



Dear Colleagues:

For 2005 we reported the good news of another decrease in the overall number of new tuberculosis (TB) cases, with 14,097 confirmed cases and a case rate of 4.8/100,000. This compares with 14,515 cases and a 4.9/100,000 case rate for 2004. Our hard-working state and big city TB control staff accomplished this despite the many fiscal and programmatic challenges facing them. The state of Wyoming reported zero TB cases for 2005 (and in fact did this in 1989 as well!). Please accept my congratulations for the outstanding work all of you are doing. However, we cannot be complacent. National figures mask some worrisome underlying trends: there has been a slowing in the rate of decline for the past 3 years, and 20 states reported an increase in the incidence of TB.

The Advisory Council for the Elimination of Tuberculosis (ACET) met July 26–27 and December 5–6 in Atlanta. In the July meeting, Dr. Ron Valdiserri announced he would be leaving CDC to join the Veterans Health Administration in Washington, DC, and Dr. Masae Kawamura finished her 2-year commitment as Chair of ACET; Dr. Michael Fleenor of Alabama will serve as ACET's new Chair. I announced the release of DTBE's newest TB control guidelines, "Prevention and control of tuberculosis in correctional and detention facilities: recommendations from CDC," (*MMWR* 2006; 55 [No. RR-9]). I also reported that on May 16 and 17 in Atlanta, CDC and RTI International hosted a successful summit, "Stop TB in the African-American Community." DTBE staff were planning the annual TB Education and Training Network conference (please see Scott McCoy's summary of that conference in this issue) as well as the TB Managers' Course. I reported that US Public Health Service/TB Trials Consortium (TBTC) Study 26 underwent review in May 2006 by the Data Safety Monitoring Board, which recommended continuation of the study. This trial of short-course treatment of latent TB infection uses a 3-month once-weekly regimen of isoniazid and rifapentine, compared to standard 9-month therapy with isoniazid. Enrollment continues for Study 28, a trial substituting moxifloxacin for isoniazid in standard intensive-phase TB treatment and assessing the effect on 2-month sputum conversion rates. This could be a defining study for fluoroquinolones in TB treatment regimens. I mentioned that as of June 30, 2006, states had submitted 18,386 isolates to the contract laboratories for genotyping. I also related news of the upcoming departures of several valued DTBE staff: Dr. Lisa Nelson was leaving to head up CDC's TB/HIV office in Mozambique, Subroto Banerji was taking a position as a public health advisor assigned to South Africa for CDC's Global AIDS Program, and Dr. Michael Iademarco had accepted the position of Health and Human Services (HHS) Health Attache for Vietnam.

Dr. Mary Naughton of the Division of Global Migration and Quarantine (DGMQ) and I discussed issues around civil surgeons, who examine patients here in the United States applying for a change of their immigration status. The US Citizenship and Immigration

Services (USCIS) will be revising the civil surgeon rule to strengthen civil surgeon qualifications and will transfer funds to CDC for its continued technical assistance with the program. Dr. Drew Posey of DGMQ discussed the revised Technical Instructions for overseas TB screening of immigrants: diagnostic testing will be more comprehensive, children will be required to be medically evaluated, the medical exam will be valid for only 3 months, and treatment for TB must be given overseas as directly observed therapy. Dr. Posey and Kai Young of DTBE gave updates on TB in the Hmong refugees being resettled in the United States. After the treatment algorithm was revised in early 2005, case rates of TB, including MDR TB, declined from 508/100,000 in refugees who were resettled June 2004–January 2005 to 69/100,000 in those resettled February 2005–July 2006. Also, Dr. Tom Navin reported on the TB Evaluation Workgroup's process to readdress and better define high-priority national TB program objectives.

ACET met again on December 5 and 6. Dr. Michael Fleenor and CDC committee management staff gave new members an orientation in which ACET's role as a public health advisory council was described. Dr. Fleenor provided an overview of some of ACET's major initiatives between 2003 and 2006. These have included meetings and communications focused on improving U.S. TB control efforts in African Americans and foreign-born populations and increasing the funding for TB drug research. I reported that in 2006, CDC/DTBE was invited by local/state health departments to assist with five outbreak investigations; the affected populations included two foreign-born communities, two groups of drug users, and a large group consisting of sailors and civilians traveling together aboard a U.S. Navy ship. I also provided an update on the ongoing process and timetable for revising the TB case report form (Report of Verified Case of TB). The revision team is currently requesting comments from TB partners and will ask ACET to review the proposed revision in early 2007; CDC and OMB clearances are expected in another year, and availability of the new RVCT is estimated for 2009. I cited the achievements of the Regional Training and Medical Consultation Centers: combined, they have completed over 200 hours of training and have trained over 500 participants annually. They have developed a number of new education and training products and have established medical consultation services. I also provided an update on the "Projects to Intensify Efforts for Reducing TB Rates in African-American Communities." In 2002, ACET called for CDC to address high rates of TB in African-American communities; as a result, DTBE competitively awarded supplemental funds to Georgia, South Carolina, and Chicago for the development, implementation, and evaluation of TB-reduction interventions in these communities. We learned a number of lessons from these projects: partnerships with community organizations serving African Americans are crucial; care providers must be culturally acceptable and physically accessible to patients; and patient mistrust, misconceptions, and fear of stigma must be overcome. I reported on the TB Epidemiologic Studies Consortium's Task Order 18, which will evaluate new Interferon-gamma release assays for the diagnosis of LTBI in health care workers, and compare these assays to the tuberculin skin test (TST). This will be a longitudinal study of about 2500 health care workers who will be retested every 6 months until they have been retested at least three times. Participating sites include the health departments of Texas, Maryland, and Denver, and Columbia University. I then shared DTBE's budget plans. We anticipate that for fiscal year (FY) 2007, the division will experience an overall 5% budget cut. DTBE branches are currently reviewing areas where reductions can occur. Hiring actions will be postponed, and

funding will be reduced for cooperative agreements and research projects. Funding for travel, printing, and information technology infrastructure will be reduced. Our budget planning will include consultations with our national TB control partners and with ACET.

Dr. Charles Wells gave an overview of extensively drug-resistant (XDR) TB and its implications for TB control. Some of the countries of origin of U.S. foreign-born TB patients also have a high burden of multidrug-resistant (MDR) TB and a high risk of XDR TB, such as Mexico, the Philippines, and Vietnam. Increases in MDR TB and XDR TB would create increasing demands on the capacity of U.S. laboratories. In addition, XDR TB would likely have a negative impact on U.S. initiatives for HIV treatment and care, as well as U.S. capacity to respond to outbreaks and provide treatment. He cited a need for updated policies and guidelines as well as a comprehensive U.S. government response. In updates on the resettlement of Hmong and Burmese refugees, we learned that the prevalence of TB is similar among the two groups, but that the prevalence of MDR TB is much lower among the Burmese. Dr. Drew Posey, DGMQ, gave an update on the Technical Instructions for Overseas Screening and Treatment of Tuberculosis. DGMQ is developing a manual that will provide information on implementing the new Technical Instructions; it will be used by DGMQ and panel physicians. A draft is expected in June 2007 and will be provided to NTCA and ACET. Members of NTCA and ACET are reviewing the current draft of the Technical Instructions. We learned from Dr. Bill Mac Kenzie that in 2005, persons from Mexico made up 14% of the total U.S. cases. Drug-susceptibility testing is limited in Mexico; to address this, a national survey for TB drug resistance is planned for that country. Ms. Molly Lindner of USAID Mexico provided an update on TB projects in Mexico supported by USAID. Joe Scavotto gave a progress report on DTBE efforts to develop a redistribution formula for the TB cooperative agreement funding; discussions on this topic will continue. Dr. Phil LoBue indicated that the Federal TB Task Force will be refocusing on the global threat of XDR TB; members are discussing potential areas of coordinated U.S. government response. Mr. Scott Danos reported that the current electronic TB surveillance system, TIMS, will definitely still be in place for calendar years 2007 and 2008. After that, it will be replaced by the National Electronic Disease Surveillance System (NEDSS) TB program area module, a web-based system with instant messaging of RVCT data to CDC.

Two new slide sets are available on the DTBE Internet, the 2005 Surveillance slide set and the slide set that accompanies the *MMWR* publication "Guidelines for preventing the transmission of *M. tuberculosis* in health-care settings, 2005." Please go to <http://www.cdc.gov/nchstp/tb/> to view and download these materials.

My heartfelt thanks to all for your outstanding work and accomplishments this year, and best wishes for a safe and peaceful holiday season!

Kenneth G. Castro, MD

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HIGHLIGHTS FROM STATE AND LOCAL PROGRAMS

Los Angeles Presents "The Opera and Perspectives on TB"

La Traviata by Giuseppe Verdi is considered by many to be the most beautiful opera ever written. The opera was the first of three that describe and depict cultural and societal perceptions about tuberculosis (TB). Violetta Valéry, the heroine of Verdi's *La Traviata*, suffers from consumption, or tuberculosis, and dies at the end of the opera.

In spring 2006, hundreds of Los Angeles Unified School District teachers (K–12th grade) were attending the Opera for Educators series and were scheduled to attend a performance of *La Traviata* at the Los Angeles Opera in April. (Editor's note: Los Angeles Opera's award-winning Opera for Educators series teaches about opera from an interdisciplinary approach. It helps educators learn about opera and the context in which it was created through discussions of opera as history, as art, and as language and social documentary.) The Los Angeles Opera Education Coordinator contacted the Los Angeles County Tuberculosis Control Program and requested a lesson on TB. As a result of this request, and with short notice, Los Angeles County Tuberculosis Program Nurse Manager April King-Todd, RN, BSN, MPH, prepared a 1-hour presentation entitled, "The Opera and Perspectives on TB in the 1800s." She gave the TB presentation about 2 weeks before the date of the actual opera performance, in the Los Angeles Opera rehearsal room.

The TB presentation interwove the historical significance of TB with scenes from the opera, which is set in a time when the causal organism and effective treatment regimens were unknown. The presentation also included some very important TB educational messages for today.

The presentation stirred a tremendous interest in TB among the participants, was well received, and was followed by very positive written comments. Some of the teachers planned to incorporate the TB information into their classroom lesson plans.

—Reported by Paul D. Moffat, MPA, MPH
Los Angeles County TB Control Program and
Div of TB Elimination

Arizona's and Sonora's "Meet and Greet" Program for Deportees with Tuberculosis

The Arizona Department of Health Services (ADHS) and public health officials in Sonora, Mexico, have conducted a collaborative "Meet and Greet" program since 2002. The program addresses the problems created when people with active pulmonary TB are deported before their TB treatment is completed.

The "Meet and Greet" program involves the complex coordination of binational public health organizations and US law enforcement staff. Medical personnel from the Hospital General in Nogales, Sonora, meet the deportees at the border and offer the TB patients an opportunity to complete their treatment in Sonora. Coordination of this process involves many organizations and

jurisdictions. Communication and timing problems can impede the successful linkage of the TB patient to the Sonoran medical officials. Some examples of challenges include the following:

- Public health officials are not always notified in a timely manner as to when the TB patient is going to be deported.
- Prisoners are often moved between correctional facilities, making continuity of medical care difficult.
- Local health departments are not always aware of TB cases in correctional facilities in their jurisdiction.
- Communication between Arizona public health, Sonoran public health, and US law enforcement is not always adequate to properly time the deportation and ensure the presence of Sonoran public health officials at the border.

