and others in the community to provide TB education; monitor patients who are on treatment for TB; provide patients with directly observed therapy (DOT) and social service support; provide interpreter services at the very busy TB clinic at the Boston Medical Center; make home visits to patients to gather information and perform services for patients as needed; assist in monitoring patients for factors such as drug compliance and medication side effects; follow up and track patients who miss their TB clinic

TB Notes is a quarterly publication of the Division of TB Elimination (DTBE), National Center for HIV, STD, and TB Prevention (NCHSTP), Centers for Disease Control and Prevention (CDC). This material is in the public domain, and duplication is encouraged. For information, contact

TB Notes Editor
CDC/NCHSTP/DTBE, Mailstop E10
1600 Clifton Road, NE
Atlanta, GA 30333
Fax: (404) 639-8960

DIRECTOR, DTBE
Kenneth G. Castro, MD

EDITORIAL REVIEW BOARD
Ann Lanner, Managing Editor
Gloria Gambale
Lauren Lambert, MPH
Philip LoBue, MD, FACP, FCCP
Mary Naughton, MD, MPH
Laura Podewils, MS, PhD
Angela Starks, PhD
Rita Varga
Elsa Villarino, MD, MPH

Sherry Brown, Mailing List Manager

Visit DTBE's Internet home page,
http://www.cdc.gov/tb,
for other publications, information, and
resources available from DTBE.

appointments; and identify contacts of TB cases and refer them for evaluation.

Beyond the usual outreach duties described above, outreach education has always been more than just a job to Juan. For example, he orients others to the role of the TB Outreach Educator in Massachusetts, and physicians often "shadow" him on patient home visits to see first hand what public health community work is like. He is the first to volunteer for TB-related activities that may be outside of his traditional outreach role. Last fall, Juan volunteered to assist the TB Division's Outbreak Response Team by working as an interpreter and educator at one of the state prisons in follow up to a cluster of reported TB cases.

It would be impossible to calculate the number of extra hours that Juan puts into his public health work. He often sees patients for DOT as early as 6 am before they go to work or in the evening or on weekends as needed, and he is always available to his patients whenever they call. He does all this with no expectation of extra compensation. It's just "part of the job," and he sees patients wherever it is convenient for them — on street corners, in shelters, in hospitals, under bridges, in economically depressed neighborhoods, or anywhere else.

In addition to taking care of the job-related TB aspects of his patients' lives, Juan recognizes that TB is just one of their health and social service needs. He recognizes that it is impossible to take care of TB alone without addressing the other patient concerns that may interfere with completion of TB treatment. Juan is as much a social service worker as he is a TB care provider and educator. Juan's dedication to public service extends beyond the TB Division office walls or the walls of the sites where he sees his patients. He understands the importance of community in moving the public health agenda and he understands the importance of giving back to the community.

As a community leader, and on his own time, Juan often speaks to the Latino community on issues such as TB, HIV, and other health-related topics via TV and public radio programs. Juan was also a guest on the live call-in weekly Spanish radio program, La Salud y Usted, co-sponsored by the Office of Minority Health at the Massachusetts Department of Public Health; he was also selected to participate in Por Christo (a volunteer medical service organization) for a community health TB project in Quito, Ecuador. He is the founder and president of a non-profit organization called FUNDARCO (Fundacion Del Arte y la Cultura Dominicana), which promotes the arts and culture of the Dominican Republic, and has written numerous health-related articles. He is on the board of various community organizations, newspapers, and his own

neighborhood health center, and is an active member of his church. He recently received recognition for his outstanding performance as a poetry reader in the Community Reading Program of the Hispanic Writers Week.

To quote from his nomination, "In summary, in his quiet, unassuming way, Juan Valerio promotes public health and public service every day in every aspect of his private and public life. He is a very caring person who is devoted to his family and dedicated to his job, his patients, and his community. He is also well known and respected in the Latino community for his achievements, leadership, interpersonal skills, and humanitarian heart."

Juan's colleagues in the Division are honored and proud to know and work with Juan each day.

—Submitted by Sue Etkind
Director, Division of TB Prevention and Control
Massachusetts Department of Public Health

TB Legal Forum for Southwestern Border States

The U.S.-Mexico Border Health Commission, Arizona Outreach Office, hosted a day-long TB legal forum in Phoenix, Arizona, at the Arizona Department of Health Services (ADHS) on October 3, 2007. The purpose of the forum was to foster an understanding of U.S. TB control laws and policies in the areas along the U.S.-Mexico border and to discuss cross-jurisdictional legal issues in TB control. The meeting will serve as a starting point for a proposed border health Legal Forum with Mexico to discuss cross-national TB cases, TB care standards, and TB legal statutes.

Participants included legal counsel and public health officials from the four U.S. states that border Mexico (Arizona, California, New Mexico, and Texas). Also attending were staff from the U.S.-Mexico Border Health Commission; the U.S. Department of Health and Human Services, Office of General Counsel and CDC; the U.S. Department of Homeland Security, Office of Health Affairs and U.S. Immigration and Customs Enforcement (ICE); the Tohono O'Odham Nation; and the ADHS Native American Liaison.

The participants were asked to describe the public health laws pertaining to TB in Arizona, California, New Mexico, Texas, Arizona Tribal Nations, and the United States. They were asked whether the laws were TB-specific, the source of the legal authority, the criteria used to initiate and continue legal action, and whether U.S. residency status affected TB care and court-mandated case isolation and quarantine.

A number of interjurisdictional TB issues were discussed. These included the admissibility of evidence in a jurisdiction other than where it is collected, the varying rules of evidence between states for documentation of nonadherence with treatment, the need for regionalization, areas in which the four states can improve cooperation, communication between states and Native American tribes, and tribal inclusion in collaborations.

Several binational case management challenges were discussed. These included funding and care issues for TB and MDR TB patients from another country, and the fact that CDC cooperative agreement funds are based on the number of U.S. cases without including the burden of treating TB cases from other countries. Attendees also discussed the increasing numbers of MDR TB cases along the border, the lack of second-line TB drugs in Mexico and Central America, and the need for tribal inclusion in binational and border TB control activities.

Attendees discussed the problem of ICE being unable to routinely retain people in custody to completion of TB therapy due to the fact that the statutory authority for ICE custody and detention is to facilitate repatriation. Other immigration enforcement issues discussed included statutory limits on duration of ICE custody, ethical considerations of providing treatment in the least restrictive setting, and civil liberties considerations. ICE will consider requests for stays of removal in special circumstances (e.g., MDR TB) in order to delay repatriation until after treatment completion; however, local jurisdictions would have to bear the cost of treatment and case management if ICE were to grant a stay of removal and the patient were released to the community or another secure facility.

A formal summary of the meeting is being compiled. It will include specific recommendations for addressing the multitude of issues that were discussed. The report of this meeting will be shared with a broad range of local, national, and international organizations that will need to work together to solve these challenges.

—Submitted by Karen Lewis, MD
TB Control Officer
Arizona Department of Health Services
and Diana L. Schneider, DrPH, M,
Senior Epidemiologist
Department of Homeland Security
U.S. Immigration and Customs Enforcement

Effecting Acute Isolation of TB Patients Utilizing Chicago Department of Public Health Emergency Quarantine and Isolation Regulations

Background

For the first time in a decade, the Chicago Department of Public Health (CDPH) has promulgated and enforced regulations regarding communicable disease. On May 6, 2003, the City of Chicago Board of Health and the Public Health Commissioner developed new regulations that highlight the process by which quarantine, isolation, directly observed therapy (DOT) and other disease control interventions can be initiated. These regulations, later revised February 18, 2004, can be found at http://egov.cityofchicago.org/webportal/COCWebPortal/COC_EDITORIAL/QnIFinalRegs_1.pdf

Court-ordered Directly Observed Therapy

In 2005, a cab driver was diagnosed with smear- and culture-positive pan-susceptible TB. The standard care was provided, including DOT, case management, and incentives and enablers as field staff deemed appropriate. The patient, however, was nonadherent with his treatment regimen. A directive indicating the expected treatment, follow-up, and infectious disease precautions for the patient was issued by CDPH.

Although the individual signed the directive, he continued to drive a cab while infectious, and thus was a threat to public health. CDPH notified Municipal Prosecutions and the Department of Consumer Services (DCS). The DCS is responsible for licensing and monitoring taxi cab drivers and companies. Chicago police are assigned to work with that department, so as to be easily engaged if needed.

A court hearing was scheduled and conducted, and DOT was court ordered. Regarding the hearing, we were told that we could not bring a person with TB into the Daley Center (where the circuit court of Cook County hears the majority of its cases). Thus, the hearing was held at a West Side Center for Disease Control conference room with HEPA filter and masks for the judge, patient, court reporter, and others. This was the first activation of communicable disease

regulations in a decade. At subsequent hearings, it was noted that the patient was adherent, and he has since successfully completed treatment.

Enforced Isolation

1st Case: Female with multidrug-resistant (MDR) TB attempting to leave jurisdiction on plane to China via O'Hare International Airport

In November 2005, a CDPH physician became aware of the possibility that a smear- and culture- positive MDR TB patient, then in voluntary isolation at a Chicago hospital, might become nonadherent to therapy and could pose a flight risk. CDPH regulations allow for the detention of a person with infectious communicable disease prior to legal hearing, based on established clinical criteria for infections, provided the patient's culture had not converted. Thus, orders were drafted and were also translated into the patient's native language.

In January 2006, CDPH was alerted to the patient's possible intentions to leave the country. Multiple conversations with CDC's Division of Global Migration and Quarantine (DGMQ) Officer, CDPH, and municipal prosecutors ensued. Although DGMQ could not physically stop a person from leaving, they could and would assist in other ways, including having a staff person monitor the check-in list for the patient and escorting CDPH staff to the gate to positively identify and intercept the patient. The patient was intercepted at the gate and brought to a hospital's emergency department.

After proper fit testing of respirators, the attorneys, judge, and court reporter held a hearing in the patient's room. As an outpatient, the patient continues to do well on therapy.

2nd Case: Female without proper visa and active TB attempting to enter US through O'Hare International Airport

In February 2006, the CDC Quarantine Officer gained knowledge from Customs and Border Protection (CBP) that a woman had attempted to enter the U.S. illegally from Paris, France. Travel had originated in Gabon (NW Africa) and was to end in California. A search of individual luggage yielded chest radiographs, TB medications, and masks. The Quarantine Officer was contacted and the individual was taken to the nearest hospital.

CDPH became involved the following day after further activity between CBP and DGMQ. A conference call was convened involving the CDC Quarantine Officer, CDPH, the Illinois Department of Public Health (IDPH), and representatives from the hospital, including the head of Infectious Diseases, the Chief Executive Officer, and the Infection Control Nurse. Although the patient was voluntarily staying in the hospital at this time, CDPH began to prepare an isolation order written in English and French.

