DEPARTMENT OF HEALTH & HUMAN SERVICES
Public Health Service

CENTERS FOR DISEASE CONTROL AND PREVENTION

TB Notes
No. 3, 2002

Dear Colleague:

Greetings from Atlanta, where we are having a long, hot summer. I believe the reason we get so much done is that we prefer to travel to the field, away from Atlanta, or stay and work long hours in our air-conditioned offices rather than venture out into the hot, mosquito-infested surroundings!

Senate Bill 1115 (S115), the proposed 5-year reauthorization of CDC's TB elimination program, has passed a critical first step in the legislative process to authorize and fund TB elimination efforts in the United States. The bill was first introduced by Senator Edward M. Kennedy in June 2001. It was referred to the Senate Committee on Health, Education, Labor, and Pensions, and on June 19, 2002, the committee favorably passed the bill by a unanimous voice vote. The bill amends the Public Health Service Act, Section 317E, to entitle this program the "National Program for Tuberculosis Elimination," and increases the authorized funding level to $235 million for fiscal year 2003, and such sums as may be necessary for fiscal year 2004 through 2007. (Please note that this bill is an authorization to spend funds but does not provide for those funds.) It emphasizes the recommendations of the Institute of Medicine (IOM) report, and is specifically amended to prioritize funding for research, demonstration projects to improve TB screening and treatment of high-risk immigrants, and collaboration with foreign countries, especially Mexico, to address TB elimination in the United States. It also requires the Secretary to submit a biennial report to the Senate Committee on Health, Education, Labor, and Pensions, and to the House Committee on Energy and Commerce describing the extent to which recommendations of the Advisory Council for the Elimination of Tuberculosis (ACET) have been implemented. The bill must pass a Senate vote before consideration and a vote by the House of Representatives.

There have been a number of important TB-related meetings this summer; I would like to summarize some of them for those who were unable to attend. The 98th International Conference of the American Thoracic Society (ATS) was held in Atlanta from May 17 to 22, 2002. A number of DTBE staff attended this conference, which always provides an important opportunity for the sharing of vital information. Highlights included the traditional CDC TB poster night, which was hosted this year by the American Lung Association of Georgia; a major symposium on TB treatment; and an update from our colleagues in the TB Trials Consortium.

The 4th World Congress on Tuberculosis was held June 3-5 in Washington, DC. The meeting brought together TB control officials, public health officials, and researchers to

evaluate the state of the global TB epidemic since the last world TB Congress, which was held in 1992; review the status of TB research; and identify TB research gaps. The meeting gave attendees the opportunity to share information, through submitted abstracts, about the important TB research that is being conducted globally and to reach a consensus on the future direction for such research. Nearly 800 participants from 58 countries attended the meeting, which was considered an outstanding success. One notable high point was an evening banquet speech by Congressman Sherrod Brown, who has been a leader in promoting increased U.S. government support of both domestic and global TB control. Dr. Rick O'Brien, chief of the Research and Evaluation Branch (REB), is coordinating the publication of the abstracts that were presented at the Congress.

The members of ACET met on June 6; this meeting was also held in Washington, DC, to allow travelers to attend both meetings. Following are a few highlights from the meeting: Ms. Fran DuMelle of the American Lung Association (ALA) discussed current domestic and international legislative issues regarding TB, including Senate Bill 1115, which I mentioned above. Dr. Scott McNabb of the Surveillance and Epidemiology Branch (SEB) gave us a progress report on the TB genotyping manual that is being developed as a hands-on guide that TB controllers can use in applying genotyping in their TB control programs, and Dr. Rick O'Brien provided interim guidance on the use of the new Quantiferon test. There was a discussion about TB in the southeastern United States; DTBE has received supplemental funding for a small number of additional projects, and is using it in part for the intensification of TB prevention efforts in the southeastern United States. We then reviewed the U.S. TB morbidity data for 2001. As you know, the good news is that TB cases were down again (although only by 2%) to 15,989; the bad news is that 50% of the cases were among persons born outside the United States. We also discussed CDC's response to the IOM report, which has now gone to the printer; distribution of the document will be made to appropriate partners and colleagues. DTBE is forming a workgroup to develop indicators and a process by which ACET will be able to monitor CDC's progress in implementing the action steps in the report. The draft indicators and process will be presented at the next ACET meeting in November.