To improve the program, ADHS sponsored a Meet and Greet workshop on June 18, 2006. A number of organizations and representatives participated: an epidemiologist from the Hospital General of Nogales, the TB Control Officer of the State of Sonora, US Immigration and Customs Enforcement (ICE), US Quarantine Division, US Border Patrol, US Marshal Service, Border County Health Departments, TBNet, Arizona county jails, ADHS Border Health Office, ADHS TB Control Section, Mexican National Institute of Immigration, and the Mexican Consulate. Simultaneous translation into English and Spanish allowed all attendees to be actively involved in the discussions.

The workshop began with an explanation of the steps involved in the “Meet and Greet” program, including use of the Binational Card (www.borderhealth.org/files/res_312.pdf). Communication, coordination, legal, immigration, and public health issues were discussed, agencies’ roles were identified, and a more detailed program protocol was agreed upon.

Multiple steps were recognized as necessary for program improvement. Correctional facilities agreed to work on providing more advance notice of deportation to public health officials. Local health departments identified ways to improve coordination with local jails, prisons, and ICE. ADHS consented to assist with TB education in correctional facilities. ICE will continue to work on implementing the enhanced protocol, including ways to place a medical alert in their databases to ensure that prisoners will not be discharged without proper continuity of care, and people who are re-apprehended will be rapidly identified as needing evaluation for TB. ADHS will distribute an updated program protocol to the participants. Having an accepted protocol will help in identifying which steps of the process need improvement, as well as assisting in measuring TB program indicators.

The Arizona Department of Health Services will continue fostering collaborative efforts between the Meet and Greet partners by hosting biannual conference calls and facilitating ongoing work groups to continue addressing areas for improvement.

It is difficult to ensure continuity of TB care in people who are being deported. However, in 2005 the “Meet and Greet” program initiated continuity-of-TB-care arrangements for eight people, and seven of these were successfully carried out (it is not yet known if these patients completed therapy). The “Meet and Greet” program is helping Arizona bring together the law enforcement and public health community in a way that is increasing collaboration between multiple agencies. This is expected to improve TB treatment and TB control and to protect the public’s health, not only in Arizona but in other states and in other countries as well.

—Submitted by Karen Lewis, M.D.
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The Flex Power of MOAs

As the needs and challenges of TB control continue to evolve, programs must adapt and find creative ways to deliver direct patient services at the local level. One example of this need for flexibility is in the area of agreements for TB services. As morbidity shifts and changes, the Virginia Division of Disease Prevention-TB (DDP-TB) has recognized the need to redirect resources to areas of demonstrated need. DDP-TB has been exploring options for providing surge capacity and response at the local level.

In the past, the DDP-TB had established Memoranda of Agreement (MOA) with the local health districts solely to provide funds for individuals hired as outreach workers (ORWs). These individuals primarily deliver directly observed therapy (DOT) to TB patients in a defined geographic area. These ORWs were dedicated to providing TB services; funding for them generally covered salary, fringe benefits, and travel. While this arrangement worked well in the past, TB morbidity has shifted over time, and the personnel assignments did not follow the shift. By moving toward an MOA for broadly defined TB services, DDP-TB was able to easily shift funds to address the particular needs of individual health districts. The new MOA also allows the district to provide TB services that are language- and culture-specific at the local level.

Under the new MOAs, the health district agrees to provide associated administrative functions if the decision is made to hire an individual to fulfill the functions of the MOA. These duties include recruiting, interviewing, and hiring the individual. The district also agrees to furnish the tools necessary to provide the TB services described in the MOA such as training and supervision.

As part of monitoring the MOA, the district provides monthly activity reports to document the services that were provided and the number of patients seen. DDP-TB reviews these reports to ensure compliance with the agreed-upon

activities. DDP-TB provides technical support and consultation, as well as training for individuals hired to provide the services. DDP-TB also monitors the provision of services to ensure that the standards of care are met, regardless of the individual who provides the service.

We have learned several lessons from this experience. First, hiring full-time, permanent employees to provide TB outreach services does not allow the state program to easily redirect resources. Because they are hired for very specific work activities, the employees cannot be easily reassigned to other districts when morbidity changes. Second, under the new MOAs, the health districts enjoy greater flexibility in determining the best means of providing the TB outreach activities in their jurisdiction. They are free to determine the most appropriate personnel for the job based on factors such as the community, culture, and language spoken. Lastly, having flexibility in how MOAs are written with regard to services and timeframes allows DDP-TB to use a statewide approach to TB prevention and control activities. This approach leads to more efficient use of diminishing resources.

—Submitted by Wendy Heirendt, MPA
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HIV Status Not Routinely Determined for TB Cases: an Evaluation of Four California Local TB Programs

Background. Many patients with active TB disease are also at risk for coinfection with HIV. Timely detection of HIV coinfection in TB patients has significant implications for diagnosis, treatment, and contact tracing of both diseases. National and California guidelines state that counseling and voluntary testing for HIV should be offered to all patients with suspected or confirmed active TB, regardless of risk factors (1, 2). However, national data show only 54 percent of all TB patients and 67 percent in the 25- to 44-

year-old age group in the United States had known HIV results in 2003 (3).

California has the highest TB caseload in the United States; 2,903 new TB cases (7.9 per 100,000) were reported in California in 2005 (4). The state also has a significant population of individuals with AIDS; 140,435 AIDS cases were reported in California as of March 2006 (5). A yearly match of the California Department of Health Services (CDHS) Office of AIDS (OA) case registry with the CDHS Tuberculosis Control Branch (TBCB) case registry found AIDS matches for 4.1 to 5.7 percent of new TB cases per year for the years 2000 to 2004 (6). HIV reporting has only recently been implemented in California; thus, it is unknown if the proportion of HIV-infected TB patients is actually higher. At present, very little is known about HIV counseling and testing practices in TB clinics in California. We set out to determine the HIV counseling and testing practices that are in place at the local level, potential barriers to providing HIV testing, and the degree to which the HIV status of TB cases is identified.

Methods. We retrospectively evaluated local TB programs' HIV counseling and testing practices for persons newly diagnosed with active TB disease using a qualitative and a quantitative assessment. Four local TB programs were selected based on their desire for inclusion in the evaluation, their managing at least 50 TB cases in 2002, and their having reported at least one patient with TB and AIDS during 2001 to 2002. For the qualitative assessment, TB program staff members were interviewed to determine the HIV counseling and testing policies and procedures in place during the study period. In the quantitative assessment, we reviewed the public health records of a random sample of TB patients reported to CDHS TBCB in 2002 to evaluate the extent to which TB patients' HIV status was determined. This included information on whether TB patients had received HIV counseling, whether they had HIV testing performed, and the results of any HIV tests. A weighted sample of

TB cases were reviewed based on patient characteristics reported in the Report of Verified Case of Tuberculosis (RVCT) by the four local TB programs and results of the 2004 registry match between TBCB and OA case registries. TB cases for chart review were prioritized to include the evaluation of all reported TB/AIDS cases, all TB patients with HIV risk factors reported on the RVCT (injection drug use, noninjection drug use, and history of homelessness), all US-born TB patients over 15 years of age, and a random sample of all remaining TB cases. Analyses were performed using SAS v. 8.2, SAS Institute, Inc, Cary, NC.

Results. The qualitative assessment showed that two (50%) of the local TB programs had a written policy for HIV counseling and testing. Three out of four (75%) had an explicit question regarding HIV status included on the TB history or intake form. Perceived barriers to HIV testing and documentation indicated by the four local TB programs included lack of formal training or certification of staff in providing HIV counseling (n=1); lack of standardization in how HIV risk is assessed (n=1); no system to track the results of patients who have been tested, especially for patients tested outside of the TB program (n=1); lack of a formal process for requesting HIV test results from patients managed outside the health department (n=1); lack of privacy in assessing HIV risk if the assessment takes place during a home visit (n=2); and cross-cultural and language barriers associated with the subject of HIV (n=2).

Of the 252 TB patient charts reviewed, 29 patients (11.5%) entered TB evaluation and care with a known positive HIV status. Of the 223 patients with an unknown HIV status, 193 (86.5%) had documentation of HIV counseling and 128 (57.4%) had HIV testing performed. Of the 128 patients tested with previously unknown HIV status, 106 (82.8%) were tested in the two local TB programs that had written HIV counseling and testing policies in place. This represents 58.2% (106/182) of TB patients in the two TB programs with implemented written

policies, compared to 31.4% (22/70) of patients in programs without written policies. Of the tested TB patients, 84 (65.6%) had documentation of the patient's test results. Of patients offered testing, 14 (9.7%) refused testing. Other reasons documented for why TB patients did not receive HIV testing included lack of risk factors, known positive HIV status, and a previous negative HIV test result.

A total of 32 TB patients were found to be coinfecting with TB and HIV, and the HIV-positive status for three (9.4%) of those cases was newly detected during TB evaluation and treatment. HIV status was determined for a total of 138 TB patients (55%); 106 patients had documented negative HIV test results in addition to the 32 coinfecting TB-HIV patients.

Discussion. Despite state and national policies for universal HIV testing for TB patients, nearly half of the TB patients in the participating four local TB programs had no HIV status documented, representing missed opportunities for the identification of HIV status among TB patients. Reasons for the missed opportunities included a lack of HIV testing (because of patient refusal, lack of risk factors, known positive status, or previous negative result), a lack of documentation and follow-up of HIV test results, and lack of a written HIV counseling and testing policy.

In this evaluation, TB clinics with a written policy were more likely to test for HIV and also more likely to diagnose HIV infection. However, it was not possible to determine the exact reasons for this association. A written policy may directly influence the number of TB patients tested, and could also be the result of knowledgeable TB clinic staff who are already inclined to conduct HIV testing. Regardless, such a policy is likely to raise awareness in TB clinic staff, provide specific guidance surrounding testing, and thus lead to increased HIV testing. A recent study of testing for latent TB infection (LTBI) in HIV patients showed that attendance at a facility with

a written policy for LTBI testing was significantly associated with increased testing (7). Such findings further support the association of written policies for HIV counseling and testing among TB patients with an increased likelihood of HIV testing.

"Testing for HIV" has been a measure frequently used to assess practices of TB clinics, but this may not be the optimal measure to reflect best practices. A better measure may be "identification of HIV status" that is determined by either 1) HIV testing with follow-up of results, 2) known HIV-positive status, or 3) documented negative HIV test result within last 6 months in the absence of a recent possible HIV exposure.

The effectiveness of HIV detection in TB patients is further supported by national guidelines stating that, in "...high [HIV] prevalence settings (e.g., $\geq 1\%$), all clients should be routinely recommended HIV testing..." (8). The statewide TB/AIDS match already confirms that 4.1% to 5.7% of TB patients had AIDS, and this evaluation showed that HIV testing increased HIV/AIDS case finding in four local TB programs. In the chart review, 2.8% of TB patients whose HIV status was not previously known had newly detected HIV infection identified during TB diagnosis and evaluation. While these results come from a small sample of California TB programs, it highlights that TB patients present an important opportunity for detecting new HIV infections.