The following day, the patient was served and signed the isolation order. She remained in the hospital on treatment until she became noninfectious and could travel.

Lessons Learned

Regulations, communication, and multi-jurisdictional collaboration are critical in effecting isolation orders. By virtue of this being a matter of court record, patient confidentiality cannot be assured. In an effort to minimize the risk of breaching patient confidentiality, we did not publicly announce our successful interventions and outcomes.

Related areas of legal intervention that need improvement include ongoing capacity

building for legal counsel and the courts, better coordination between city, state, and federal jurisdictions, and the ability to pay for forced holdings and inpatient treatment.

—Submitted by Susan Lippold, MD, MPH (CDC/CDPH)
Wendi W. Wright, MJ, JD (CDPH)
and William Clapp, MD (CDPH)
With special thanks to Sena Blumensaadt (DGMQ)

The 2007 Pacific Island Tuberculosis Controllers Association Meeting Pohnpei, Federated States of Micronesia

Sponsored by CDC and the Pacific Island Health Officers Association, in conjunction with the national government of the Federated States of Micronesia (FSM), the 5th annual Pacific Island Tuberculosis Controllers Association (PITCA) workshop was held November 26–30, 2007, at the College of Micronesia-FSM. An important milestone was reached for this PITCA meeting with the event being moved for the first time out of Honolulu and into the U.S.-affiliated Pacific Islands (USAPIs).

Over 90 individuals attended this meeting, with representatives from each of the six USAPIs: American Samoa, Guam, the Commonwealth of the Northern Marianas Islands, the FSM, the Republic of the Marshall Islands, and the Republic of Palau. Not surprisingly, more PITCA participants were sponsored from the four FSM states than from any other single USAPI. In general, USAPI PITCA representatives include TB administrators, TB controllers, TB nurses, and TB laboratory staff. This year, PITCA participants benefited from professional faculty from a variety of organizations, including DTBE in Atlanta (Phil Talboy, Kashef Ijaz, Thomas Shinnick, Andy Heetderks, and Alstead Forbes); the Health and Human Services Region 9 Office of Pacific Health and Human Services; the World Health Organization's Western Pacific Regional Office in Manila; the Secretariat of the Pacific Community in New Caledonia; the Australian Respiratory Council; the California State Microbial Disease Laboratory; the new Pacific TB regional reference laboratory, Diagnostic Laboratory Services, Inc., based in Honolulu, Hawaii; the Burns School of Medicine, University of Hawaii; and the Francis J. Curry National TB Center in San Francisco, California.

Shown in the photo are the U.S. Ambassador to FSM, Mimi Hughes, Alstead Forbes, Program Consultant, DTBE, and others attending a TB 101 presentation by Dr. Kashef Ijaz during the 2007 PITCA workshop.

The format for success that PITCA organizers employ each year involves 3 days of plenary sessions, as well as 2 days of breakout sessions. The first day's plenary session includes a status report from all of the USAPIs and represented agencies on their success in reaching the past year's goals and objectives, and any specific barriers and challenges faced. PITCA's day 5 plenary session concludes with the USAPI participants setting goals, objectives, and activities for the next year, including

measures for evaluation, timelines, and the office or person responsible for attaining each goal. The 2 days of breakout sessions are concurrent sessions specific for the laboratory, nursing, and clinical staff attending the meeting. Major concerns raised at the meeting are discussed with the expert faculty, with many resolved prior to the conclusion of the PITCA meeting. The issues not resolved are addressed as goals, objectives, or activities the following year.

The topics of the sessions presented at this year's PITCA meeting included monitoring and evaluation of TB program data, TB drug issues, review of shipping protocols from the International Air Transportation Association, issues from TB laboratory onsite evaluations, genotyping, contact investigations, problem-based learning for clinical cases, and expert medical consultation. Participants were treated to a premier of a new TB educational film developed by the Micronesian Seminar, made possible in part through funding by the U.S. Office of Minority Health. In addition, attendees were able to make side trips to the Pohnpei State Hospital, laboratory, and public health clinics. The next PITCA meeting will be in Honolulu, Hawaii, December 1–5, 2008.

—Reported by Andy Heetderks
Div of TB Elimination

Revision of Technical Instructions for Panel Physicians

The Division of Global Migration and Quarantine (DGMQ) has completed the revision of the Technical Instructions for panel physicians. Since 2005, DGMQ has been working with DTBE to review scientific literature on overseas pre-immigration medical screening and develop new algorithms. Input was also solicited from the U.S. TB community. The 2007 Technical Instructions for Tuberculosis Screening and Treatment (TB TIs) provide a modernized approach to TB screening overseas for U.S. immigration applicants. For the first time, mycobacterial cultures will be required for applicants suspected of having TB disease. Moreover, drug susceptibility testing on positive isolates and directly observed therapy (DOT) according to CDC / American Thoracic Society (ATS) / Infectious Diseases Society of America (IDSA) standards will be required for applicants with TB disease. It is expected that implementation of the 2007 TB TIs should help prevent importation of TB into the United States, improve U.S. domestic TB control, and increase TB infrastructure globally.

The 2007 TB TIs were first implemented in April 2007 for the screening of 14,000 Burmese refugees from Thailand who were to be resettled to the United States. The 2007 TB TIs have also been recently implemented for all applicants from Mexico and the Philippines. Global implementation will occur over the next several years, beginning in priority countries determined by immigration patterns, refugee resettlements, burden of TB, and U.S. domestic foreign-born TB case rates.

The 2007 TB TIs and a list of populations screened according to them can be found at www.cdc.gov/ncidod/dq/panel_2007.htm.

—Reported by Drew Posey, MD
Div of Global Migration and Quarantine

National Tuberculosis Indicators Project (NTIP): Intensive Review

The National Tuberculosis Indicators Project (NTIP) is an initiative designed to standardize the data for monitoring TB program progress toward objectives, which can then be used to guide program improvement efforts. This initiative is a joint effort between DTBE and state partners.

Recognizing resource limitations, DTBE will be launching NTIP to facilitate the optimal use of existing data sources, enhance the communication between DTBE and program areas, and facilitate the process for improving program effectiveness.

In September 2007, DTBE engaged a larger stakeholder audience in a 2-day intensive review meeting in Atlanta, Georgia, to provide input and guidance for NTIP.

External partners attending the meeting were TB program staff from California, Kansas, Maryland, Massachusetts, Washington, Minnesota, New York, Texas, and representatives of the National TB Controllers Association (NTCA), the Advisory Council for the Elimination of Tuberculosis (ACET), the TB Evaluation Working Group (EWG), and TB Education and Training Network (ETN). Also present were DTBE representatives from the Communications, Education, and Behavioral Studies Branch; the Field Services and Evaluation Branch; and the Surveillance, Epidemiology, and Outbreak Investigation Branch.

The purpose of the 2-day meeting was to ask external partners for input that would further refine NTIP and ensure that it will be a useful tool for TB programs. In addition to providing advice for enhancing NTIP, external partners provided recommendations to DTBE on how to further increase its effectiveness in providing guidance and assistance to the cooperative agreement recipients. Some of these recommendations include

- standardizing the cooperative agreement reporting format,
- implementing strategies to increase Aggregate Reports for Program Evaluation (ARPEs) reporting on contacts,
- providing constructive and substantive feedback to cooperative agreement recipients on work plans submitted (i.e., the human resources development plan and the program evaluation plan),
- developing complimentary educational materials to facilitate advocacy and training,
- providing support (i.e., local-level data and technical assistance) to states in implementing NTIP at the local level, and
- developing a record-based (i.e., line-listed) data collection system for contacts.

These recommendations will be used to inform division efforts, refine the cooperative agreements, streamline the cooperative agreement reporting process, and develop guidance to the states in prioritizing and focusing program improvement and reporting efforts.

—Reported by Kai Young, MPH, CHES
Div of TB Elimination

TB EDUCATION AND TRAINING NETWORK UPDATES

New Column! - Ask the Experts

The TB Education and Training Network (TB ETN) Membership Development Workgroup

welcomes you to the new TB ETN "Ask the Experts" column. This column will be a great way to get the answers to your TB education, training, and communication-related questions from some of the leading education experts!

Do you have a question about TB education, training, and communication issues? In each edition of *TB Notes*, a TB education and training expert will answer questions about these issues and topics submitted by *TB Notes* readers. Just submit your question to tbetn@cdc.gov. Please keep your questions as brief as possible. Please note, we reserve the right to edit questions.

Question:
I am going to our local correctional facility to provide TB education and training for the officers. They have never had any TB education or training before.

Are there any good videos I can show them? What about handouts or other training materials?

Answer:
According to the *Reported Tuberculosis in the United States, 2006* annual summary, there were 505 TB cases reported in correctional facilities in 2006. That represents 3.9% of all TB cases in the United States. Although the overall incidence of new TB cases among the U.S. population has remained at <10 cases per 100,000 persons since 1993, substantially higher case rates have been reported in correctional populations. Studies have demonstrated the prevalence of latent TB infection (LTBI) among inmates to be as high as 25%, with other studies indicating that transmission probably occurred in correctional settings. (CDC. *Reported Tuberculosis in the United States, 2006*. Atlanta, GA: U.S. Department of Health and Human Services, CDC, September 2007; and Prevention and Control of Tuberculosis in Correctional and Detention Facilities: Recommendations from CDC. *MMWR* 2006; 55 [No. RR-09]: 1–44.)

Issues that you may want to discuss with the correctional officers include

- Basic TB information, such as the difference between LTBI and active TB disease, symptoms of TB disease, diagnosis, and treatment
- TB screening and testing of inmates and staff, including when, why, and how
- Infection control, including how to protect themselves and inmates
- The importance of maintaining an effective employee TB screening and testing program to identify ongoing transmission

In addition, you could add a case scenario that perhaps happened in their facility (if they have one; if not, we would be happy to share). When training staff, particularly custody staff, it is important to demonstrate why they need to understand TB. It's not just a medical issue; it affects everyone who breathes, including those who "breathe beyond the bars," and the communities into which inmates are released.

Video (VHS / DVD) suggestions:

The Texas Department of Health has several videos (now in DVD format). To order, call 512-458-7447.

- Preventing Tuberculosis in Correctional Facilities – 22 min.
- Safely Transporting Inmates with Tuberculosis – 14 min.
- I Wish I'd Known Then What I Know Now – 9 min.

The New York State Department of Health Bureau of Tuberculosis Control has a video. To order, call 518-474-4845 or email tbcontrol@health.state.ny.us.

- TB Control in Prisons and Jails – 20 min.

Florida Department of Health
Order online at
http://www.doh.state.fl.us/Disease_ctrl/tb/Educational-Materials/edmat.html

- TB Control in Prisons and Jails (this is the same as the video from NY State
- Nurse Lucretia Goes to Jail: Contact Investigation in Correctional Facilities – 17 min.