This year's National TB Controllers Association (NTCA) workshop was also a huge success, owing to the hard work of the planning committee. The meeting was held June 18-19 in Alexandria, northern Virginia, rather than in Atlanta; preworkshop meetings on June 16 and 17 and postworkshop meetings on June 20 allowed attendees to attend formal annual meetings as well as informal training and information-sharing sessions. The theme of the workshop was "Program Evaluation: the Key to Improving Your Program." Under this broad topic, presenters from different backgrounds and perspectives gave participants a number of ways to look at and use evaluation to improve their TB control programs. The venue, with its proximity to Washington, DC, allowed state and big city TB personnel to visit members of Congress and provide them with information on TB. I want to thank all of the planners and presenters who worked so hard to make the meeting a success. I am also grateful to the attendees, whose energy, enthusiasm, and dedication made all the effort worthwhile.

Two relatively new groups established by DTBE conducted their annual meetings August 7-9. The TB Education and Training Network (TB ETN) met in Atlanta for its second annual conference. Over 80 persons attended, some from outside the United States. The meeting, organized by staff of the Communications and Education Branch (CEB), exceeded expectations. The ideas generated and collaborations initiated by the meeting participants were beneficial for all involved as well as a sign of good things to come from the network. The TB Epidemiologic Studies Consortium (TBESC) met in Denver for its second biannual meeting. Dr. Scott McNabb of SEB organized and co-moderated discussions and plans for current and proposed research projects for the group. Among the goals that were met, the participants proposed to focus on four research activities: 1) TB in persons born outside the United States; 2) prevalence of latent TB infection in high-risk groups; 3) the evaluation of current LTBI practices; and 4) the development of novel approaches for conducting contact investigations.

Several publications will be coming out later this year: the updated treatment statement for TB, which is being developed by CDC, ATS, and the Infectious Diseases Society of America (IDSA), has undergone formative evaluation and is scheduled for publication this fall. Dr. Jerry Mazurek of REB is chairing the development of guidelines for the use of Quantiferon; this document will be published in the *Morbidity and Mortality Weekly Report* series. *Reported Tuberculosis in the United States, 2001*, the annual surveillance report prepared by SEB, has been cleared and is being prepared for printing. And a special issue of CDC's journal *Emerging Infectious Diseases* dedicated to genotyping is scheduled for publication in November.

Please note that DTBE is still interested in collecting reports of serious adverse events related to treatment of latent TB infection (CDC. Fatal and severe hepatitis associated with rifampin and pyrazinamide for the treatment of latent tuberculosis infection — New York and Georgia, 2000. *MMWR* 2001; 50[15]: 289-91; CDC. Update: Fatal and severe liver injuries associated with rifampin and pyrazinamide for latent tuberculosis infection, and revisions in American Thoracic Society/CDC recommendations — United States, 2001. *MMWR* 2001; 50[34]: 733-735). Please call Lauren Lambert at (404) 639-8442 with any reports.

Kenneth G. Castro, MD

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TB Notes

Centers for Disease Control and Prevention
Atlanta, Georgia 30333

Division of TB Elimination ◆ National Center for HIV, STD, and TB Prevention

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HIGHLIGHTS FROM STATE AND LOCAL PROGRAMS

World TB Day and TB Awareness Fortnight in Missouri

Each year the Missouri Department of Health and Senior Services' TB Control Program commemorates World TB Day on March 24 and TB Awareness Fortnight in Missouri for a period of 2 weeks during the latter part of March. During this time, efforts are made to raise awareness throughout Missouri regarding the signs and symptoms of TB, the availability of treatment, and the importance of seeing a private physician or the local health department if a person has those signs and symptoms or has come in contact with someone who has TB disease. From March 14 through March 31, 2002, the following activities occurred in Missouri:

- On March 14, just prior to the official start of TB Awareness Fortnight, Dr. Richard J. O'Brien, Chief, Research and Evaluation Branch, DTBE, CDC, made a presentation entitled "Advances in the Diagnosis and Treatment of Tuberculosis" at the University of Missouri-Columbia. Approximately 100 health professionals, mostly physicians, attended this presentation. The American Lung Association (ALA) of Eastern Missouri sponsored the presentation.

- On March 19, state TB program staff provided an update on TB for nurses in local health departments in the southwestern part of the state. The update was conducted at the Southwestern District Health Office in Springfield, MO.

- On March 19, Governor Holden signed a proclamation declaring the period of March 17 through March 31, 2002, as TB Awareness Fortnight in Missouri. Representatives from state and local health departments, as well as the lung associations, attended this ceremony.