The results of this evaluation have been shared with the participating local TB programs in order to improve local HIV testing practices. In addition, subsequent collaboration with the California Office of AIDS has identified the following ways to improve HIV testing: 1) improve collaboration of HIV/AIDS and TB programs at both the state and local level in order to increase the awareness and skills of TB clinic staff; 2) implement written policies for HIV testing of all new TB patients in TB clinics; implementation can be facilitated by providing local health

jurisdictions with templates for HIV counseling and testing guidelines; and 3) consider the use of HIV rapid testing to increase the likelihood that HIV results are known and documented.

Several factors may limit the generalization of these findings. The results may not be applicable to TB patients residing in regions with low TB or HIV/AIDS incidence or those outside of California. Data presented may not account for instances where HIV testing information was known to key staff, but not recorded in the TB public health charts because of the confidentiality policies surrounding HIV information. Also, if a 2002 coinfecting TB or AIDS case was reported after the registry match had been conducted in 2003, the case may not have been included in this study. Nonetheless, the analysis indicates that in mid- to high-TB morbidity counties in California, key HIV counseling and testing practices are not in place.

Conclusions. Despite the fact that many TB patients are at risk for HIV coinfection, HIV testing was not routinely taking place in four California local TB programs. Improvements in HIV testing policies and practices would lead to improved care and outcomes for patients found to be coinfecting with TB and HIV.

—Submitted by Elizabeth S. Lawton, M.H.S.
and Deborah M. Miller, M.B., Ch.B., M.P.H.
California Department of Health Services

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CDC/ATSDR Group Award for Minority Health Mentor/Champion of Excellence

On July 13, 2006, Gail Burns-Grant and Michael Fraser of DTBE's Field Services and Evaluation Branch received the Minority Health Mentor/Champion of Excellence Group Award at the CDC/ATSDR Honor Awards Ceremony. This award was given in recognition of their work to reduce TB in African Americans through the coordination of three highly successful demonstration projects in the states of Georgia and South Carolina and the city of Chicago and for the timely dissemination of lessons learned from these projects.

The work of the staff in the three project areas that Gail and Michael coordinated was critical to the success of the demonstration projects. These project area staff worked successfully with community-based organizations and local health departments in targeting interventions to specific community areas, including zip code areas and

health districts. Early on, the project staff recognized that it would be important to have community involvement and worked to ensure community representation and inclusion in the planning and implementation of these three projects. Efforts were made to develop active partnerships with the targeted populations to ensure their needs were met and that the interventions developed were culturally competent and acceptable.

Gail and Michael disseminate the key findings from the project areas in a quarterly CDC/DTBE publication, *The TB Challenge*. This newsletter, approaching its third year, is formatted, edited, designed, and distributed by DTBE staff. Through this newsletter, project staff share strategies, innovative approaches, interventions, and evaluation results that can be translated and applied nationally. Gail and Michael also share project experiences and outcomes at local and national conferences, meetings, and seminars sponsored by internal and external partners, in order to raise awareness and initiate actions that will address the disparity of TB in the African-American community.

Working closely with project areas engaged in this work, Gail and Michael have made contributions that have had a positive public health impact and that will help improve the health of African Americans nationwide. Gail commented on the award as follows: "We share this award with all of our partners who are committed and dedicated to addressing the historically high rates of TB in the African-American community, for we work with them and through them to advance this work. I am particularly grateful for the latitude we have had—the flexibility that our project areas have been granted by our division to develop, design, and disseminate acceptable messages that were actually created in the community for the community."

—Submitted by Dave Crowder
Div of TB Elimination

LABORATORY UPDATE

New Technologies Unveiled at the 2006 National TB Controllers' Workshop

At the June 2006 meeting of the National Tuberculosis Controllers' Association in Atlanta, GA, representatives of two state public health laboratories presented exciting new methods for detecting drug-resistant tuberculosis (TB) in hours or days rather than the month that had until recently been required.

At a plenary session and in a poster presentation, Dr. Max Salfinger, then with the New York State Department of Health, presented Wadsworth Center's evaluation of the Genotype MTBDR Assay from Hain Lifesciences in Nehren, Germany. In a breakout session, Dr. Edward Desmond of the California Department of Health Services described the performance parameters and public health impact of a molecular beacons assay that had been developed in the California laboratory. Both methods are used directly with acid-fast smear-positive clinical specimens, and can give a result within 1 or 2 days after the specimen arrives in the laboratory.

In an era when strains of the *Mycobacterium tuberculosis* complex with extensive drug resistance are emerging (see *MMWR* 2006; 55:301-305), detection of multidrug-resistant (MDR) strains within 48 hours can have an important public health impact by enabling patients to be put on an effective regimen much sooner. The Genotype MTBDR assay will be submitted for approval by the US Food and Drug Administration in the near future. The molecular beacons assay is not yet a commercial product, but has been extensively studied and used by the California laboratory for 3 years. Dr. Desmond reported that it has a high level of agreement (96%–97%) with conventional drug-susceptibility testing. He also indicated that it has proven useful in many circumstances, including cases in which drug resistance is suspected, cases in

which conventional drug-susceptibility testing is slow or impossible, and high-impact cases in which patients are critically ill or large numbers of patients could be affected by quick detection of drug resistance.

More details regarding these assays were provided in the following presentations and publications:

1. Somoskovi A, Dormandy J, Rivenburg J, and Salfinger M. Rapid direct detection and susceptibility testing of the *Mycobacterium tuberculosis* complex for isoniazid and rifampin in smear positive clinical specimens by the PCR-based Genotype MTBDR Assay. Poster at the 2006 National TB Controllers Workshop [Readers who would like to receive a copy of the poster may write to max.salfinger@doh.state.fl.us]
2. Lin S-Y, Wenger J, Mase S, Agraz R, Raftery A, and Desmond E. 2005. Utilization of molecular beacons for rapid detection of MDR TB in a public health setting. Abstracts of the 2005 Interscience Conference on Antimicrobial Agents and Chemotherapy. [Readers who would like a copy of the poster may contact Ed Desmond at Edesmond@dhs.ca.gov]
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—Reported by Anthony Tran, MPH, MT (ASCP)
 Association of Public Health Laboratories
 On behalf of the APHL TB Steering Committee

NURSING UPDATES

The Red Snappers of NTNC

At this year's annual meeting of the National Tuberculosis Nurses Coalition (NTNC), there was excitement in the air. Several of the members wanted to highlight the importance of TB control and share the camaraderie they enjoy at these annual meetings. They decided to organize their own section of the "Red Hat Society" (a national

organization with many state chapters; members are women "of a certain age" who meet and go out together—in red hats—to celebrate life and friendship). The group's section will be entitled "The Red Snappers of NTNC." Their Queen Mother will be Lorena Jeske, and her royal court will consist of Ellen Murray, past-president of NTNC; Jane Moore, NTNC current President; Jo-Ann Arnold, President-Elect; and Kathy Kolaski, Secretary. Other members include Judy Gibson and "Pink Snapper" (meaning not yet "of a certain age") Toni Johns.



For those readers not familiar with the term "Red Snapper," it is a reference to the red-stained acid-fast bacillus that is seen under the microscope in the sputum of infectious TB patients. For the Red Snappers of NTNC, it becomes a term for TB control nurses finding new ways to discuss TB in a creative way. When you see these red-hatted ladies (and yes, they are trying to get men involved as well) out and about, they will be talking about TB and some of the challenges that nurses and other health care workers face every day. Tuberculosis is an age-old problem that often has a new face. As the disease declines, we are faced with more and more challenges to keep our awareness on the forefront. Here's one more way!

The Red Snappers of NTNC will soon be official members of the Red Hat Society. Call them, join them...and enjoy the fun!

—Submitted by Lorena Jeske
National Tuberculosis Nurses Coalition

PITCA Workshop for TB Nurses

Staff of CDC, the Australian Respiratory Council (ARC), and the Secretariat of the Pacific Community (SPC) worked together to develop a training workshop for six northern Pacific island countries. The workshop was held in Hawaii during the week commencing November 27, 2006, as part of the annual Pacific Island TB Controllers Association (PITCA) meeting. It focused on providing training for nurses working in TB control in the Pacific Islands. The workshop also aimed to raise awareness among all health care workers involved in TB control about the importance of quality data collection and utilization. Dr. Phil Lobue, Phil Talboy, and Andy Heetdeerks from DTBE and Subroto Banerji with the Global AIDS Program facilitated the workshop.

—Submitted by Vivian Siler
Div of TB Elimination

TB EDUCATION AND TRAINING NETWORK UPDATES

Member Highlight

Ann Poole, RN, is a Nurse Consultant with the Georgia Department of Human Resources, Division of Public Health. "Way back in the 1970s, I went to nursing school at a 2-year community college while working full-time and adapting to marriage. That was an education in itself! Since then I have attended a multitude of continuing education courses covering nursing, TB, computers, accounting, and numerous other subjects," Ann relates.

Ann's job responsibilities include educating health care providers and others regarding

program policies, procedures, and services to promote coordination of TB program services; planning, coordinating, and implementing TB educational and training programs for public and private health care sectors; and monitoring district programs and private and public sector entities for compliance with state and/or federal TB guidelines through data collection and on-site quality assurance visits.

Ann learned about TB ETN very soon after starting with the state program in 2001, when the first TB ETN conference was held. "I think each state could only send a couple of people, but since it was held in Atlanta, we rotated our staff so we each could attend a portion of it. I have attended every TB ETN conference since then because I have learned so much valuable information about educating the public and providers about TB!" Ann commented.

Ann joined TB ETN to share ideas, strategies, and resources with others in the United States and internationally who are doing the same types of things that she is doing in her state. She is also a member of a TB ETN subcommittee; she has been on the Communications and Membership subcommittee during 2005–2006, and will serve as co-chair with David Oeser from Missouri for 2006–2007. Ann joined this committee to promote the organization to others in the health education and medical fields.

In the next couple of years, Ann would like to see the membership expand in regard to staff of correctional settings. She would also like to see more of the current members become actively involved on one of the subcommittees, and added that "this organization is a reflection of the wealth of knowledge and diversity of its members."

Ann's most recent training and education accomplishment was "Put the Cuffs on TB," a conference held in Georgia. The goal of this conference was to open a dialogue between persons working in public health, in correctional systems (state, county, and city) and in private

practice in order to increase collaboration and continuity of care for their shared TB clients. "We would have been pleased if 25–30 had shown up. Instead, we had 100 excited participants attend," she related. "Due to the tremendous feedback on this conference, we are planning another one for later in the fall." She added that another correctional training session would be held in January 2007.

She and her coworkers also have an ongoing "TB Update and Skin Test Certification Workshop" that is standardizing the knowledge and technique of TST administration, reading, and interpretation in Georgia. They have also provided statewide annual TB/HIV conferences and "Saturday Clinicians Update" conferences to keep their providers knowledgeable about current TB treatment.

Ann is also a grandmother of three active grandsons, and showing them the excitement and joy in life takes up most of her free time. When time allows, Ann also enjoys painting, using the computer, and learning new things.

If you'd like to join Ann as a TB ETN member and take advantage of all TB ETN has to offer, please send an e-mail to tbetn@cdc.gov requesting a TB ETN registration form. 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. Please visit <http://www.cdc.gov.nchstp/tb/TBETN/default.htm> if you would like additional information about the TB Education and Training Network.