Handout suggestions:

CDC pamphlets may be ordered free of charge at http://www.cdc.gov/tb

- Tuberculosis – Get the Facts (2005)
- Tuberculosis – The Connection between TB and HIV (2005)

"About Tuberculosis: Precautions for Law Enforcement, Correctional, Parole, and Probation Personnel" may be purchased from-

Channing Bete Company
One Community Place
South Deerfield, MA 01373-0200
1-800-391-2118
www.channing-bete.com

For additional resources, search the TB Education and Training Resources website at: www.FindTBResources.org.

For more information about TB in correctional facilities, check out the following resources:

- CDC. Prevention and control of tuberculosis in correctional and detention facilities. *MMWR* 2006; 55 (No. RR-09):1–44. http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5509a1.htm
- Francis J. Curry Center. The Tuberculosis Infection Control Plan Template for Jails. http://www.nationaltbcenter.edu/products/product_details.cfm?productID=WPT-09 (currently only available via the web; excellent resource)
- Southeastern National Tuberculosis Center, affiliated with the University of Florida College of Medicine, Gainesville, FL. Corrections webpage http://sntc.medicine.ufl.edu/Corrections.aspx
- Ellen R. Murray, RN, BSN, Training Specialist/Nurse Consultant, Southeastern National Tuberculosis Center. Ellen.murray@medicine.ufl.edu

Note: The authors are not responsible for the content of the education and training materials mentioned in this article. It is up to the user to evaluate the materials.

Member Highlights

In this issue we highlight Ashley Ewing and Sheanne Davis, who have been the Conference Planning Committee co-chairs for the TB ETN annual conference for the past 3 years.

Ashley Ewing is a Health Educator for the North Carolina Division of Public Health, Department of Health and Human Services. She received her bachelor of science degree in Health Education from East Carolina University.

Ashley's job responsibilities include planning, organizing, and implementing TB health education

programs for public health personnel, private providers, and other health care providers as requested; assessing health education plans and modifying as required to meet program goals and objectives; advising local health department TB staff concerning material development; conducting program planning and evaluation; and developing a working relationship with DTBE.

Ashley first learned of TB ETN when she began her position as a health educator. One of the nurse consultants in her department was a member, and she "passed" the role on to Ashley. Ashley joined TB ETN because she thought it would be a great way to learn about TB from the perspective of a health educator versus that of a health care provider. She also joined to learn about methods for developing effective educational tools for both providers and patients.

Ashley is also a co-chair of the TB ETN conference planning committee. She joined this group to meet and learn from other people who do the same type of work that she does. She felt that the TB ETN annual conference would be a great opportunity to get input on information being provided to other TB educators.

In the next couple of years, Ashley would like to see TB ETN recruit new members, to get fresh ideas for their educational goals and objectives and to find new and innovative ways to convey information. "One area the planning committee really has a difficult time with is coming up with new ideas and not being redundant year after year at the annual conference," Ashley explained. She would also like to see an increase in the number of active members.

The most recent training or education product that Ashley has developed is skin testing rulers. "As rulers are very hard to come by, we have developed one, modeling it after a ruler from one of our local counties. One thing I have learned in TB ETN is not to reinvent the wheel! The ruler is in the process of being printed and will be beneficial to our entire state. North Carolina also collaborated with the Southeastern National TB Center (SNTC) to provide a 1-day training course on skin testing for non-health department staff, as that's one of our major needs. I'm also in the process of planning for our upcoming conferences: our 8th annual TB symposium planned for March 14, 2008, and our 58th annual Tuberculosis / Respiratory Disease (TBRD) Institute planned for October 29–31, 2008, at Carolina Beach," Ashley stated.

Ashley is currently working with a literature review committee, which consists of one nurse consultant, three local nurses, and two health educators at a local health department, one of whom is Spanish speaking. The committee will assess their current educational materials to make a determination of the need for revising or developing new material. This committee is also doing an assessment (survey) with the TB nurses at each health department about issues such as their current printing capabilities, products they like or don't like, and materials they think would be useful. Based on the results of the survey, the committee will work together with Ashley's division to accommodate the requests for educational materials and make them available on their web page. The goal of this committee is to have all educational material web-based by 2009.

In Ashley's leisure time, she mostly enjoys physical fitness and outdoor activities such as working in her yard, but she also enjoys reading and spending time with her daughter. In addition to her responsibilities for the North Carolina Division of Public Health, you can find Ashley coaching her daughter's cheerleading squad and baking specialty

cakes for birthday parties and for baby and bridal showers.

Sheanne Davis, BS, CHES, is a TB Education Promotion Consultant for the Washington State TB Program. Her job responsibilities are planning, organizing, and coordinating the surveillance activities of the Washington State TB Program. In this position, she assists in compiling, analyzing, and reviewing cohort, genotyping, and ARPE (Aggregate Reports for TB Program Evaluation) surveillance data. She provides liaison with TB program and statewide partners; provides TB program consultation to local health jurisdictions (LHJs), health agencies, and related organizations regarding surveillance activities; plans, develops, and monitors consolidated contracts with LHJs; prepares and monitors federal grant applications; and plans, organizes, and coordinates statewide TB training and education initiatives.

Sheanne first learned of TB ETN from a flyer at the National TB Controllers Association (NTCA) conference 4 years ago. She joined TB ETN to enhance her TB training and education knowledge, and to build a network base for future TB projects and initiatives. She also thought it was an excellent way to learn about what other TB programs are developing.

Sheanne has been co-chair on the conference planning subcommittee with Ashley for the past 3 years. She wanted to become more involved with TB ETN, and the conference planning subcommittee seemed to match the skills she had to offer. She hopes that in the next few years TB ETN will continue to build its active membership and produce successful annual conferences.

One of Sheanne's major project areas is the Washington State initiative to reduce TB among American Indians. She has developed presentations and educational materials for this population. She and her coworkers are now partnering on a grant with a reservation in Washington to start QFT-Gold and develop additional training and education materials for this specific population.

In Sheanne's free time, she enjoys multiple outdoor activities such as hiking, rollerblading, swimming, and much more. "Most of my free time is spent with my fiancé and our two dogs (kids). I try to travel as much as possible, get in a few good books, and spend time with friends and family," she explained. In the near future, Sheanne is planning to go back to graduate school to get her masters degree in public health.

If you'd like to join Ashley and Sheanne in TB ETN and take advantage of all TB ETN has to offer, please send an e-mail requesting a registration form to tbetn@cdc.gov. You can also send a request by fax to 404-639-8960 or by mail to TB ETN, CEBSB, Division of Tuberculosis Elimination, CDC, 1600 Clifton Rd., N.E., MS E10, Atlanta, Georgia 30333. Or, if you would like additional information about the TB Education and Training Network, visit the website at http://www.cdc.gov/tb/TBETN/default.htm.

—Submitted by Regina Bess
Div of TB Elimination

Cultural Competency Update

Members of the TB ETN Cultural Competency Workgroup had the opportunity to meet each other in person at the seventh annual TB ETN Conference held in Atlanta in August. In addition to networking at the conference, 15 workgroup members went to dinner one evening for additional networking time. Genevieve Greeley, a Cultural Competency Workgroup member, presented a thought-provoking and informative presentation about cultural competency on the first day of the conference.

The subcommittee welcomes a new co-chair, Martha Alexander, MHS. Martha works for the New York City Department of Health and Mental Hygiene, Bureau of TB Control. Kristina Ottenwess, a Training Specialist with the Southeastern National TB Center in Gainesville, Florida, continues as co-chair for a second year.

The Workgroup is currently planning several special topic calls for 2008. These 1-hour special topic calls occur immediately after our regularly-scheduled conference calls, and consist of a presentation by topic content experts followed by a discussion. Topics under consideration for 2008 include TB among people born in Mexico, TB among refugees, and LTBI adherence among foreign-born people.

The Cultural Competency Resource Guide, which was developed by the TB ETN Cultural Competency Workgroup, was recently updated. This guide contains over 170 culture- and language-related organizations, books, articles, reports, and assessment tools. Members of the Cultural Competency Workgroup encourage you to take a look at this valuable resource on the TB Behavioral and Social Science Resources page (www.findtbresources.org/scripts/index.cfm?FuseAction=Behavioral) under the heading "Other Resources and Activities."

—Submitted by Beth Kingdon, MPH
TB Education Coordinator
Minnesota Department of Health
TB Prevention and Control Program

Cultural Competency Tip:
"Cultural differences significantly influence our approach to and our definitions of health and healthy living."

From: *A Primer for Cultural Proficiency: Towards Quality Health Services for Hispanics, by the National Alliance for Hispanic Health.*

New Steering Committee Members

The TB ETN is pleased to announce the new members of the Steering Committee. These members will serve on the committee for 2 years, with the exception of Mary Long. Mary, who is representing the Heartland RTMCC, will serve for 1 year. We welcome these new members!

Melinda Diaz, BSN, RN, MED
Infectious Disease Control Consultant
Ohio Department of Health
E-mail: Melinda.Diaz@odh.ohio.gov

Genevieve Greeley, BS
Health Program Specialist
Utah Department of Health
E-mail: ggreeley@utah.gov

Xiomara Hardison, RN
PHN III/Nurse Consultant
Chicago Department of Public Health
E-mail: hardison_xiomara@cdph.org

Beth Kingdon, BS
Education Coordinator
Minnesota Department of Health
E-mail: Elisabeth.Kingdon@state.mn.us

RTMCC Representative (2008)
Mary Long, MSPH
Director of Marketing
Heartland National TB Center

—Reported by Maria Fraire, MPH, CHES
Div of TB Elimination

COMMUNICATIONS, EDUCATION, AND BEHAVIORAL STUDIES BRANCH UPDATE

2007 Program Managers' Course

Overview of the TB Program Managers' Course The overall purpose of CDC's TB Program Managers' Course is to improve the planning and managerial capabilities of new TB program managers throughout the country. The course is designed for TB controllers, program managers, public health advisors, and nurse consultants with programmatic responsibilities at the state, big city, territory, or regional (within a state) level. Optimally, a course participant should have occupied a TB program management position for at least 6 months, but no more than 3 years. Participants are nominated by the DTBE Program Consultant for their respective area.

2007 TB Program Managers' Course

The 2007 course was held in Atlanta, Georgia, October 15–19, 2007. The Communications, Education, and Behavioral Studies Branch (CEBSB) would like to thank the faculty and participants for making the course such a success. The hard work of the faculty in preparing the materials for their sessions and the participants' hard work during the course were greatly appreciated.

This year's 5-day training was divided into 17 sessions. Each session stood alone as a block of instruction, but was sequenced to build logically on the sessions preceding it. The course concluded with a reading of the TB poem "Expressions from Us to You" by its author, Regina Bess of DTBE.