—Reported by Regina Bess
Div of TB Elimination

Sixth Annual Conference Highlights

TB Education and Training Network (TB ETN) members gathered August 15–17 in Atlanta for their sixth annual conference. The conference focused on the four elements of the systematic health education process: planning, developing,

implementing, and evaluating TB educational materials and training programs. The meeting also emphasized skill-building sessions and networking activities. The title of this year's conference was "TB Training and Education Magic: Tricks of the Trade." The theme of magic was woven into the titles and content of the presentations, and reflected in the wardrobes of several of the presenters.



The 182 participants attended both plenary sessions and breakout workshops designed to enhance skill building. Sue Etkind, Director of the Division of Tuberculosis Prevention and Control at the Massachusetts Department of Public Health, dressed in a wizard's gown and hat, delivered a rousing key note address. Titled "Hogwarts School of Witchcraft and Wizardry: Do you have the vision?" the presentation focused on ensuring that education and training are essential parts of a TB control program. To that end, she posed four questions that educators and trainers must answer: 1) Where does education and training fit into your TB program's organization? 2) How do you make education and training part of your organization's mind set? 3) What does education and training contribute to TB program evaluation efforts? and 4) How can education and training contribute to the TB program's strategic plan?

Workshops during the conference included using social marketing principles to plan training and education activities, focusing health promotion materials on specific target audiences, using innovative approaches to train trainers, and using evaluation to plan and improve TB training.



To showcase projects from local areas, the conference featured poster sessions and an educational materials display; 34 poster abstracts were accepted for poster presentations. Chosen for oral poster presentations were “Staff Training Sessions for the Implementation of Revised TB Prevention and Control Guidelines for Canadian Federal Correctional Facilities,” presented by Linette McElroy; “Developing a Targeted Educational Message on a Shoestring Budget: The Making of a Local TB Video Using Patients, Staff, and Community Partners,” presented by Alisa Haushalter; and “Raising Awareness of TB in African-American Communities on Chicago’s South Side,” presented by Pamela Lamprey.



Participants from Canada, Florida, Illinois, Michigan, Minnesota, and New York shared materials developed in their programs at the educational materials display. Also displaying materials were staff of DTBE, the National TB Controllers Association, the Francis J. Curry

National Tuberculosis Center, the Heartland National Tuberculosis Center, the Northeastern Regional Training and Medical Consultation Consortium, the Southeastern National Tuberculosis Center, the National Prevention Information Network, VersaPharm, and Cellistis.

Conference participants enjoyed the opportunity to network at an evening social get-together sponsored by Translation Plus, VersaPharm, Celestis, and Quest Medical Staffing. During the social, participants were treated to a special performance by Atlanta magician Tommy Johns.

An initial look at the overall conference evaluations and comments from participants were very positive, with more than 90% of the evaluations reporting that participants agreed or strongly agreed that the conference goal and objectives met their needs as educators and trainers.

For more information about the TB Education and Training Network, visit the website at www.cdc.gov/nchstp/tb/TBETN.

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

Cultural Competency Subcommittee Update

The membership of the Cultural Competency Subcommittee has increased to over 80 individuals who are active members of the TB Education and Training Network (TB ETN). The main goal of the subcommittee is to promote cultural competency among members of TB ETN. Providing resources for members and sharing information during conference calls is one of the ways that the subcommittee supports its members.

As a result of the needs assessment that was conducted at the 2005 TB ETN conference in Atlanta, the subcommittee decided to focus on marketing the Cultural Competency Resource List, originally developed in 2001. An ad hoc

workgroup of subcommittee members came together to create a cover for the resource document. They submitted several colorful designs for the cover, and the selected design was used on the resource document that was included in the TB ETN conference binder. This list is updated annually by the subcommittee, with additional resources being identified and included. There are over 100 organizations included on the updated list, ranging from associations, government agencies, and research centers to cross-cultural service providers. Almost all organizations have Internet websites, thus the information referenced is readily available. The subcommittee members have reviewed each listing and written a brief description, and have updated the contact information for each resource. However, inclusion on the list does not imply endorsement by the subcommittee. An ongoing subcommittee workgroup is attempting to make the list more user-friendly for its intended audiences. The resource list is now posted on the Behavioral & Social Science Resources page of findtbresources.com under "Other Resources and Activities." You can use the url www.findtbresources.org/material/CCGuide.pdf to link directly to the resource list.

Another current priority project is a review of the CDC Ethnographic Guides for TB programs. Bill Bower, co-chair of the subcommittee, coordinated the review teams for each guide as it was released for comments prior to final publication by CDC. Eight subcommittee members reviewed the Mexican guide and provided comments and feedback on evaluation forms developed by CDC. At a later date, five members provided review and comments on the Vietnamese guide. Most recently, members reviewed the Somali guide and were able to recruit Somalians to provide their unique perspectives as well. Additional members have volunteered to provide feedback on the upcoming Hmong and Chinese guides.

The subcommittee welcomes a new co-chair, Ms. Kristina Watkins, MPH. Kristina is a Training Specialist with the Southeastern National TB Center in Gainesville, Florida. She has been an invaluable addition to the subcommittee and has a wealth of experience in providing training and education materials for the 13 jurisdictions within her region. Kristina graduated from the University of Michigan School of Public Health and studied abroad in Santiago, Chile. Both she and Bill Bower, who continues as co-chair for a second year, are fluent in Spanish.

The subcommittee solicited additional input from new members attending the 2006 TB ETN conference for its needs assessment process. This will help define projects that the subcommittee can address in the future.

*—Submitted by Margaret Rohter, MPH
Suburban Cook County TB Sanitarium District
Co-chair 2004-06,
TB ETN Cultural Competency Subcommittee*

Cultural Competency Quotes

"Cultural competence has thus evolved from the making of assumptions about patients on the basis of their background to the implementation of the principles of patient-centered care, including exploration, empathy, and responsiveness to patients' needs, values, and preferences. Culturally competent providers expand this repertoire to include skills that are especially useful in cross-cultural interactions."

"Cultural competence has emerged as an important goal for very practical reasons. As the United States becomes more diverse, clinicians will increasingly see patients with a broad range of perspectives regarding health. Patients may present their symptoms quite differently from what we learned in our textbooks, they may have different expectations or thresholds for seeking care, and their beliefs will influence whether or not they follow our recommendations."

"Cultural competence is not a panacea that will single-handedly improve health outcomes and

eliminate disparities, but a necessary set of skills for physicians who wish to deliver high-quality care to all patients. If we accept this premise, we will see cultural competence as a movement that is not marginal, but mainstream.” —*Excerpts from “Cultural Competence--Marginal or Mainstream Movement?” by Joseph R. Betancourt, M.D., M.P.H. Published in New England Journal of Medicine Sept 2, 2004; 351:10.*

COMMUNICATIONS, EDUCATION, AND BEHAVIORAL STUDIES BRANCH UPDATE

New Communication Efforts to Stop TB in the African-American Community

CDC has introduced two new communication initiatives, the *Stop TB in the African-American Community* listserv and the *Stop TB in the African-American Community* webpage.

On May 16–17, 2006, over 100 individuals from a myriad of organizations convened at the *Stop TB in the African-American Community* summit in Atlanta, Georgia. The purpose of the summit was to discuss the high rates of TB in the African-American community and the disparity in TB rates between African Americans and whites, as well as to identify ways to address this problem. One action item suggested by the participants at the summit was to establish and maintain mechanisms that would facilitate ongoing communication among individuals who are interested in addressing TB in the African-American community.

In response, DTBE has launched the *Stop TB in the African-American Community* listserv and the *Stop TB in the African-American Community* webpage. The listserv and the webpage serve the dual purposes of establishing channels of communication and providing access to

resources for individuals who are interested in this topic.

The listserv provides a forum for exchanging information, sharing activities and experiences, and engaging in ongoing discussions related to the prevention, control, and elimination of TB in the African-American community. As an interactive platform, it allows individuals subscribing to the listserv to share resources by posting and receiving messages, submitting materials, and providing announcements about upcoming events and activities related to this topic. Listserv members may receive immediate delivery of posted messages or choose a daily digest of all postings over a 24-hour period. The *Stop TB in the African-American Community* listserv is free of charge and open to anyone with an interest in TB in the African-American community. Please go to http://cdcnpin.org/scripts/listserv/tb_aa.asp for subscription information.

The new *Stop TB in the African-American Community* webpage is available at <http://www.cdc.gov/nchstp/tb/TBinAfricanAmericans/> and provides quick, any-time access to information related to TB prevention, control, and elimination in the African-American community. This webpage serves as a central repository of information related to the May 2006 summit, as well as additional resources on TB in the African-American community, including links to-

- TB fact sheets on blacks and minorities
- *The TB Challenge: Partnering to Eliminate TB in African Americans* newsletter
- Relevant issues of the *Morbidity and Mortality Weekly Report (MMWR)* and other publications
- *Find TB Resources* website
- World TB Day posters
- Digests of TB-related news items (e.g., TB-Related News and Journal Items Weekly Update, TB Notes, CDC HIV/STD/TB Prevention News Update, *TB Educate* mailing list)

- *TB Behavioral and Social Science* Webpage and *TB Behavioral and Social Science* listserv
- Educational materials
- Other websites relevant to this issue

Individuals are encouraged to visit the *Stop TB in the African-American Community* webpage and to view and download materials. There are no subscription requirements for visitors to this site. All materials that have been developed by CDC on this webpage are free of charge.

For more information, please contact Cornelia White, PhD, by e-mail at zhz3@cdc.gov or by telephone at 404-639-8337.

—Reported by Cornelia White, PhD
Div of TB Elimination

CLINICAL AND HEALTH SYSTEMS RESEARCH BRANCH UPDATE

Using a Private Claims Database for TB Health Services Research, Evaluation, and Analysis

The Institute of Medicine (IOM) report on TB elimination in the United States highlighted several challenges and opportunities for TB prevention and control related to the use of managed care systems and privatization of health services. A DTBE study revealed that of the 733 patients hospitalized for TB in 1996, incurring total costs of \$11,263,853 (1999 dollars), approximately 12% were covered by private insurance (which paid 9% [\$1,038,759] of the total costs), 21% by Medicaid, 10% by Medicare, and 6% by both Medicaid and Medicare. However, the insurance status of all TB patients (including outpatients) and the cost of their care was and remains unknown. The IOM report anticipated that the percentage of TB patients cared for in the private sector was likely to grow, because increasingly Medicare recipients are insured by private for-profit

organizations and Medicaid recipients are cared for by Medicaid managed-care organizations. In addition, some public health departments contract TB care to private organizations or companies. Understanding the role that private insurance plays in TB care can provide valuable guidance for possible interventions.

When an administrative claims and encounters database of private employers (MarketScan) became available for use by DTBE, the Health Systems Research Team accessed it to attempt to answer several research questions related to TB care provision in the private sector. The methods and results of this exploratory project are presented below. In summary, though we were unable to answer the research questions using the MarketScan data, we describe the challenges we encountered and suggestions for addressing them.

The MarketScan database is a large, multisource, longitudinal database of inpatient and outpatient insurance claims and encounter information of individuals covered by employers' benefit plans. The database was created and maintained by Medstat, a for-profit health care information company (www.medstat.com). While MarketScan does not include Medicaid managed care providers, it does include Medicare recipients and others covered by private insurance. Previously, the MarketScan database has been used by CDC researchers in the National Immunization Program and the Division of STD Prevention, among others, to examine costs and service utilization patterns. Approximately 65 employers and 200 payers, including commercial insurance companies, contribute data. MarketScan links medical procedures and prescription data with provider descriptions, patient enrollment, and benefit plan information. The database retrospectively captures 10 years, which includes approximately 3.6 million persons, 75 million services, and prescription drug information for 2.8 million covered lives.

The primary objective of this project was to demonstrate the utility of the MarketScan database in describing TB service provision in private settings. Five research questions were initially posed:

- 1) *Who (in terms of age, sex, region, employment status, and industry) receives care for active TB disease from private providers?*
- 2) *What types of private providers perform TB diagnosis and treatment?*
- 3) *What are the duration of care for TB disease, types of services provided, procedures performed, drugs prescribed, and insurance payments to the provider?*
- 4) *What is the cost of TB care?*
- 5) *What are the rates of TB screening and LTBI treatment among persons at risk for TB disease?*

The initial steps were to identify which years (1997–2002) and TB-related “procedural” and “diagnostic” codes (Current Procedural Terminology (CPT) and International Classification of Diseases, 9th Revision (ICD-9)) codes to include. We obtained data through the specialized Medstat software, *Dataprobe*, and created SAS datasets. The following are some of the challenges we faced finding and describing true TB cases from the MarketScan data:

- Enrollment data, the sole source of stable demographic data and enrollment dates, were available for only a portion of total patients (50%–60% in the years selected).
- Diagnostic test results were not included in the database.
- Medication data were available for only a portion of patients (50%–60%) for the specific years included in the analysis.
- The inpatient admissions record listed one principal ICD-9 diagnosis code and 15 secondary diagnosis codes chronologically (i.e., not in order of “clinical importance”).
- Any TB diagnostic code may have been applied during patient evaluation when TB is suspected, and tests are ordered to confirm or rule out TB.

- We were unable to determine if a TB patient was referred to the public sector for diagnosis or treatment.
- We were unable to differentiate suspected TB cases from true TB cases since we could not match to a confirmed TB case registry. There were no shared identifiers that could be linked to an existing case registry.

We used various strategies to identify TB cases and isolate claims related to TB treatment:

- We completed an extensive process of determining best “criteria” for identifying TB cases, with expert DTBE physician consultation; used a claims algorithm with CPT codes, ICD-9 codes, and number of intervening days (specifically, presence of TB procedure code, a TB diagnostic code within the 60 days after, and another TB diagnostic code within 180 days after the first).
- We identified 190 possible TB patients (35 inpatients and 155 outpatients) who received some amount of care (as indicated by our algorithm) and described them by age, sex, geographic region, industry, and employment status.
- We randomly selected 10 of the 190 potential TB patients, then asked DTBE physicians to perform a detailed review of each patient’s claims history within 3 months of initial and last TB ICD-9 code to assess the validity of our algorithm, and evaluated the reviewer’s agreement.
- In a separate query of the MarketScan database, we identified 100 inpatients having TB as the principal diagnosis on the discharge record and conducted another in-depth claims review of records linked with hospital stays.

These strategies were unsuccessful in identifying true TB patients and TB claims. New and significant limitations were identified at this stage. First, our algorithms for identifying TB patients could not be validated. For example, the 35 inpatients identified using our claims algorithm and the 100 inpatients identified using hospital

discharge records were not the same; there were only 15 overlapping patient ID numbers. This suggested a lack of validity in our case criteria, assuming that TB indicated on the hospital discharge record was the “gold standard” (i.e., that a hospital discharge record with TB as the principal ICD-9 code should be that of a TB true patient, even if some true TB patients do not have a TB ICD-9 code on their hospital discharge record). The detailed claims review (independent of hospital discharge data) yielded concerns about the validity of the case criteria among outpatients as well; the DTBE physicians who examined the claims records concluded that 9 out of 10 were unlikely to be true TB patients.

The second challenge was the relationship between the CPT and ICD-9 codes. We originally aimed to extract specific claims associated with TB care to conduct episode-of-care analysis for both inpatients and outpatients. It was expected that a claim with a TB-related CPT code (e.g., 87116, “Culture, tubercle or other acid-fast bacilli”) would usually be linked to a TB diagnostic code, but this was not observed in the data. Conversely, the TB ICD-9 codes were not consistently associated with procedures that are relevant or specific to TB diagnosis or care. Upon examination, we found no clear and consistent linkage between possible TB CPT and ICD-9 codes; thus, we did not identify a mechanism to isolate TB claims of true TB cases.

Because there was no link to a TB registry, we could not determine when TB treatment started or ended to estimate a relevant time period for TB-related services or costs. Also, we could not calculate the TB screening rates among persons at risk for TB disease because it was not possible to identify an accurate denominator of patients with diseases that place them at risk for TB (e.g., HIV, silicosis, diabetes). Rather, we could only ascertain whether someone was receiving care for that condition while insured. For example, a diabetic patient may not have had a tuberculin skin test (TST) CPT code because he or she was tested before or after the claim reporting period

(and enrollment dates were available for only half of the population). No TST results were available, so we were unable to use these data to determine TST positivity rates.

We reflected upon the study research questions and concluded that we were unable to answer them with the MarketScan data. This was mainly because we could not identify individual TB patients or patients at risk for TB solely through the MarketScan database.

However, we offer a few suggestions for meeting these challenges. It might be possible for states or local areas, through negotiation and confidentiality agreements with large private employers, to link the MarketScan data to TB patients or TB suspects in their area. Alternatively, local TB programs might be able to access the MarketScan data for their geographic area and could attempt to match TB patients, without linking the databases, by patient employment status, county, gender, and year of birth, though the combination may not yield an exact match. After identifying a cohort of TB patients or TB suspects, TB programs would need to determine if any TB-related diagnostic codes or CPT codes are documented in the claims histories for matched patients. If analysis is limited to known TB patients, programs could describe the characteristics of who is served by private insurers, types of private insurers that TB patients use, and duration of and type of care received (i.e., research questions 1, 2, and 3). Some of the limitations mentioned above would still pose challenges to analysis. However, this strategy would facilitate analysis of the costs of TB care in the private sector, which is lacking in the literature, and might permit us to assess whether the movement towards provision of TB care in the private sector is cost efficient for society.

—Reported by Heather Joseph, MPH
Div of HIV/AIDS Prevention, and
Suzanne Marks, MPH, MA
Div of TB Elimination

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SURVEILLANCE, EPIDEMIOLOGY, AND OUTBREAK INVESTIGATIONS BRANCH UPDATES

9th Semiannual Meeting of the Tuberculosis Epidemiologic Studies Consortium

The 9th Semiannual Meeting of the Tuberculosis Epidemiologic Studies Consortium (TBESC) met July 12–13, 2006, in Atlanta. The primary purpose of the TBESC is to conduct epidemiologic, behavioral, economic, laboratory, and operational research in TB prevention and control.

The goal of the meeting was to update consortium members on the status of research projects, discuss and refine the process by which research proposals are submitted and reviewed, and discuss the latest study on new diagnostic tests for detecting latent TB infection. Over 90 persons participated in the meeting. Attendees included CDC staff, consortium principal investigators, project coordinators, and project specific personnel.

Participants heard presentations from CDC, TBESC members, and invited guests on a broad array of topics that included-

- Scientific updates from TBESC studies with new research results
- Administrative and fiscal updates on consortium-related activities

- Updates from the Bylaws and External Relations Committees, and the Translating Research into Practice Workgroup
- The epidemiologic basis of TB control

Participants discussed modifying the process by which consortium research proposals are submitted, reviewed, and awarded, and reexamined the research agenda focus, goals, and research questions. The meeting was productive and responsive to the mission of the TBESC. For more information on the TBESC, please visit our website at <http://www.cdc.gov/nchstp/tb/TBESC/TOC.htm>.

*—Reported by Christopher J. Kissler, MPH
Div of TB Elimination and
TBESC External Relations Committee*

TBESC Task Order #10: Monitoring Performance and Measuring Cost of TB Public Health Practice at County and State Health Departments: Are We Making a Health Impact?

In the past, TB public health evaluation focused on two questions:

1. Are we headed in the right direction (objectives)? and
2. Are we making efficient progress (performance)?

These two questions are usually asked of TB case management, contact investigation, targeted testing, and outbreak investigation (action). However, for the most part, these questions ignore TB case detection, registration, and analysis (surveillance). Further, the question of effectiveness is unasked, and often, local and state TB programs remain unaware of missed opportunities to improve both efficiency and effectiveness. Further, the limited evaluation efforts that currently exist focus mainly on monitoring, with little to no in-depth evaluation, which is required to know where and how to intervene in response to poor performance. While objectives are established, programs have few

tools to monitor and evaluate progress toward them in a user-friendly, Web-based, real-time manner.

Other evaluation areas remain problematic for TB managers. Program costs come to the manager in the form of line items (e.g., personnel, travel, or equipment). This does not allow costs to be translated into specific public health activities. For example, a program manager cannot answer the simple question, how much does it cost to perform case management or outbreak investigation? This is because cost data are not passed through what might be called an "interpretive grid" into specific public health activities. Often intuitive rather than data-driven decisions are made by program managers. Cost is important to program, but is not generally considered for evaluation. In recent years, TB budgets have shrunk, challenging programs to do the same or more with less money. Knowing the cost involved in running a successful TB program that achieves health impacts is crucial, especially in the face of shrinking budgets. Programs should and must be able to ask and answer questions such as, what is the cost of each program activity, such as case finding or case management? In what areas of my program is the most money spent?

Task Order #10's vision was to develop tools that will facilitate quick, user-friendly monitoring and evaluation as a way to help TB programs target interventions toward cost efficiency and improved performance. The goal was to develop and implement simple, standardized, Internet-based tools for TB programs that can be used to monitor performance and measure costs. Task Order #10 achieved this goal. The Florida Department of Health (FL DOH) and the University of North Texas Health Science Center conducted this operational research and developed two tools. These two simple, standardized, yet customizable tools are based on an action-led conceptual framework that includes eight core activities (detection, registration, reporting, confirmation, analysis,

feedback, acute response, and planned response) and four support activities (communication, training, supervision, and resource provision).

In phase I, we collected program indicators from a variety of national, state, and local programs. We compiled these indicators in a database totaling over 150 indicators mapped to the conceptual framework. Task Order #10 sites held focus groups at multiple locations with various levels of public health professionals ranging from nurses to program managers, to determine which indicators were the most useful. Group participants evaluated the indicators based on importance, understandability, utility, availability, measurability, and cost effectiveness. In phase II, we continued to collect and analyze evaluation data from additional counties or regions at the two project sites. In addition, the Task Order #10 teams began the process of costing TB activities using the conceptual framework. In phase III, we developed and refined the two tools.

The Florida Public Health Impact Tool (PHIT) assists TB control programs in monitoring performance, evaluating established objectives, examining related costs, and measuring the health impact of their interventions. PHIT uses data readily available to TB programs to calculate the costs associated with performance measures. These calculations can focus on specific program areas such as surveillance or contact investigation, look at program areas over time, and compare across programs. By linking the cost to performance outcomes, PHIT provides meaningful information that will help managers highlight program accomplishments or investigate areas that need attention. These evaluation findings provide useful data for improving TB programs and advocating for resources.