The course stressed the practical application of planning, management, and evaluation concepts to the specific issues and concerns of TB programs. Skills essential to TB program management were presented, followed by exercises that encouraged participants to practice using the skills in the classroom setting. At the end of each session, participants were asked to address specific questions in a Planning Guide, which required them to synthesize concepts presented in the session and apply them to their own programs.

Participants at the 2007 Program Managers Course working through an exercise

The Planning Guide was a tangible product that participants took home after the course to serve as a record of personal course discoveries and, more importantly, as a road map for improving the effectiveness of their TB prevention and control efforts.

An initial look at the TB Program Managers' Course participant evaluations indicates the course was very well received. In the final

session, participants shared one thing that they wanted to add to or improve in their program as a result of taking the course. Some of the items mentioned included

- Improve contact investigations through better prioritization of contacts
- Implement a cohort review process
- Seek opportunities to improve management skills

For the participants, the course is not entirely over. They will receive a 6-month follow-up questionnaire in April 2008. Once this questionnaire is completed and returned, each participant will be awarded a certificate of completion for the course.

—Submitted by Allison Maiuri, MPH, Amera Khan, MPH, and Regina Bess, BS
Div of TB Elimination

CLINICAL AND HEALTH SYSTEMS RESEARCH BRANCH UPDATE

A New Resource to Help Employers Prevent TB

In 2005, the National Business Group on Health began collaborating with CDC to produce *A Purchasers Guide to Clinical Preventive Services: Moving Science into Coverage*. The document, which became available in December 2006 both electronically and in hard copy, provides scientific evidence and clinical guidelines for effective ways to prevent illness and premature death from 46 conditions, including TB. The Guide is designed to help employers select and implement clinical preventive services.

The National Business Group on Health is a national non-profit association of 265 companies (many in the Fortune 500) interested in addressing its members' provision-of-health-care issues. These businesses provide health care coverage, often through self-insurance mechanisms, for 50 million U.S. workers, retirees, and their families. Among the association's members are Wal-mart, which is the nation's largest employer (over 1 million low-income workers), and other employers in industries such as poultry processing, casinos/ entertainment, communications / electronics / computer, hospitality, automobile manufacturing, oil and gas, fast food, and discount retail businesses. These employers often hire substantial numbers of persons who may be at high risk for TB, including many from countries of high TB prevalence.

Within the Purchasers' Guide, for each condition there is a scientific evidence statement that includes information about the

- Prevalence and/or incidence of the condition,
- Risk factors associated with the condition,
- Economic burden of the condition and the economic benefit of early identification/intervention,
- Cost-benefit/cost-effectiveness of the recommended preventive intervention,
- Cost of the recommended intervention,
- Purpose of the recommended intervention, and
- Benefits and risks of the recommended intervention.

Each condition's clinical guidelines statement contains the covered screening procedures, periodicity for screening initiation and cessation, and Current Procedural Terminology (CPT) codes to facilitate the implementation and reimbursement of clinical preventive service benefits.

The TB clinical guidelines and evidence statements were derived from published CDC documents, such as the targeted

testing, infection control, TB treatment, TB control, and contact investigation guidelines. In the document, CDC recommends targeted testing of persons at high risk for TB to identify and treat those found to have latent TB infection (LTBI) or TB. High-risk persons are defined as those who have had recent TB exposure, have a positive reaction to the tuberculin skin test (TST) or an interferon gamma release assay (IGRA) such as the QuantiFERON-TB Gold test), have had TB in the past, are immunosuppressed (including having HIV infection), are substance abusers, were born in a region of high TB-prevalence, are a low-income minority, reside in or are employed in a high-risk congregate setting, are health care workers who serve high-risk persons, or have a persistent cough for 2-3 weeks plus one additional TB symptom. Screening for TB is considered a covered benefit. For TB diagnosis, coverage may include use of chest radiographs, sputum induction, or mycobacterial smears and cultures. For LTBI, coverage may include use of the TST or an approved IGRA test.

The document also presents the scientific evidence for the value of preventing TB. Published articles summarize the burden of TB in the United States in terms of numbers of hospitalizations, inpatient days, and direct medical costs of TB care. Estimated costs of an LTBI screening and treatment effort are also provided.

Feedback since the document's release suggests that it has been well received by the association's members. It is hoped that the inclusion of tuberculosis in this guide will lead to improvements in screening, testing, and care for TB and LTBI among employees in the association's industries.

The entire 494-page document is available for free at www.cdc.gov/business. Click on the Purchasers Guide. About halfway down the page is *Condition Specific Information*, which lists all 46 of the conditions in alphabetical order.

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

SURVEILLANCE, EPIDEMIOLOGY, AND OUTBREAK INVESTIGATIONS BRANCH UPDATES

An Evaluation of Surveillance for Multidrug-Resistant Tuberculosis: Texas, 2000–2006

Texas reported the second highest number of U.S. TB cases in 2006. While the proportion of multidrug-resistant (MDR) TB cases (i.e., those resistant to at least isoniazid [INH] and rifampin [RIF]) in the United States has remained stable at approximately 1%, the rising specter of extensively drug-resistant (XDR) TB threatens the recent gains in TB control. The objective of this project was to validate the drug-susceptibility test (DST) data for MDR cases reported to the NTSS (National TB Surveillance System) by the state of Texas.

We selected cases reported by Texas during 2000–2006 that were both INH and RIF resistant on initial or follow-up DST results submitted to the NTSS. DST results were abstracted from the medical records of MDR cases at the Texas Center for Infectious Diseases and the Texas Department of State Health Services (TDSHS) by matching the actual sputum collection date (as reported on the RVCT), and compared to the reported data from the NTSS. DST categories were "resistant," "susceptible," "not done," or "unknown" (not found), using the same definitions as on the RVCT forms. Data quality was assessed for completeness and

accuracy. Completeness was calculated by dividing the number of reported results of individual drug testing by the total number of actual results that could be abstracted from one of the medical records. For the initial DST panel (INH, RIF, and ethambutol [EMB]), completeness was 99%, while for the extended panel (pyrazinamide [PZA] + 6 second-line drugs), 91% of the results were reported. For the four drugs not tested by Texas labs (cycloserine, p-aminosalicylic acid, amikacin, and ciprofloxacin), which required testing at an outside reference lab, the completion rate was 67%. For data accuracy, only the DST results reported as resistant or susceptible were compared to the abstracted results. For the four first-line drugs (INH, RIF, PZA, and EMB), there was 95% concordance between NTSS and the medical records, while for the remaining 10 second-line drugs from the RVCT, there was 99% concordance.

From the analyses above, it appears that incompleteness of DST data is mainly due to PZA not being included in the initial DST panel, and certain drugs requiring testing at a reference lab. Overall, these results represent excellence in TB reporting. One limitation of this evaluation is its lack of generalizability to the entire NTSS dataset. Different reporting jurisdictions are expected to have unique challenges and constraints to the complete, accurate, and timely reporting of TB cases. Nonetheless, we believe that this exercise was a fruitful attempt at evaluating the state of MDR TB surveillance in the United States by validating the DST variables in the NTSS dataset.

Many thanks to Dr, Barbara Seaworth (Heartland RTMCC) and Maria Rodriguez (TDSHS) for making this possible.

—Submitted by Mitesh Desai, MD, MPH, and John Oeltmann, PhD
Div of TB Elimination

Tuberculosis Epidemiologic Studies Consortium's "Translating Research into Practice" (TRiP) Workgroup

"What we want to get at is not how many reports have been done, but how many people's lives have been bettered by what has been accomplished. In other words, is it being used, is it being followed, is it actually being given to patients?"

—John Porter, House Appropriations Subcommittee on Labor, HHS and Education, 1998

In today's world of public health, with insufficient resources and dwindling numbers of TB cases, we cannot afford to do research that merely answers questions at a theoretical level and does not impact management and care of TB patients. This was the impetus for a group of researchers of the Tuberculosis Epidemiologic Studies Consortium (TBESC) to form the Translating Research into Practice (TRiP) workgroup in 2005. TRiP can play an advocacy role in emphasizing the importance and applicability of completed TBESC research. TBESC recognizes the importance of disseminating research findings and making practical use of the findings for "front line" TB control practice. Since one of the goals of TBESC research is to improve TB control and work towards TB elimination, TRiP works to make TBESC research accessible to public health workers.

Mission

The mission of the TRiP workgroup is to help translate promising research from TBESC studies into best practices for U.S. TB control programs. The team works with study PIs, CDC staff, TB controllers, and others such as the National TB Controllers Association (NTCA), the National TB Nurse Coalition (NTNC), and the Regional Training and Medical Consultation Centers (RTMCCs) to

facilitate translation of TBESC research findings into best practices that can be easily implemented by state and local TB control programs.

Objectives:

- Highlight the key research findings from completed TBESC studies and their relevance to core TB program activities
- Suggest how specific TBESC research findings can be translated into practical measures to enhance TB elimination and improve patient care
- Influence communications/disseminations, priorities, future research, and guidelines by making recommendations to TBESC, DTBE, NTCA, NTNC, and the RTMCCs

First project translated

The first project undertaken by TRiP was Task Order 4, *"Models for Incorporating HIV Counseling, Testing, and Referral into TB Contact Investigations."* The main objectives of this study were to increase HIV counseling, testing, and referral (CTR) among close contacts to TB patients in New York City (screen all HIV-infected contacts for TB), and to provide LTBI treatment to HIV-infected contacts and prevent additional AIDS opportunistic infections through referral to and accessing of care for HIV.

This study was published as an article titled "Human immunodeficiency virus counseling, testing, and referral of close contacts to patients with pulmonary TB: feasibility and costs" *(Journal of Public Health Management and Practice* 2007; 13[3]: 252-262).

Main study findings for dissemination

- Contacts of patients with TB and HIV were more likely to also be HIV-infected and thus should be prioritized for testing if resources are limited.
- The most common reason for refusing an HIV test (50% of refusals) was patient's perception of low HIV risk.
- Personnel costs for providing HIV information (averaging 2 minutes per patient) were $1 per patient; it cost $5–$8 per patient to offer HIV counseling, testing, and referral to all close contacts and $24 per patient for HIV testing. Total variable costs for all HIV CTR efforts averaged $18 per contact.

TRiP was able to provide input and disseminate the results from Task Order 4 in a "Dear Colleague letter" that was sent to the TB controllers along with existing HIV CTR resources for training or conducting rapid testing.

A CDC fact sheet regarding HIV CTR of TB patients, contacts, and LTBI patients was developed with the help of TRiP (www.cdc.gov/tb/pubs/tbfactsheets/HIVscreening.htm or www.cdc.gov/tb/pubs/tbfactsheets/HIVscreening.pdf). In 2007, a TRiP representative was invited to present the group's work at the annual meetings of NTCA in June and the TB Education and Training Network in August.