Texas' Tuberculosis Program Economic Decision Support tool (TB EDS) can be used to assist TB control programs in modeling the effect of changes in local conditions. TB EDS can be used

to estimate the resources required to achieve a level of performance and predict the additional resources needed to meet changing conditions. The ability to model the effect of changing conditions on performance enables managers to maximize resources and increase program efficiency. TB EDS can also be used to guide program staff in budget preparation, contingency planning, and comparisons of alternative program components or technologies.

The funding for Task Order #10 ends on September 30, 2006, but our work will continue. Three peer-reviewed manuscripts have been published, and five manuscripts are in preparation. Over our 3-year project, 28 abstracts have been presented at various meetings, including the National TB Controllers Association and American Evaluation Association. We have given numerous oral presentations including seven Division Brown Bag seminars. Two Economic Health Forums supported by Task Order #10 were held on the campus of the University of North Texas Health Science Center in 2004 and 2005. For a copy of our bibliography, a description of Task Order #10 tools, or copies of the tools themselves, please contact Bridget Young at bjy0@cdc.gov.

—Submitted by Bridget Young
Div of TB Elimination

The Task Order # 10 team at Univ of N. Texas Health Science Center campus during 2nd Annual Health Economic conference, Oct 2005.



NEW CDC PUBLICATIONS

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PERSONNEL NOTES

Rana Jawad Asghar MD, MPH, left DTBE after completing his EIS training with the Outbreak Investigation Team (OIT) of the Surveillance, Epidemiology, and Outbreak Investigations Branch. He will now be working as Resident Advisor for the Field Epidemiology Training Program in Islamabad, Pakistan, under contract

with the Division of International Health, Office of Global Health, CDC. As an EIS-officer with OIT, Jawad led three outbreak investigations (in Miami, Mississippi, and Baltimore). His most important work was his investigation in Miami, which highlighted the importance of place-based contact investigations for high-risk population groups (e.g., alcohol and drug users) who usually do not disclose information about their contacts for TB testing. Jawad presented the findings of this investigation at the EIS conference as well as at the American Public Health Association meeting. He also worked on a very interesting and important analysis about TB among patients from South Asia (i.e., the Indian subcontinent), comparing these patients to other foreign-born TB patients in the United States. He is working on a publication related to these analyses. We wish Jawad the best of luck in his new job!

Subroto Banerji, MPH, of DTBE's Field Services and Evaluation Branch was selected for a Public Health Advisor (PHA) position with the CDC Global AIDS Program (GAP). He began his new position with GAP on September 4. Subroto is relocating to Pretoria, South Africa, with his wife, Melissa Amaro. (Melissa was also a CDC PHA, working for the Division of STD Prevention in California from 1990 to 1998 with assignments in Los Angeles and Alameda counties.) In his new role, Subroto will serve as Activity Manager for PEPFAR-funded projects with a focus on TB and TB/HIV surveillance, expansion of HIV services for TB patients, and TB screening and treatment for HIV clients as well as blood and injection safety and program evaluation. Subroto came to DTBE headquarters in May 2003. During this time in Atlanta, Subroto worked on several projects addressing program and laboratory improvements for our six US-affiliated Pacific Island programs, patient management information technology, and electronic data notification for immigrants and refugees. Subroto joined CDC in June 2000 as a PHA assigned to the California Department of Health Services, TB Control Branch, Surveillance and Epidemiology Section. Prior to joining CDC, Subroto spent 3

years with the Alameda County TB Control Program, located in Oakland, CA, where he served as the Assistant Director and Epidemiologist for the TB Program (and where he met Melissa). From January 1996 to April 1997, Subroto worked as a Public Health Epidemiologist with the San Bernardino County Public Health Department, in the TB and STD/HIV control programs. Between August 1993 and December 1995, Subroto completed graduate work towards an MPH degree in epidemiology at the San Diego State University School of Public Health and also worked with the San Diego County TB Control Program on various epidemiologic and programmatic projects. Subroto will continue to receive e-mail at his CDC email address: sbanerji@cdc.gov.

Stephen Benoit, MD, has joined DTBE in the International Research and Programs Branch (IRPB). He recently completed his service as an Epidemic Intelligence Service (EIS) Officer, during which time he was assigned to the Division of Healthcare Quality Promotion in the National Center for Infectious Diseases (NCID). As an EIS Officer, Stephen conducted infectious disease field investigations and epidemiologic research on nosocomial infections and antimicrobial resistance. He has worked in Latin America and the US-Mexico border region before and during EIS and will be focusing on this region while in IRPB. A graduate of the University of Massachusetts Medical School, Stephen completed his residency in preventive medicine at the University of California at San Diego and an internship in internal medicine at Roger Williams Medical Center in Providence, Rhode Island. Prior to his service in the EIS program, he completed a fellowship in pharmacoepidemiology at the Food and Drug Administration. He is board certified in preventive medicine and received his master's degree in public health from San Diego State University and bachelor's degree from Harvard University.

Jeuneviette Bontemps-Jones, MPH, CHES, has joined the Communications Team of the

Communications, Education, and Behavioral Studies Branch as an Association of Schools of Public Health (ASPH) fellow. Her work within the branch will include planning, developing, revising, implementing, and evaluating educational print as well as Web-based materials. Jeuneviette was born and raised in Long Island, New York. After earning her BA degree in psychology from Columbia University, NY, she taught elementary school for 3 years in Queens, NY. She then enrolled in the Rollins School of Public Health at Emory University and received her MPH degree in health education. During the time between completing her degree at Emory and starting her ASPH fellowship, Jeuneviette worked at the Morehouse School of Medicine as a Research Coordinator in their Community Oriented Primary Care Department.

Raffaella Espinoza, MPH, has joined the Field Services and Evaluation Branch (FSEB) as an Association of Schools of Public Health (ASPH) fellow. Born and raised in South Africa, she moved in 2000 to Oklahoma. She received a BA degree in anthropology from the University of Oklahoma and an MPH degree in epidemiology from the University of Oklahoma Health Science Center. She worked as a graduate research assistant in both the Department of Epidemiology and the Department of Health Science Center where she assisted with outbreak investigations at the Oklahoma State Health Department, Communicable Disease Division. While she is with FSEB, she will be working with the Program Evaluation team to help develop technical assistance materials for TB program evaluation.

Vernell Fields has joined DTBE in the Field Services and Evaluation Branch as a Public Health Advisor (PHA) with the TB control program in Baton Rouge, Louisiana. Her career in public health started in 1988 when she became a CDC PHA in the STD Division in Miami, Florida. Vernell also worked in a Tampa, Florida, STD/HIV clinic, where she worked on various studies related to the prevention of and early testing for HIV. She then worked in

Baltimore, Maryland, as an STD surveillance supervisor as well as a jail coordinator, returning to Miami, Florida, in 1995 as a front-line supervisor and clinic manager. In 2000, Vernell transferred to Nashville, Tennessee, where she served as a Special Project Coordinator with various community-based organizations in the area of STD/HIV. Also, as a PHA assigned to the Metro Health Department (Nashville), and a team member of the Health Promotion Unit, Vernell was involved in other health-related education activities. Some of these activities included providing high-risk groups with creative and age-appropriate intervention presentations, such as a haunted house at Tennessee State University, the 92Q radio station Sky Show, the Faces of AIDS Exhibit, and National HIV Testing Day. In addition, she worked on the RAID ethnographic community assessment process report, which was conducted in 2001 at the Metro Health Department. In June 2006 Vernell transferred from the Nashville STD program to the Baton Rouge TB program, changing not just to a new duty station but to a new CDC program as well. She received a bachelor of science degree from Texas A&M University, Commerce, Texas, and recently earned a graduate certificate in public health from the University of Washington at Seattle.

Indhira Gnanasekaran, MPA, has been selected as the new Project Manager (Chris Kissler's replacement) for the TBESC. Indhira, a native New Yorker, received a masters degree in Public Administration from Syracuse University. While at Syracuse University, she also received an Advanced Certificate of Study in Health Services Management and Policy. After completing her MPA, she worked at the Child Guidance Center of Southern Connecticut as their Development and Communications Associate. In this position she oversaw development of projects; managed a committee of children's mental health advocates; and developed grant proposals, evaluation reports, budgets, analysis reports, and communication materials.

Wendy Heirendt, Field Services and Evaluation Branch Public Health Advisor (PHA) assigned to Virginia, has left DTBE for a new job within CDC. She joins the Division of Diabetes Translation in Atlanta on September 17. Many of us have known Wendy and greatly appreciated her work and contributions over the nearly 15 years she has been with DTBE. Wendy started her DTBE career with an assignment to Puerto Rico in 1991, was then assigned to Indiana in 1993, and finally to Virginia in 1999. Wendy has been the consummate Public Health Advisor in all of her assignments and numerous temporary assignments. She has a keen ability to translate and incorporate CDC goals and objectives at all levels of a program's local activities, especially with surveillance, DOT, and the use of incentives and enablers. She also has a strong reputation for guiding and developing state and local staff. Without question she will be missed, and we wish her the best in her new position as project officer in the Diabetes division.

Awal Khan, PhD, has left DTBE to pursue a new opportunity within another Center at CDC. As of August 21, Awal is the newest Team Leader in the Division of Alliance Management and Consultation, National Center for Public Health Informatics, Coordinating Center for Health Information Service. Awal began working in DTBE's Clinical Research Branch (now Clinical and Health Systems Research Branch, CHSRB) in March 1997 as an Epidemiologist, Data Analyst, and Data Manager for Study 22. He had worked previously with Dr. Andy Vernon, Chief of CHSRB, at the Georgia Department of Human Resources, and had also overseen the management of TB and HIV surveillance data for the state of Georgia. Awal came to CDC with a PhD in Nutritional Sciences from the University of Arizona, a master's degree in demography, and postdoctoral experience in nutritional sciences at Cornell University. From the beginning, Awal demonstrated a rigorous work ethic and superb attention to detail. During his tenure with CHSRB, Awal was instrumental in the data management and primary analysis for every TBTC clinical trial

(both parent trials and substudies), in every secondary analysis, and in the engagement of all quality control issues associated with TBTC data. Awal consistently did the work of three persons, while maintaining the positive attitude and the gentle manner that characterize him. Some of the latest TBTC innovations, such as daily Internet posting of quality assurance data so that TBTC site investigators and coordinators can access information on their performance and respond to data queries on a 24/7 basis, are part of the legacy that Awal leaves with the TBTC. In addition to his demanding work schedule, for the past 3 years Awal has been pursuing part-time at Emory University the course requirements for a master's degree in biostatistics; he has completed about 75% of these requirements. Invariably, when a challenging analytic issue arose, Awal would suggest an approach or knew an expert to whom we could pose our questions, and facilitated this interaction. Awal has many reasons to be proud of the contributions he has made to the TBTC. We are grateful for his dedication to his work and his kindness to his coworkers, and wish him the best in his new position.

Chris Kissler, who was the project coordinator for the Tuberculosis Epidemiologic Studies Consortium (TBESC), has left DTBE. Chris accepted a position as a Public Health Analyst (Project Officer) in the Division of HIV/AIDS Prevention, Prevention Program Branch. In this position, he is now overseeing CDC HIV prevention grants to state health departments and local community-based organizations. This is a great opportunity for Chris, and we are very happy for him. He did a wonderful job overseeing the consortium's activities, which included his work on the TBESC committees, the overall evaluation plan/logic model for the consortium, the semi-annual meetings, and oversight of DMACS. In general, he made sure that the consortium ran smoothly. Chris' last day with DTBE was September 1. We wish him the best of luck in his new job!