The membership of TRiP has evolved over time to include not only interested TBESC members, but also many members of our partner groups, including other staff from CDC, the NTCA, the NTNC, the RTMCCs, and others. The broad membership of TRiP has proven valuable to the workgroup's functioning.

Translation into best practices recommendations requires multiple partners and collaborations to develop practical applications of epidemiologic research and dedicated staff time to communicate with partners and identify methods/tools to share TBESC study results with end users. The

translation of TBESC Task Order 4 results would not have been possible without the dedicated work of five TRiP members and the enthusiastic participation of the two principal investigators of the study. The next study scheduled for translation is Task Order 3 titled "Zero Tolerance for Pediatric TB." Come and join TRiP if you want to make a difference, and help us eliminate TB! Please contact Smita at gpr4@cdc.gov or Lisa Pascopella at lpascopella@nationaltbcenter.edu if you would like to join TRiP.

—Submitted by Smita G. Chatterjee, MS
TRiP Chair
and Lisa Pascopella, PhD, MPH
TRiP Co-Chair

TBESC Task Order 6 (TO6) Update: Regional Capacity Building in Low-Incidence Areas

Background. The goal of the TB ESC Task Order 6 (TO6) is to identify approaches for regionalizing TB control in a low-incidence area (encompassing the states of Idaho, Montana, Utah, and Wyoming). It was determined early in the project, as a result of a comprehensive needs assessment and review of legal authority and state infrastructures, that TB control activities were essentially a local function and could not be implemented through a single regional laboratory, clinic, and a few regional TB control staff. The objective evolved to create and evaluate tools for regional activities that would add value to state-oriented TB control activities across the four-state region. Each of these states has differing TB epidemiology and TB control program structure, but they share the common challenge associated with maintaining TB control program and clinical expertise in the context of low TB incidence and few resources.

Methods. Regional interventions were developed and prioritized through a consensus process that involved the TB program managers and public health laboratory directors in four low-incidence states, as well as local and national partners. Advisory groups were formed around priority areas identified through program review and needs assessment: laboratory, policy and planning, surveillance, quality assessment, training and education, advocacy and collaboration, and clinical consultation. Evaluation plans were designed and implemented for each intervention area.

Results. A TB manual template was created for low-incidence areas and piloted in Montana. The purpose of the manual is to provide guidance to a generalist local public health workforce for TB control activities (e.g., case management). It is expected that use of the manual will improve the use of recommended procedures, and will standardize TB control practices across a low-incidence region. The manual template may be downloaded at www.nationaltbcenter.edu/resources/tb_manual_template.cfm. As part of the evaluation plan, a baseline survey of information-seeking practices and confidence in using information to perform TB control activities was performed in Montana and Idaho. A follow-up survey will be implemented and analyzed to determine whether and how having access to the TB manual changes information-seeking and confidence in performing TB control activities.

- An outbreak response plan template was created for low-incidence areas and assessed and finalized during an outbreak investigation in Idaho. It provides a definition of "TB outbreak" and guidance to low-incidence areas for response coordination. It may be downloaded at www.nationaltbcenter.edu/resources/tb_orp_lia.cfm.
- A laboratory advisory group was formed to serve as a network for sharing

mycobacteriology challenges and solutions, and to identify areas for improvement in TB laboratory services across the four-state region. Surveys of laboratory practice across the region identified areas for training and improvement: turnaround times, laboratory safety, and reporting to local health jurisdictions. Regional trainings were held in collaboration with state public health laboratory directors and the National Laboratory Training Network.

- An evaluation of the Idaho case management teleconference series was completed, revealing the success of a local-state collaboration with invited external TB experts. This collaboration is a model for quality assurance and education and will be submitted as a best practice model to NACCHO (National Association of County and City Health Officials). More information may be found at www.nationaltbcenter.edu/resources/id_tb_cm.cfm.

- Surveillance of cross-jurisdictional transmission across a low-incidence region was implemented in the form of a regional genotyping surveillance system. A Regional Coordinator position was created, new tools were developed to securely share data and identify growth and location of genotyping clusters, a quarterly report was developed to share data across the region, and procedures for responding to clusters were created and implemented. An evaluation plan to assess the added value of genotyping surveillance across this region is being developed.

- Clinical consultation was provided through an expanded Warmline function at the FJ Curry National Tuberculosis Center. The four-state region was assigned three specific expert clinicians to respond to requests for clinical consultation throughout the course of case management of complex cases. Three of the four states do not have access to in-state TB clinical consultants. Each state's TB controller has explicitly expressed the need for this type of service.

Discussion. Our short-term evaluations have demonstrated that regional tools have provided additional capacity to control TB in this low-incidence area. An important study finding was the evolution of the definition of "regionalization." The original view of regionalization, as outlined in the IOM report *Ending Neglect* (1) and the ACET recommendations (2) was to share TB-specific staff, e.g., a TB epidemiologist and a TB nurse consultant, among several low-incidence states. What we learned is that local and state TB control services must be maintained within their legally mandated infrastructure, and that these may be enhanced by technical support provided through a regional structure. The operational research performed as part of TO6 resulted in the development and evaluation of regional tools that would require maintenance and updating if they are to remain functional. We believe that one full-time staff equivalent will provide the regional structure needed to maintain enhanced TB control in this low-incidence area.

An important question arises as we reach the end of this project: What is required to maintain a regional approach to continue to build upon the successes of TO6? TB controllers in each of the participating states have strongly endorsed this approach. All partners in TO6 believe it will be important to build upon what has been learned. We believe that further investment would be needed to evaluate the feasibility and impact of implementing best practice models in low-

incidence regions within the United States. We expect that the findings and products of TO6 may be useful for other low-incidence areas.

References

1. Institute of Medicine. Ending Neglect: The Elimination of Tuberculosis in the United States. Washington, DC: National Academy Press; 2000.
2. CDC. Progressing toward tuberculosis elimination in low-incidence areas of the United States: recommendations of the Advisory Council for the Elimination of Tuberculosis. *MMWR* 2002 May 3; 51 (No. RR-5).

—Submitted by Lisa Pascopella, Randall Reves, Charlie Nolan, and Charles Daley

TB Biotechnology Engagement Project (BTEP #72), Armenia and Georgia, 2003–2007

The Biotechnology Engagement Program (BTEP) is a Congressionally mandated program residing in the U.S. Department of Health and Human Services (HHS), 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 and WHO/EURO staff (Drs. McNabb, Ijaz, McElroy, Reves, Flood, and de Columbani) in collaboration with the Ministries of Health in the Republics of Armenia and Georgia developed a nine-task 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 was awarded 3 years of funding beginning October 2004 and consisted of the nine tasks described in TB Notes No. 2, 2005 (www.cdc.gov/tb/notes/TBN_2_05/SEOIB_update.htm)

The nine tasks were designed to empower and enable local public health officials and to build capacity within the two countries:

- Tasks 1 (description of TB surveillance system in Armenia) and 2 (evaluation of current TB surveillance system in Armenia) have been completed. A concise report describing all aspects of TB surveillance in Armenia and Georgia has been finalized for submission to the Ministries of Health and National Tuberculosis Programme (NTP) decision makers.
- Task 3 was to assess the prevalence of *M. tuberculosis* in the Republic of Armenia because of uncertainty around current estimates. This task was stopped due to political and administrative complications including the reorganization of the Ministry of Health in Armenia. This task will not be completed within the BTEP timeline.
- Task 4 was to improve the understanding of the burden of undetected TB cases in Armenia and Georgia. All interviews have been conducted and the databases completed. This task is currently in the analysis and reporting phase.
- Task 5 was to determine private-sector use of TB medications by developing a line list of TB medication as well as the quantity imported and a description of retails sales of TB medication in both Armenia and Georgia. This task has been completed in Armenia and Georgia and the reports finalized.

- Task 6 was to evaluate the data management systems at peripheral and national levels and to design a TB surveillance information system (TBSIS) in Armenia. A TBSIS is in the process of being finalized.
- Task 7 was to measure the magnitude of MDR TB in Armenia and Georgia. Task 7 was linked to Task 3 in Armenia and was also stopped owing to political and administrative complications. Task 7 will not be completed within the BTEP timeline in Armenia. Task 7 is ongoing in Georgia with only data analysis and report generation left to be completed by the end of October.
- Task 8 was to evaluate a TB patient population group called "chronics." This task is in the data analysis and report finalization phase. Data from the evaluation will be used to address public health policy.
- Task 9 was to provide training to Armenian and Georgian national TB control staff, both in country as well as in the United States, in epidemiology, biostatistics, TB prevention and control, TB medical management, scientific writing, and advocacy. All planned trainings have been completed with the exception of the "TB Surveillance Software & TB Monitoring and Evaluation," which will be done in conjunction with the implementation of TBSIS and the U.S.-based training which was only conducted for the Georgian specialists in Denver, CO. (www.nationaljewish.org/patient-info/progs/med/mycobacteria/Education.aspx)

Preliminary Recommendation

Because of political changes, the Armenian BTEP team was unable to complete tasks 3 and 7. Task 3 — a cross-sectional population-based survey which was to use a multi-stage stratified cluster sampling technique in Yerevan, the capital of Armenia — was meant to give a clearer picture of the incidence and prevalence of TB in Armenia. In-country experts currently estimate that the true magnitude of disease in Armenia has been underestimated. This task could provide much-needed support for a public health surveillance agenda in Armenia that could then be linked to public health action by Armenia's NTP and could have furthered the country's TB reform goals. Our recommendation to the Ministry of Health is to complete this task if they can secure funding.

Photo: Georgian and U.S. BTEP collaborators, 2007

Additional Recommendations

- Task 3 protocol be used to conduct prevalence study in Armenia and Georgia
- Creation, implementation, and dissemination of national guidelines for diagnosis and treatment of TB in Armenia
- Surveillance and pharmacy practice integrated into national guidelines (Armenia and Georgia)
- DOTS (directly observed therapy, short-course), standard, integrated into national guidelines

- Cooperation between NTP and Republic TB dispensary
- Appointment of liaisons to coordinate communication between NTP and Republic TB dispensary
- Refresher TB training courses for general practitioners (case detection)
- Use of liquid media for culture (to decrease diagnosis time)
- Procurement and use of tuberculin skin tests (TST)
- Educational outreach to address stigma and increase TB awareness in both countries
- Improve case management
- Improve lab capacity, outside of Yerevan, Armenia

Photo. Armenian and U.S. BTEP collaborators, 2007

Next Steps

Currently various members of the team are in the process of writing up the outcomes of various tasks for publication. Daniel Ehlman, MPH, will be writing up Task 1 and 2 for both Armenia and Georgia, Dana Schneider will writing up Task 4 for Armenia and Georgia, and Ngozi Ogbuawa, MSc., MPH, will be writing up Task 8 for Armenia.

The ultimate plan for the Armenia and Georgia Biotechnology Engagement Project (BTEP) is to lay the foundation for a national notifiable diseases surveillance program.

References

1. HHS, Office of Global Health Affairs, Biotechnology Engagement Program. Available at http://www.hhs.gov/ogha/europeaffairsdhhs.shtml or www.btep.net

2. McNabb, Scott. The Biotechnology Engagement Program. In: *TB Notes* No. 1, 2003. CDC: Atlanta; 2003: 28-29. Available at www.cdc.gov/nchstp/tb/notes/tbn_1_03/upd_surveillance.htm

3. Demas S, McNabb S. Update on the Biotechnology Engagement Program in the Republics of Armenia and Georgia, Spring 2005. In: *TB Notes* No. 2, 2005. CDC: Atlanta; 2005: 22-23. Available at www.cdc.gov/nchstp/tb/notes/TBN_2_05/SEOIB_update.htm

4. Patel N, Ijaz K, McNabb S. Updating the TB Biotechnology Engagement Project in the Republics of Armenia and Georgia, 2005. In: *TB Notes*. No. 1, 2006. CDC: Atlanta; 21-23. Available at www.cdc.gov/nchstp/tb/notes/TBN_1_06/surveillance.htm#updating

—Submitted by Ngozi Ogbuawa, MSc., MPH
Public Hlth Prevention Svce Fellow, CDD, OWCD
and Scott McNabb, PhD, MS
Director, Division of Integrated Surveillance Systems and Services (DISSS)
National Center for Public Health Informatics

NEW CDC PUBLICATIONS

Albalak R, O'Brien RJ, Kammerer JS, O'Brien SM, Marks SM, Castro KG, Moore M. Trends in tuberculosis/human immunodeficiency virus comorbidity, United States, 1993–2004. *Archives of Internal Medicine* 2007; 167(22): 2443-2452.

Bennett DE, Courval JM, Onorato I, Agerton , Gibson JD, Lambert L, McQuillan GM, Lewis B, Navin TR, and Castro KG. Prevalence of tuberculosis infection in the United States

population. The National Health and Nutrition Examination Survey, 1999–2000. *Am J Respir Crit Care Med* 2008; 177: 348–355.

Birkness KA, Guarner J, Sable SB, Tripp RA, Kellar KL, Bartlett J, Quinn FD. An in vitro model of the leukocyte interactions associated with granuloma formation in *Mycobacterium tuberculosis* infection. *Immunol Cell Biol* 2007 Feb-Mar; 85(2): 160-168.

Blaya JA, Shin SS, Yagui MJA, Yale G, Suarez CZ, Asencios LL, Cegielski JP, Fraser HSF. A web-based laboratory information system to improve quality of care of tuberculosis patients in Peru: functional requirements, implementation and usage statistics. BMC Medical Informatics and Decision Making 2007;7:33 (e-pub: 28 October 2007).

Cain KP and Mac Kenzie WR. Overcoming the limits of tuberculosis prevention among foreign-born individuals: next steps toward eliminating tuberculosis. Editorial. *Clinical Infectious Diseases* 2008 Jan 1;46:107–109.

CDC. Reported HIV status of tuberculosis patients — United States, 1993–2005. *MMWR* 2007 Oct. 6; 56(42): 1103-1106.

CDC/DTBE. *Exposure to TB.* 2007. Fact sheet available online at http://www.cdc.gov/tb/pubs/tbfactsheets/exposure_eng.htm

CDC/DTBE. *TB and HIV/AIDS.* 2007. Fact sheet available at http://www.cdc.gov/tb/pubs/tbfactsheets/tbandhiv_eng.htm

CDC/DTBE. *TB Can Be Treated.* 2007. Fact sheet available at http://www.cdc.gov/tb/pubs/tbfactsheets/cure_eng.htm

CDC/DTBE. *Testing for TB.* 2007. Fact sheet available online at http://www.cdc.gov/tb/pubs/tbfactsheets/skintest_eng.htm

CDC/DTBE. *You Can Prevent TB.* 2007. Fact sheet available online at http://www.cdc.gov/tb/pubs/tbfactsheets/prevention_eng.htm

CDC/DTBE. *The TB Challenge: Partnering to Eliminate TB in African Americans.* Atlanta: CDC; Fall 2007. Available at http://www.cdc.gov/tb/TB_Challenge/default.htm

Cegielski JP, Chauhan LS, Chin DP, Granich R, Nelson LJ, Raviglione MC, Rodriguez Cruz R, Talbot EA, Wright AB, Zaleskis R. The global epidemiology and control of tuberculosis. In: Spiegelburg DD, ed. *New Topics in Tuberculosis Research*. New York: Nova Science Publishers; 2007: 1-70.

Cook VJ, Sun SJ, Tapia J, Muth SQ, Arguello DF, Lewis BL, Rothenberg RB, McElroy PD and the Network Analysis Project Team. Transmission network analysis in tuberculosis contact investigations. *J Infect Dis* 2007;196:1517-1527.

Lambert LA, Espinoza L, Haddad MB, Hanley P, Misselbeck T, Myatt FG, Lewis DS, Porter SS, Ijaz K, MD, and Haley CA. Transmission of *Mycobacterium tuberculosis* in a Tennessee prison, 2002-2004. *Journal of Correctional Health Care* 2008 Jan;14 (1): 39–47.

Lazzarini LCO, Huard RC, Boechat NL, Gomes HM, Oelemann MC, Kurepina N, Shashkina E, Mello FCQ, Gibson AL, Virginio MJ, Marsico AG, Butler WR, Kreiswirth BN, Suffys PN, Lapa e Silva JR, Ho JL. Discovery of a novel *Mycobacterium tuberculosis* lineage that is a major cause of tuberculosis

in Rio de Janeiro, Brazil. *Journal of Clinical Microbiology* 2007 Dec; 45(12):3891–3902.

Lipin MY, Stepanshina VN, Shemyakin IG, and Shinnick TM. Association of specific mutations in *katG*, *rpoB, rpsL,* and *rrs* genes of multidrug-resistant *Mycobacterium tuberculosis* strains with spoligotypes. *Clin. Microbiol* 2007; 13: 620-626.

Lobato MN, Yanni E, Hagar A, Myers C, Rue A, Evans C, Lambert LA, Olney RS. Impact of Hurricane Katrina on newborn screening in Louisiana. *Pediatrics* 2007;120:e749–e755.

McMurray DN, Cegielski JP. The influence of nutrition on the risk and outcomes of tuberculosis. In: Academy of Sciences of South Africa Consensus Panel on Nutrition, HIV/AIDS, and TB, ed. *HIV/AIDS, TB, and Nutrition: Scientific Inquiry into the Nutritional Influences on Human Immunity with Special Reference to HIV Infection and Active TB in South Africa.* Pretoria, South Africa: Academy of Sciences of South Africa; 2007.

Oppong J, Denton C, Moonan PK, Weis SE. Foreign-born status and geographic patterns of tuberculosis genotypes—Tarrant County, Texas. *The Professional Geographer* 2007;59(4):478–491.

Parvez FM. Prevention and control of tuberculosis in correctional facilities [chapter]. In: Greifinger R, ed. *Public Health Behind Bars: From Prisons to Communities.* Springer; 2007. ISBN: 978-0-387-71694-7.

Riekstina V, Leimane V, Holtz TH, Leimans J, Wells CD. Treatment outcome cohort analysis in an integrated DOTS and DOTS-Plus TB program in Latvia. *International Journal of Tuberculosis and Lung Disease* 2007 May; 11(5): 585-587.

Steele CB, Meléndez-Morales L, Campoluci R, DeLuca N, and Dean HD. *Health Disparities in HIV/AIDS, Viral Hepatitis, Sexually Transmitted Diseases, and Tuberculosis: Issues, Burden, and Response, A Retrospective Review, 2000–2004*. Atlanta, GA: Department of Health and Human Services, CDC, November 2007. Available at: http://www.cdc.gov/nchhstp/healthdisparities

Thuy TT, Shah NS, Anh MH, Nghia DT, Thom D, Linh T, Sy DN, Duong BD, Chau LTM, Wells CD, Laserson K, Varma JK. HIV-Associated TB in An Giang Province, Vietnam, 2001-2004. Epidemiology and TB treatment outcomes. *PLoS ONE*. 2007;2(6):e507.

Varma JK, Wiriyakitjar D, Nateniyom S, Anuwatnonthakate A, Monkongdee P, Sumnapan S, Akksilp S, Sattayawuthipong W, Charunsuntonsri P, Rienthong S, Yamada N, Akarasewi P, Wells CD, Tappero JW. Evaluating the potential impact of the new Global Plan to Stop TB: Thailand, 2004–2005. Bulletin of the World Health Organization 2007;85:586–592.

Whipps CM, Butler WR, Pourahmad F, Watral VG, Michael L. Kent ML. Molecular systematics support the revival of *Mycobacterium salmoniphilum* (ex Ross 1960) sp. nov., nom. rev., a species closely related to *Mycobacterium chelonae*. *International Journal of Systematic and Evolutionary Microbiology* 2007; 57: 2525–2531.

PERSONNEL NOTES

Rachel Albalak, PhD, has left the Surveillance, Epidemiology, and Outbreak Investigations Branch (SEOIB) and DTBE for a new position as a Supervisory Epidemiologist, at the National Center for Preparedness, Detection, and Control of Infection (NCPDCI), Division of Emerging

Infections and Surveillance Services, (DEISS), Surveillance Services and Health Economics Branch (SSHEB). She started her new job on March 2, 2008. Rachel received her Ph.D. from the University of Michigan in 1997. She worked for Emory University, where she was an Adjunct Assistant Professor in the Department of International Health. She joined CDC in 2000 in the Lead Poisoning and Prevention Branch, and in 2001 she came to the Surveillance and Epidemiology Branch of the Division of Tuberculosis Elimination. In the last 7 years in that Branch, which in 2003 became the Surveillance, Epidemiology, and Outbreak Investigations Branch, she has made enormously important contributions to the formation and direction of the Tuberculosis Epidemiologic Studies Consortium. While her technical title has been Project Officer of TBESC, she has, in reality, been Chief Executive Officer, Chief Financial Officer, Chief Science Officer, cheer leader, and mother to CDC's investment in epidemiologic research of tuberculosis in the United States. As a direct consequence of her ability to direct such an ambitious effort, TBESC is thriving, and Rachel has left in place a Consortium that will continue to thrive in her absence. All members of her Branch, her Division, and her Consortium will miss Rachel terribly, but we wish her the best in her new and exciting job.

Cindy Castaneda has joined DTBE as a new Public Health Advisor trainee in the Field Services and Evaluation Branch. She is assigned to the Philadelphia, Pennsylvania, TB Program under the direction of Dan Dohony. Cindy graduated in 2005 from Stockton State College in New Jersey with a bachelor's degree in Public Health Administration. Cindy comes to TB after working for a year and a half at the Atlanticare Regional Medical Center, in Atlantic City, NJ, as an HIV counselor/ tester.