Michael F. Iademarco, MD, MPH, DTBE's Associate Director for Science (ADS) since 2001, left CDC and DTBE September 17, 2006, to take the position of Health and Human Services (HHS) Health Attaché in Hanoi, Viet Nam. Michael joined DTBE in 1998 as a Medical Officer in the International Activities Branch (now the International Research and Programs Branch); he then served as ADS from 2001 to 2006. As ADS, he initiated several new systems and improvements in the division and led DTBE staff in carrying out numerous critical projects. He guided the efforts of the DTBE team members who collaborated to find and ensure treatment completion for 200 TB patients displaced from the Gulf area owing to Hurricane Katrina. With significant input from branch chiefs, he redesigned the internal budget planning process to set overall divisional prioritized goals and objectives and to select programmatic and scientific projects. He also streamlined various division clearance procedures such as the coordination of media and communications, and worked to mitigate the increasing complexities of the review for human subjects research. He also meticulously reviewed and offered advice on numerous protocols, manuscripts, and publications, including four major guidance documents in 2005—"Controlling Tuberculosis in the United States"; "Guidelines for the Investigation of Contacts of Persons with Infectious Tuberculosis"; "Guidelines for Using the QuantiFERON®-TB Gold Test for Detecting *Mycobacterium tuberculosis* Infection, United States"; and "Prevention of Tuberculosis Transmission in Health Care-Associated Settings"—serving as a co-author on the last two. Prior to that, during 2001–2003, he played a major role in the coordination of the CDC-wide response (including the publication of four *MMWRs*) to reports of severe adverse events from treating patients for latent *M. tuberculosis* infection with 2 months of daily rifampin and pyrazinamide. He also made contributions and lent his expertise to various advisory groups and committees. Since 2001, Michael served as a member of the Technical Advisory Group (TAG)

for TB control to the Western Pacific Regional Office (WPRO) of the World Health Organization (WHO). He also led DTBE's efforts to improve TB laboratory services by improving coordination between the Public Health Practice Program Office (PHPPO) and the TB laboratory unit, serving on the American Public Health Laboratory Task Force, and helping organize the 4th National Conference on the Laboratory Aspects of Tuberculosis. He also chaired the Scientific Advisory Group of Experts, a group of DTBE leaders who oversee and provide guidance to DTBE's TB Clinical Trials Consortium. He served on various committees of the Mycobacteria, Tuberculosis, Pulmonary Infection Assembly of the American Thoracic Society, 2001–2005, and also served as co-chair and organizer of the CDC-IUATLD late-breaker session at the IUATLD annual conference. Michael also promoted DTBE and its resources and staff whenever possible. He served on the Charles Shepard Science Award Subgroup Committee, 2001–2004, and served as the chair of the subgroup and the NCHSTP representative to the full committee in 2004. He coordinated the practice sessions of EIS officers' oral presentations, and reinvigorated the lunchtime "Brown Bag" series of updates and discussions. He also pushed for the reinstatement of the "TB Weekly Update," a TB news service distributed by e-mail internationally that he continuously publicized to national and international partners.

From August 1998 to April 2001, as a Medical Officer-Epidemiologist with the International Activities Branch, he provided technical support for six operations research projects of Viet Nam's National TB Control Program (NTP). He coordinated USAID support for a 3-year management training program for the NTP of Vietnam and for a 2-year pilot project to help develop private sector DOTS models in the Philippines, and he supervised laboratory quality control projects for the TB reference laboratory of southern Vietnam. He also guided the implementation of a collaborative protocol to develop and field test a serodiagnostic test for TB

specifically applicable in regions with high HIV prevalence. From September 1998 to present, concurrent with his work here in DTBE, Michael found time to serve as Adjunct Assistant Professor of Medicine, Emory University School of Medicine, and as Adjunct Assistant Professor, Rollins School of Public Health, Emory University, Atlanta, Georgia, lecturing to or co-directing a number of graduate-level health courses. While we will miss Michael's humor, energy, and dedication, we know he will continue to make contributions to public health in his new role as HHS Health Attaché in Viet Nam, and we wish him and his family the very best of luck.

Philip LoBue, MD, was selected as DTBE's new Associate Director for Science; he started on October 1, 2006. Phil obtained his BA degree in biochemistry from the University of Pennsylvania in 1985, and earned his MD degree from the same institution in 1989. He completed an internal medicine internship and residency at the University of California–San Diego (UCSD) Medical Center, followed by a fellowship in pulmonary and critical care medicine, also at UCSD. In 1995 Phil became a faculty member with the Division of Pulmonary and Critical Care Medicine at UCSD, appointed first as Clinical Instructor and then as Assistant Clinical Professor of Medicine. During his time in UCSD, Phil served as Principal Investigator for the QuantiFERON Study 1 and Co-investigator for the TB Trials Consortium (TBTC) USPHS Study 22. In September 1999 he was selected as medical epidemiologist for the TB Control Program in San Diego County, working for the Division's Field Services and Evaluation Branch (FSEB). In this assignment, his primary responsibilities were to assist the local TB program with epidemiologic data collection, analysis, and reporting; provide clinical consultation; and oversee clinical and epidemiologic studies. While assigned to the San Diego County TB program, Phil served on numerous local, state, and national committees and workgroups, including the National TB Controllers Association/CDC contact

investigation recommendations, California Department of Health Services Tuberculosis Indicators Project Advisory Committee, CDC's efforts to revise the Report of Verified Case of Tuberculosis (RVCT), and CDC's Tuberculosis Surveillance Program Area Module Steering Committee. While in San Diego, Phil also maintained his affiliation with UCSD, acting as medical director of the medical center's Chest Clinic from 1997 through 2003. In February 2004, Phil transferred to DTBE headquarters in Atlanta to serve as team leader for the Medical Consultation Team in FSEB. His duties included providing medical and technical consultation to local and state TB programs in conjunction with FSEB program consultants, overseeing activities of DTBE's field medical officers, and acting as technical advisor to DTBE's four Regional Training and Medical Consultation Centers. He also contributed to several national TB guidelines including those covering correctional facilities, contact investigation, and QuantiFERON TB-Gold. An active member of the American Thoracic Society (ATS), Phil has also represented the Division in several joint projects between CDC and ATS, and is presently the lead point of contact for the planned update of TB diagnostic standards by ATS, CDC, and the Infectious Diseases Society of America.

Allan Locke has been selected for the Public Health Advisor (PHA) position in the Fort Wayne, Indiana, TB program. He began this new assignment on October 15, 2006. Allan comes to DTBE with an extensive background in field work, starting in 1988 with an assignment as a PHA in Miami, Florida. He worked there as a Disease Intervention Specialist (DIS) for 2.5 years performing sexually transmitted disease (STD) and HIV interviews; case management activities, including interviews; field investigations; and community screenings, including performing phlebotomy activities in the field and in various corrections settings. He was then assigned to the City of New Orleans STD program, where he worked for 2 years before being transferred to the City of Houston, Texas.

He served there in a supervisory role for the next 5.5 years. As a supervisor, he routinely conducted performance audits and trained a continuously revolving group of PHAs in disease intervention skills. He also worked on CDC's pilot version of the Sexually Transmitted Disease Management Information System (STD*MIS), which has evolved from a basic morbidity reporting system to an expanded system that includes multiple features ranging from a client registration system to a medical records database. In 1998, he transferred to Madison, Wisconsin, to work as the STD surveillance coordinator. Beginning in early 2000 he performed the duties of a database manager, supporting five remote sites and the central database, located in Madison, Wisconsin. He routinely performed ad hoc training, IT support, and data cleaning; produced routine and ad hoc reports; reconciled case counts; and ensured completeness and timeliness of data reporting.

Allison Maiuri, MPH, has joined the Communications, Education, and Behavioral Studies Branch (CEBSB) as an Association of Schools of Public Health (ASPH) fellow. She completed her BS degree in psychology at the University of North Carolina at Chapel Hill and has an MPH degree in behavioral sciences and health education from Emory University's Rollins School of Public Health. Prior to entering Rollins, Allison worked as a consultant for the Public Health Foundation on workforce development. During her time at Rollins, she worked with Emory researchers on issues related to adolescent health and Internet exposure. While she is with CEBSB, she will be working with the Education, Training, and Behavioral Studies team in planning, developing, revising, implementing, and evaluating education materials.

Brandii Mayes, MPH, has completed her second CIO fellowship assignment in the Public Health Prevention Service (PHPS) program, which she served in DTBE. During her 6-month assignment here, Brandii worked with staff of the Field

Services and Evaluation Branch and the Surveillance, Epidemiology, and Outbreak Investigations Branch to develop a systematic process for evaluating the effectiveness of outbreak response activities. Brandii received her undergraduate degree in biology from Clark Atlanta University and her masters degree in public health from the University of Texas - Houston School of Public Health with a concentration in community health practice. On October 9, 2006, Brandii will be starting her 2-year field placement at the City of St. Louis Department of Health under the supervision of Pamela Rice Walker, BS, MPA, Bureau Chief of CDC Prevention and Bioterrorism Preparedness. There she will coordinate implementation of the Comprehensive Community STD strategic goals and plan; develop action plans for areas of concern such as youth, Hepatitis C, and HIV; and develop an evaluation tool of programmatic success.

William Mac Kenzie, MD, has joined DTBE in the International Research and Programs Branch. Bill graduated from medical school at the University of California, San Francisco, in 1984. He completed a combined internal medicine and pediatric residency at the University of Arkansas for Medical Sciences and is board certified in both specialties. After residency, he worked for a year as an ER physician and then completed a 2-year fellowship in infectious diseases at Stanford University. In 1991, Bill joined CDC as an EIS officer assigned to the Wisconsin Division of Health where he was involved in the Langmuir Prize-winning investigation of the 1993 Milwaukee waterborne outbreak of cryptosporidiosis. After EIS, Bill joined the Division of Field Epidemiology, EPO. While in that position, he supervised over 30 state-based EIS officers and was the recipient of the 1997 Brachman Award for his contributions to EIS officer education. In 1997, he moved to the Division of Parasitic Diseases where his major projects included the Cyclospora outbreaks associated with Guatemalan raspberries and a collaborative effort with EPA in calculating a

national estimate of waterborne disease. In 1999, Bill left CDC to work as an epidemiology consultant with the International Rescue Committee in Kosovo assisting nationals and WHO in the rebuilding of their public health system. In 2000, Bill returned home to California, where he worked until 2005 as a clinical infectious disease consultant, a primary care internist, and a private epidemiology consultant. In 2005, he rejoined CDC as the Quarantine Medical Officer assigned to the CDC Quarantine Station in Los Angeles. In that position he made significant contributions to local and national plans for responding to pandemic influenza at ports of entry. Over the course of his public health career, Bill has worked in Russia, Armenia, Kosovo, and China. As an epidemiologist, his major interests are in study design and training.

Scott McNabb, PhD, left DTBE on July 21. A short write-up in the last *TB Notes* described Scott's new position but did not touch on his DTBE accomplishments. We hope to make amends with this second attempt. In his 6 years with the Division, Scott made contributions to TB prevention and control that are likely to have a lasting impact. He initiated, implemented, and published scientific manuscripts for an impressive number of projects, both domestic and international. He conceived of and led the effort to establish the Tuberculosis Epidemiologic Studies Consortium (TBESC). The consortium consists of 21 sites across the United States and Canada whose purpose is to conduct programmatically relevant research that will contribute to the control and ultimate elimination of TB in the United States. He was the Principal Investigator for a large multiyear, multisite study that developed a new TB surveillance and action evaluation tool that measures both the performance and cost of public health surveillance and action. This tool is critical for providing state and local TB programs with simple, user-friendly, and sustainable self-evaluation tools. As part of this work, Scott established strong collaborations with partners in

local and state public health departments and academic institutions. Scott was also the Division's scientific lead on the analysis of data from the National Genotyping and Surveillance Network (NTGSN) database, a 5-year, \$10 million project. He formed and led the "Gene Team," a group of experts in genotyping and statistical analysis, to study and develop national guidelines for interpreting TB genotyping data. This work contributes to our ambitious nationwide effort to build genotyping capacity at the state and local levels. Internationally, Scott will continue as the lead US scientist on a project in Armenia and the former Soviet Republic of Georgia that is funded by the Biotechnology Engagement Program (BTEP). The project establishes a surveillance system for Armenia and supports the development of key TB prevention and control activities countrywide. This information will be critical for improving TB prevention and control efforts in these two countries. Finally, his strong commitment to TB prevention and control and to the development of our future public health professionals is evident by the large number of students and fellows he has mentored and trained, including Public Health Prevention Service (PHPS) fellows, local health department personnel, and a number of masters of public health (MPH) students from the Rollins School of Public Health. He now turns to a new, exciting public health challenge that builds on the work he has done in surveillance. He has been named the new Director, Division of Integrated Surveillance Systems and Services (DISSS), National Center for Public Health Informatics (NCPHI), Coordinating Center for Health Information and Service (CoCHIS). As Director of DISSS, he will lead CDC's efforts to identify, assess, and pursue national and international solutions to integrated surveillance and response efforts. He will also lead CDC's efforts to develop, implement, and maintain common platforms, agency-wide systems, and applications for integrated solutions, including those for integrated surveillance, lab reporting, and response. He will lead the existing NEDSS, NNDSS/NETSS/NNDSS-link, and Epi Info

activities, as well as the LRN Real Time Laboratory Information Exchange, the Specimen Tracking and Results Reporting System (STARRS), and the Coordinating Systems for Managing Outbreaks and Health Events (OMS). Since many of these efforts directly impact DTBE, we are happy to have someone who knows about TB in this leadership position. Please join us in wishing him the best of luck.

Heather R. Morrow-Almeida, MPH, has joined DTBE for her first headquarters-based fellowship assignment in the Public Health Prevention Service (PHPS) program. During her 6-month assignment with DTBE, Heather will be working with staff of the Field Services and Evaluation Branch and the Surveillance, Epidemiology, and Outbreak Investigations Branch on the pilot of the National Tuberculosis Indicators Project, an evaluation of its usefulness for state partners, and other short-term projects as they arise. Heather received her undergraduate degree in Latin American Studies from Appalachian State University in North Carolina and an MPH degree from the University of North Carolina at Chapel Hill in the Maternal and Child Health Department in May 2006. During and just after graduate school, Heather worked on a research team with the Carolina Population Center conducting a study of nutrition and physical activity among first-time African-American mothers in a five-county region of North Carolina. During her graduate degree program, Heather worked with the North Carolina Farmworker Health Program to assess, design, and implement a series of health education modules for farmworkers and their families. Prior to entering graduate school, Heather was employed as a health educator on topics varying from maternal and child health issues to HIV and sexually transmitted diseases. While in North Carolina, Heather was involved with numerous volunteer engagements, including working as a doula (supporting women during labor and childbirth), volunteering with farmworker outreach, coordinating health education for SHAC (a student-run health clinic in Carrboro),

and working with mothers and children in the local WIC program. She is currently looking for a volunteer engagement here, and is open to suggestions. She entered the PHPS program with an interest in learning and practicing evaluation skills, and is very pleased to have the opportunity to work with the evaluation team in DTBE.

Alan Schley, who provided superb administrative assistance to the Surveillance, Epidemiology, and Outbreak Investigations Branch (SEOIB) for 4 years, has left DTBE. He accepted a position in the Office of the Director, Division of Integrated Surveillance Systems and Services, National Center for Public Health Informatics, Coordinating Center for Health Information and Service. He started there on September 3. Alan joined SEOIB in December 2002 after a successful and well-decorated career as an administrative specialist with the US Army. Alan earned his bachelor of science degree in Management from Park College in Missouri in 1997.

Susan Spieldenner, RN, BS, left DTBE's Field Services and Evaluation Branch (FSEB) on October 15, 2006, to take a position as a Public Health Quarantine Officer with the Division of Global Migration and Quarantine (DGMQ). In her new position, Susan will be stationed at the Detroit Metropolitan Airport. For the past year, Susan has been assigned to the California Department of Human Services Tuberculosis Control Branch, where she has worked in the Resource Management and Planning Section. During this time she was involved in California's local assistance award process, provided budget planning support to the two counties most heavily impacted by the TB outbreak among recently arrived Hmong refugees. She also developed agreements providing for the care of TB patients under civil detention. Susan came to DTBE from the State of Michigan, where she had worked as the TB Program Coordinator since 2001. In this position, she provided technical advice and guidance to the local health departments on

standards of care and reporting requirements, and addressed issues of patient noncompliance, among other duties, throughout the state. Before this, Susan used her skills as a public health nurse for the Calhoun County (Michigan) Health Department in Battle Creek, Michigan, working in the community. In this position, she worked on contact investigations and managed patient care and follow-up.

Phil Spradling, MD, left DTBE in May 2006 for a position with the Division of Viral Hepatitis of NCHSTP. Phil joined DTBE in 1999 as an Epidemic Intelligence Service (EIS) Officer in the Surveillance, Epidemiology, and Outbreak Investigations Branch (SEOIB). During his 2 years as an EIS Officer, Phil provided excellent advice on the diagnosis and treatment of TB and on the management of several outbreaks. He headed the investigation of a large TB outbreak in a South Carolina prison, and in 2000 he traveled to Russia to conduct a survey of TB drug resistance. He played a key role in numerous other outbreak investigations. In 2002 he left DTBE for a position with CDC's National Immunization Program, returning to the division in late 2002 to serve as a Medical Officer in the Clinical and Health Systems Research Branch (CHSRB), TDS, and work with the TB Trials Consortium. During his second tenure at DTBE, Phil worked again with SEOIB on several important projects. He assisted with the writing and editing of *Reported Tuberculosis in the United States, 2004*, and also collaborated with the Surveillance Team in preparing a national TB surveillance data sharing policy as well as other documents. Lastly, Phil worked on reactivating the revision process on the RVCT (Report of Verified Case of Tuberculosis). We wish him the best of luck in his new position.

Zach Taylor, MD, MS, left DTBE in November 2006, having been selected for the position of Regional Health Administrator, HHS Region VIII. He currently holds the rank of Captain (0-6) in the Commissioned Corps, USPHS. This new position gives him the potential for promotion to Flag

Rank (0-7). Zach served with outstanding leadership as chief of the Field Services and Evaluation Branch in DTBE over the past 6 years, and prior to that, as medical officer and Team Leader in the Prevention Effectiveness Unit, from 1993 until 2000. We will all miss his unwavering commitment and public health advocacy to secure the necessary infrastructure for TB services at local and state health departments throughout the country. Among his various contributions, Zach is responsible for initiating the evaluation unit to more consistently and systematically assess the outcomes of programmatic interventions in TB. At a time of continued flat funding for national TB programs, Zach had the vision and foresight to plan for the redistribution of resources in collaboration with national TB controllers, in a manner consistent with changes in the epidemiology in our country. Additionally, he saw the immense unmet needs in the Pacific region and developed a team to improve laboratory services, medical care, case management of patients, and surveillance of cases. We have witnessed remarkable improvements in all these areas by TB programs in American Samoa, the Federated States of Micronesia, Guam, the Northern Mariana Islands, and the Republic of Palau. Zach moved to Denver, Colorado, at the end of November 2006. We wish him the best of luck in his new position.

Carla Winston, PhD, joined DTBE in the Surveillance, Epidemiology, and Outbreak Investigations Branch on August 21, 2006. Carla received her masters degree in medical anthropology from Stanford University and her PhD degree in epidemiology from Emory University. She has worked at CDC since 1999, and has published analyses of clinical trials, genetic polymorphisms, adult immunization surveillance, and racial/ethnic disparities in health. She teaches a course on data management and SAS at Emory University, and enjoys working with others to think through study design and analysis questions. Please join us in welcoming Carla!

CALENDAR OF EVENTS

January 24–25, 2007

10th Semi-annual Meeting of the TBESC
Las Vegas, Nevada
DTBE

February 20–22, 2007

TB Clinical Intensive
San Francisco, CA
Francis J. Curry National TB Center
<http://www.nationaltbcenter.edu/training/schedule.cfm>

February 22–24, 2007

11th Annual Conference of the IUATLD North America Region
Vancouver, British Columbia, CANADA
British Columbia Lung Association and American Lung Association of Metropolitan Chicago
http://www.bc.lung.ca/lungdiseases/tuberculosis_iuatld.html

February 28–March 2, 2007

TB Intensive Workshop
Newark, NJ
New Jersey Medical School Global TB Institute
<http://www.umdnj.edu/globaltb/courses.htm>

March 5–9, 2007

Comprehensive Clinical TB Course
Lantana, Florida, AG Holley Hospital
Southeastern National TB Center
<http://sntc.medicine.ufl.edu/Training.aspx>

March 8–9, 2007

TB Cohort Review Process Course
New York City
New Jersey Medical School Global TB Institute
<http://www.umdnj.edu/globaltb/courses.htm>

March 28–30, 2007

Effective TB Interviewing and Contact Investigation
Newark, NJ
New Jersey Medical School Global TB Institute
<http://www.umdnj.edu/globaltb/courses.htm>

April 3–6, 2007

TB Case Management and Contact Investigation
San Francisco, CA
Francis J. Curry National TB Center
<http://www.nationaltbcenter.edu/training/schedule.cfm>

April 25–28, 2007

The Denver TB Course
Denver, Colorado
National Jewish Medical and Research Center
To register, contact Catheryne Queen by tel: (303) 398-1700 or (303) 398-1806, or e-mail: queenc@njc.org
<https://www.nationaljewish.org/about/calendar/index.aspx>

June 4–8, 2007

Comprehensive Clinical TB Course
Lantana, Florida
AG Holley Hospital
Southeastern National TB Center
<http://sntc.medicine.ufl.edu/Training.aspx>

August 2–5, 2007

1st Conference of the IUATLD Asia Pacific Region
Kuala Lumpur, Malaysia
Malaysian Association for the Prevention of TB
http://www.tibi2007.com/msg_president.html

August 7–9, 2007

7th Annual TB Education and Training Network Annual Conference
Atlanta, Georgia
More info will be provided later as it becomes available