Smita G. Chatterjee, MS, joined DTBE's Surveillance, Epidemiology, and Outbreak Investigations Branch on March 3, 2008, as a Research Epidemiologist on the Outbreak Investigations Team. Smita, who received her master's degree from Tufts University, is not new to DTBE. Since 2005, she has served as the Research Coordinator for the TB Epidemiologic Studies Consortium (TBESC) in Texas, where she worked with Dr. Charles Wallace. Her TBESC projects included "Analysis of the Molecular Epidemiology of Multidrug-Resistant *M. tuberculosis* in the United States" (Task Order 8), "Enhanced Surveillance to Identify Missed Opportunities for TB Prevention in Foreign-born Populations in US and Canada" (Task Order 9), and "National Study of Determinants of Early Diagnosis, Prevention, and Treatment of TB in the African-American Community" (Task Order 23). She will continue to serve as Chair for the TBESC "Translating Research into Practice" (TRiP) workgroup that is engaged in disseminating practical research findings into the field for adoption. She has a wide range of experience investigating outbreaks of TB and other infectious diseases. As the Genotype Coordinator for Texas, she led all genotyping activities for the state. Also, as an active member of the Texas TB Incident Response Team, she facilitated all genotyping aspects of large-scale contact investigations and outbreak investigations. Smita will be assisting Patrick Moonan and Lauren Cowan in accelerating universal TB genotyping in the United States and will work closely with NTCA's genotyping workgroup to address the challenges of implementing genotyping into routine practice through trainings and technical consultations. She will also assist in identifying TB outbreaks and be actively involved in outbreak response. She moved to Atlanta from Austin with her husband and toddler.

Heather Duncan, MPH, has accepted the Senior Public Health Advisor (PHA) position in the DTBE Office of the Director. Heather received her MPH degree in Health Systems Management from Tulane University. She started her career with CDC in September 1991 as a Public Health Associate with the Sexually Transmitted Disease (STD) program in Long Beach, California. In January 1993, she accepted a transfer to New York City to join DTBE's PHA training program with the New York City Bureau of TB Control, where she had several assignments (outreach worker, front-line supervisor, city-wide clinical coordinator). In November 1998, she transferred to Chicago, Illinois, as a special projects coordinator. In January 1999, she transferred to Tallahassee, Florida, and served as the Senior PHA and Deputy Bureau Chief for the Bureau of TB and Refugee Health through May 2005. While in Florida, she provided technical assistance and consultation to the 67 county health department TB control programs, assisted with the development and implementation of a statewide quality improvement process, supervised the Field Services and Nursing/Health Education sections, established Florida's training program for new DTBE PHAs, and assisted with the establishment of the Southeastern RTMCC. In May 2005, she transferred to Atlanta, Georgia, as the program consultant for the mid-Atlantic region and provided technical assistance and consultation to the nine cooperative agreement recipients in this region. Since arriving in Atlanta, she has completed temporary details in the NCHHSTP Office of the Director and DTBE's Office of the Director. Heather's move to her new position was effective March 2.

Vernard Green, MSPH, has been selected for the Field Services and Evaluation Branch (FSEB) Public Health Advisor (PHA) position in Detroit, Michigan. He started in the new position on January 20, 2008. Vernard joined DTBE in July 2005 and was assigned to the New Jersey TB program. He worked at the Lattimore Clinic in Newark for one year as a trainee and was then transferred in September 2006 to the position of Chief Assistant in the state TB program. From September to December 2007 he was on a temporary duty assignment in Detroit as Operations Manager. Since January 2008, he has been assigned to the City of Detroit as Operations Manager for the Department of Health and Wellness Promotions. Previous to joining DTBE, Vernard served as a PHA I Disease Intervention Specialist with the North Carolina Department of Health and Human Services, working in the STD and HIV programs. Vernard also brings to DTBE his military experience in the Marine Corps, having served at the Camp Lejeune, North Carolina, medical center from 1985 to 1992. Vernard received an MSPH degree in public health from Walden University in 2007.

Darryl Hardge has left DTBE and CDC for a new job and promotion as a Public Health Analyst in the Emergency Response Division of DHHS in Washington, DC. He officially left CDC on February 3, 2008. Darryl most recently served as the senior PHA for the Pennsylvania TB control program in Harrisburg, Pennsylvania. Prior to that assignment, he was the Program Director for the Washington, DC, TB control program. During his tenure there (2003 to 2007), Darryl made significant progress in strengthening and modernizing the TB control program through the recruitment of key staff and planning for and coordinating the renovations for a new, state-of-the-art TB clinic, which opened in 2007. In addition, he participated in a temporary duty assignment assisting the Louisiana TB program with recovery efforts from hurricanes Rita and Katrina.

Darryl came to work for CDC in May 1991 as a Public Health Associate I in the Division of

Sexually Transmitted Disease Prevention, and was assigned to the Division's Disease Intervention Specialist (DIS) training center in Decatur, Georgia. In 1992 Darryl was reassigned to Milwaukee, Wisconsin, as a DIS working in high-morbidity areas. During January–February 1996, he had a temporary duty assignment in Baltimore, Maryland, assisting the STD program with a syphilis and HIV outbreak. In 1996 Darryl became a lead worker in Milwaukee, Wisconsin, supervising six DIS staff.

In October 1997, Darryl joined DTBE and was assigned with promotion to the state of Louisiana TB program. In November 1998, Darryl assumed a number of the senior PHA duties on an interim basis for the Louisiana TB program and received a promotion for these efforts. In May 1999, he was assigned to the Baltimore TB program as the Program Manager. During this assignment, Darryl led the program through two large and complex TB outbreaks. During his tenure in Baltimore, he served in a temporary duty assignment in Washington, DC, helping with CDC's effort to respond to the anthrax attacks. In 2002, Darryl took a position as a DTBE Program Consultant at CDC headquarters and was responsible for providing consultation and assistance to TB control programs in Missouri, Kansas, Iowa, Nebraska, South Dakota, North Dakota, and Minnesota.

Darryl's keen ability to translate and incorporate CDC goals and objectives at all levels of a program's local activities greatly contributed to the success and progress of each of his assignments in DTBE. Here's wishing Darryl the best in his new ventures in public health and thanking him for all his contributions to TB.

CDR Theresa A. Harrington, MD, MPH&TM, U.S. Public Health Service, left DTBE on February 4, 2008, for a new position as senior medical epidemiologist on the Asthma Epidemiology Team, Air Pollution and Respiratory Health Branch, Division of Environmental Hazards and Health Effects, National Center for Environmental Health, CDC. CDR Harrington began her CDC career in 2002 as the Epidemic Intelligence Service (EIS) Officer assigned to Mississippi during the large West Nile virus epidemic.

She will be missed by everyone at DTBE, but particularly by the Outbreak Investigations Team in the Surveillance, Epidemiology, and Outbreak Investigations Branch, which she joined in 2004. With board certification in both pediatrics and internal medicine, she quickly established herself as a key clinical resource for DTBE colleagues. In addition, as one of the first CDC officers deployed to staff an emergency medical facility for Louisiana residents displaced by Hurricane Katrina, she received the prestigious U.S. Public Health Service Crisis Response Service Award.

Known for her willingness to set aside her own work to give her full attention to EIS officers, CDC Experience Fellows, and medical elective students, CDR Harrington has mentored numerous trainees during TB outbreak investigations and other epidemiologic projects. Under her direct guidance, trainees have published numerous manuscripts in peer-reviewed journals as well as CDC's *Morbidity and Mortality Weekly Report*, and have presented at both domestic and international conferences, providing broad exposure for DTBE and CDC. CDR Harrington has also served as an enthusiastic speaker for the numerous TB trainings offered by CDC; she regularly receives high praise and repeat invitations.

Finally, CDR Harrington has been integral to DTBE's most complicated and high-profile TB investigations since 2004, including an MDR TB outbreak involving Hmong refugees during the 2005–2006 resettlement from

Thailand, the widely publicized international air travel contact investigation in 2007, and numerous multistate TB transplant investigations.

Most importantly, few scientists demonstrate CDR Harrington's unwavering passion for serving our state and local public health partners. Her dedication and her optimism have reenergized coworkers on innumerable occasions during long investigations; she has earned the respect of public health partners and coworkers alike as a trusted team player who works hard for the sake of seeing a job well done. Deflecting any credit for herself, CDR Harrington takes pride in what the team has accomplished together. Her generosity, integrity, and care for the people around her have earned her the respect and commitment of her coworkers. We wish her all our best as she begins a new pathway in her public health career and sincerely hope our paths will cross again in the future.

Tony Holmes has joined DTBE/FSEB as the West Coast's new Public Health Advisor trainee. He is assigned to the Los Angeles TB Program, where he will be working under the direction of Stuart Mc Mullen. Since 2003, Tony has worked for the Fulton County, Georgia, STD Program as a Communicable Disease Specialist. From 2001 to 2002, Tony was a Disease Intervention Specialist with the Harrison County Health Department in Biloxi, Mississippi. Tony has a bachelor's degree from the University of Southern Mississippi in Biological Sciences.

Bryan Kim, MPH, has accepted the Senior PHA position in the International Research and Programs Branch, effective March 2. From 1998-2004, Bryan worked on a variety of HIV/AIDS prevention projects in the Division of HIV/AIDS Prevention, CDC. During that time, he served as a Project Officer for several cooperative agreements focusing on capacity building activities for national HIV/AIDS organizations. He also worked on multi-site, community-level behavioral interventions focusing on HIV prevention for high risk populations. He also developed and facilitated trainings for national grantees involved in domestic HIV prevention activities for youth and racial/ethnic minorities. In 2004, Bryan was selected as a CDC International Experience and Technical Assistance Fellow, where he worked on technical and administrative HIV/AIDS projects in Vietnam. From 2004-present, he has served as a Public Health Advisor in DTBE's International Research and Programs Branch. In this capacity, he worked on a variety of technical and administrative Tuberculosis elimination projects in Botswana, Ethiopia, Russia, Brazil, Thailand, Cambodia, Vietnam, and Croatia. Bryan received his MPH from the University of North Carolina at Chapel Hill.

Patrick Ndibe has joined DTBE/FSEB as a new Public Health Advisor trainee. He will work under the direction of Tom Privett in his new duty station of Newark, NJ. Patrick comes to TB with experience working for the State of Georgia and for the Fulton County, Georgia, STD Program since 2002. Patrick was awarded a bachelor's degree from the University of Nigeria in 1992. In 2007, he was certified in Public Management from the University of West Georgia.

Adriane Niare, MPH, CHES, departed DTBE's Mycobacteriology Laboratory Branch (MLB) on December 9, 2007, to take a position as an IRB administrator in the Office of the Chief Science Officer, Office of Scientific Regulatory Services, Human Research Protection Office. In her new position she will be managing the review process for research conducted by CDC investigators. Adriane joined MLB in August 2004 and worked as part of the Reference Laboratory Team doing the important work of

drug susceptibility testing for *Mycobacterium tuberculosis* isolates as well as maintaining the laboratory database for TBTC studies. We wish Adrianne the very best in her new position.

John Oeltmann, MEd, MSPH, PhD, left SEOIB and DTBE on March 3, 2008, to take a new position as an epidemiologist with the Malaria Branch, Division of Parasitic Diseases, National Center for Zoonotic, Vector-borne, and Enteric Diseases, CDC, and he and his family will move to Accra, Ghana, in mid-May. John came to DTBE in 2003 as the Epidemic Intelligence Service (EIS) Officer assigned to the Outbreak Investigations Team. His EIS assignment was marked by his enthusiasm and willingness to go on numerous Epi-Aids, including a TB outbreak at a Taiwan hospital in the aftermath of the SARS outbreak. Because it was so important to the Taiwanese that the investigation be completed before the Chinese New Year, John was away from his family for nearly a month and missed his newborn daughter's first Christmas. He also led the CDC Epi-Aid team deployed to Thailand in 2005 to investigate an MDR TB outbreak affecting Hmong refugees awaiting resettlement in the United States.

His work during EIS has led to the publication of several articles, including "Tuberculosis Outbreak in Marijuana Users, Seattle, Washington, 2004," in *Emerging Infectious Diseases*, and "Childhood Tuberculosis Treatment Outcomes — Botswana, 1998–2002," in *The International Journal of Tuberculosis and Lung Disease*. After EIS, John transitioned to a staff epidemiologist position on the Outbreak Investigations Team, where he continued working. Multiple outbreak investigations involving drug users led to his novel analysis of data in the National TB Surveillance System to better understand the role of substance use as a risk factor for TB. He also introduced GIS mapping and helped advance social network analysis tools during outbreak investigations.

In addition to supervising EIS officers from both the Surveillance, Epidemiology, and Outbreak Investigations Branch and the International Research and Programs Branch, John has worked closely with the program consultants in the Field Services and Evaluation Branch, and over the past 5 years has built many friendships with state and local TB control staff in Alabama, Florida, Kansas, Maryland, South Carolina, and Washington state. John's quick wit will be missed by all his TB colleagues, but particularly by coworkers at the weekly Outbreak Evaluation Unit meetings. A mark of his work is his excellent group facilitation skills; his ability to discern and bring to the forefront of a discussion the key underlying issues, then turn the discussion back towards consensus-building, will be particularly valued in his new international role. We wish John all our best as he transitions to his new responsibilities in Ghana. Don't forget to send us postcards!

Lynelle Phillips resigned as Public Health Advisor with DTBE, Field Services and Evaluation Branch. She has been serving as the PHA for Missouri's TB Control Program since 2003. Lynelle began her career at CDC in 1991 as an Environmental Health Scientist for the Agency for Toxic Substances and Disease Registry. She then served as the Nurse Consultant for the Vaccine Safety and Development Activity in the National Immunization Program until 1996, when she moved to Missouri, where she was the state TB nurse consultant during 1996 – 2003 for the Missouri Department of Health and Senior Services. She has a masters degree in public health from Emory University and has worked as a critical care nurse in cardiac units in Columbus, Ohio, and Atlanta,

Georgia. Lynelle has accepted adjunct faculty positions with the Sinclair School of Nursing and Masters of Public Health program at the University of Missouri, and also serves as nurse consultant for the Heartland National TB Center in San Antonio, Texas.

James (Jamie) Posey, PhD, has accepted the position of Applied Research Team Leader for the Mycobacteriology Laboratory Branch. Jamie received his Ph.D. from the University of Georgia in 1999 and began his career at CDC in the Mycobacteriology Laboratory Branch in 2000 as a Postdoctoral Fellow having been awarded a prestigious NIH/NIAID post-doctoral fellowship. His research started in the area of pathogenesis of mycobacteria and has since expanded into exploring the scientific basis of drug resistance in *Mycobacterium tuberculosis*. He is currently involved in research to understand resistance in *Mycobacterium tuberculosis* to ethambutol, fluoroquinolones and aminoglycosides. Since August 2007 Jamie has served as leader of the molecular genetics activity mentoring and guiding fellow staff, postdoctoral fellows, and students.

Vic Tomlinson, MPA, has accepted the Senior PHA position in the Clinical and Health Systems Research Branch, effective March 23. Vic started his public health career as a tuberculosis investigator with the Virginia Department of Health in the eastern part of Virginia in 1970-1971. He began his career with CDC as a public health advisor in the Sexually Transmitted Disease (STD) program in 1972 in Washington, D.C. His first federal assignment as a TB public health advisor was with DTBE in Norristown, PA, in 1975, followed by an assignment in Boston, MA, in 1977. In the latter assignment, Vic was assigned to the City of Boston and also served as a liaison to the state TB program, which was located in another part of Boston. He then accepted a position as a project officer with the Bureau of Community Health Services in the Regional Office in Philadelphia (1977–1981).

Vic left federal service in 1981, returning to the State of Virginia where he worked in the state's certificate of need program and then as a budget analyst in local government before returning to CDC, DTBE, in January 1990. During 1990–1992, he served as the program manager for a statewide TB control program while assigned to Missouri's state health department. From 1992 to1996, Vic was assigned to the Texas Department of Health's TB control program and then to the Louisiana Department of Health in New Orleans. In 1996, he accepted a transfer back to Missouri and again served in the role of the program manager for TB control for most of his tenure there (1996–2003). In addition to his work with TB control, Vic was also asked to accept the dual role of managing the Immunization and TB programs in Missouri from 1998 to 2003.

From May 2003 to March 2008, Vic served as a program consultant at headquarters in the Field Services and Evaluation Branch (FSEB) working with the Midwestern states initially, and then with the Southwestern states of Texas, New Mexico, Arizona, and Oklahoma plus Kansas, Puerto Rico, and the Virgin Islands.

Paul Tribble, MA, has accepted the TB Outbreak Coordinator position in the Field Services and Evaluation Branch, effective March 16. Paul started his career in public health in 1985 as the Coordinator of the Refugee Health Program for the state of Oklahoma. In 1988, he was hired by CDC and selected for the Public Health Advisor position in the Hawaii State TB Program in Honolulu. In 1994, Paul was assigned to the Arizona Department of Health Services as the State TB Program Manager for the newly organized TB Section within the Office of

Infectious Diseases Services. In 1996 Paul accepted a PHA position with the Division of Quarantine in Atlanta, where he provided technical assistance to state and local health departments on refugee and immigrant health issues (especially TB) relating to overseas medical screening and notification. For the past 7 years, Paul has served DTBE as a program consultant for nine state TB programs in the Pacific Northwest and the Rocky Mountain region.

IN MEMORIAM

Phyllis Q. Edwards, MD, MPH, passed away on December 25, 2007, at 91 years of age. Phyllis was a trailblazer in TB, as well as for women in public health. She has over 70 articles from the 1950s through 1980 on TB and histoplasmosis, many of which are still being referenced in current research articles.

After receiving her medical degree, she joined the Public Health Service, which took her all over the world. In the 1950s, while working in the Tuberculosis Research Office of the World Health Organization in Copenhagen, Denmark, she was the first to document the occurrence of histoplasmosis outside of North America. She received her MPH degree from Harvard in 1958, where she was a classmate of Dr. David Sencer.

She came to CDC in 1961 when the Division of TB Control was transferred to Atlanta. In 1970, Dr. Sencer (then CDC Director) appointed her Division Director, making her the first woman at CDC to occupy such a high- ranking position. Her policy-setting study demonstrating the efficacy of INH in preventing TB disease progression among thousands of children with latent TB infection was published in 1970. In 1977, Phyllis left CDC to work with the Indian Health Services (IHS) in Tucson, Arizona. From 1977 to 1980, she coordinated the overall national IHS TB prevention and control activities, as well as research studies.

Phyllis was not just content to make changes in public health science. One of her colleagues remembers visiting CDC around 1970, walking into the main building and seeing a large poster over the two elevators in the lobby. The poster said "We Love You Dave!" When he asked about this, he was told that Phyllis (and maybe others) had gone to Dr. Sencer and asked for permission for the women of CDC to be able to wear slacks to work at CDC and he had agreed.

Her nephew Bruce Edwards offered these comments: “Phyllis’ entire life was an amazing adventure! She lived all over the globe… and helped so many people with her amazing work for the world health, public health, CDC, and Indian affairs agencies… She was a devout lover of the outdoors, nature, and her garden, as well as a huge fan and patron of the opera, and made amazing impacts to many organizations and people. As Phyllis would say, “Oh, for Gosh sakes, don’t send flowers,” but if you feel compelled to make a donation, please donate to The Land Trust of Santa Cruz County – Geyer Quarry Acquisition Fund. This fund is trying to turn the Sand Hills Area in Scotts Valley into an ecological preserve, a quest that PQ started years ago and my sister Peg is close to making a reality. That would make PQ ‘tickled pink,’ as she would say.” Donations can be made to:

Land Trust of Santa Cruz County: Geyer Quarry Acquisition Fund, in memory of P.Q. Edwards, 617 Water Street, Santa Cruz, California 95060. For more information, call 831-429-6116 or visit www.landtrustsantacruz.org/sandhills/

CALENDAR OF EVENTS

March 16–19, 2008
2008 International Conference on Emerging Infectious Diseases
Atlanta, Georgia
Sponsor: American Society for Microbiology
www.iceid.org/

March 20, 2008
DTBE Observance of World TB Day
Atlanta, Georgia
CDC, Division of TB Elimination

March 24, 2008
World TB Day
Worldwide

March 26–27, 2008
ACET Spring Meeting
Atlanta, Georgia
CDC, Division of TB Elimination

April 9–11, 2008
TB Vaccines for the World
Atlanta, Georgia
CDC
http://www.meetingsmanagement.com/tbv_2008/

April 14–18, 2008
EIS 57th Annual Conference
Atlanta, Georgia
CDC

April 19–22, 2008
18th European Congress of Clinical Microbiology and Infectious Diseases
Barcelona, Spain
European Congress of Clinical Microbiology/Infectious Diseases (ECCMID)

May 15–17, 2008
Internal Medicine 2008
Washington, DC
American College of Physicians
http://www.acponline.org/cme/as/im08.htm?hp

May 15, 2008
1st International Workshop on Clinical Pharmacology of Tuberculosis Drugs
Toronto, Canada
Sponsored by the Global Alliance for TB Drug Development
www.virology-education.com

May 16–21, 2008
ATS Conference
Toronto, Canada
American Thoracic Society
http://www.thoracic.org/sections/meetings-and-courses/international-conference/2008/index.html

June 9–12, 2008
2008 National TB Controllers Workshop
Atlanta, Georgia
NTCA