- On March 22, a nurses' seminar entitled "TB in the 21st Century: A Seminar for Health Professionals" was held at St. Louis University. It was sponsored by the ALA of Eastern Missouri.

- On March 25, a reception was held to commemorate World TB Day in the state TB program's central office in Jefferson City for employees of the Missouri Department of Health and Senior Services.

- On March 26, an in-service entitled "Tuberculosis in the Community, School, and

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Hospital" was provided in Poplar Bluff, MO, in the Southeastern District Health Office for health professionals in the private and public sectors.

- On March 28, a presentation entitled "Tuberculosis and the War: What You Should Know" was provided for health professionals on the Ft. Leonard Wood army base.
- On March 29, Dr. John Carlile conducted grand rounds at Cox North Hospital in Springfield, MO. The ALA of Western Missouri sponsored this session. Also on this date the mayor of Springfield, MO, issued a proclamation on TB Awareness Fortnight.

The Missouri Department of Health and Senior Services issued a news release during March regarding World TB Day and TB Awareness Fortnight. As a result of this release, nine media interviews were conducted across the state.

In summary, activities such as those noted above are conducted each year in Missouri to raise awareness about a disease that some people think has virtually disappeared.

—Submitted by Vic Tomlinson,
Jim Pruitt, and David Oeser
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TB Control Program

California's Efforts to Ensure Performance of Routine AFB Smear Examinations

In the fall of 2001, the California Department of Health Services (CDHS) TB Control Branch (TBCB) was notified by a local health department (LHD) that a large commercial laboratory that performs TB laboratory testing for many California health care providers was not performing routine microscopic acid-fast bacilli (AFB) smear examination on specimens sent to the laboratory for mycobacterial culture.

This matter was brought to the attention of the TBCB when a patient who had a specimen submitted to this laboratory for mycobacterial culture alone had no AFB smear performed.

Since smear microscopy was not performed, the infectious status of this patient was not known until 3 weeks later when the culture grew *M. tuberculosis*. At that time, the laboratory reported the patient to the LHD as a TB case, follow-up specimens were examined for the presence of AFB in the sputum smears, and the patient was subsequently found to be AFB smear-positive.

At the time of specimen collection, the private medical physician caring for the patient started the patient on a nonstandard regimen of anti-TB therapy, failed to report the suspect case to the LHD, and failed to ensure that the patient maintained home isolation. During the 3-week period of waiting for the patient's culture results, the public's health was compromised because the patient did not stay isolated at home and instead continued to work. This situation was especially problematic because the patient was a health care worker who worked with high-risk, immunocompromised patients.

Microscopic examination of smears for AFB in specimens from suspected TB patients is critical to TB control activities. The 1996 review article "How Infectious Is Tuberculosis?" states that "…numerous meticulous community-based studies have demonstrated repeatedly that a single variable — the AFB smear status of the source case — strongly predicts which patients are the most contagious."[1] In addition, the 1995 publication *Mycobacterium tuberculosis: Assessing Your Laboratory* recommends: "Routine procedures for the examination of any specimen for TB culture should include AFB smear examination."[2]

Testing for and reporting the presence of AFB in smears from the specimen(s) of patients suspected to have TB allows TB programs to ensure that these important activities occur:

1. The patient is isolated to prevent transmission
2. Anti-TB drug therapy is promptly initiated in the patient
3. A contact investigation is promptly initiated
4. The infectiousness of the patient is monitored

The California Code of Regulations requires both laboratory staff and health care providers to report confirmed and suspected TB cases to the LHD. Had the laboratory performed an AFB smear examination for this patient and found it to be positive, it would have been required to report these findings immediately to the LHD. Receipt of a laboratory report of a positive AFB smear would have allowed the LHD to begin TB control measures in a timely manner. Had the patient's infectious status been known earlier, or had the suspected case been reported earlier, this lengthy TB exposure and the subsequent large contact investigation could have been avoided.

Upon learning of the problem, the TBCB consulted with the CDHS Microbial Diseases Laboratory's Mycobacteriology and Mycology Section to verify laboratory standards of practice and request assistance with the situation. The CDHS Laboratory contacted the microbiology supervisor at the commercial laboratory, provided references describing the importance of performing AFB smears on all specimens submitted for mycobacterial culture, and requested that they perform AFB smear microscopy on all specimens from suspected or

confirmed TB patients. The TBCB then sent the commercial laboratory a letter to reinforce the CDHS Laboratory's message and to reiterate the request for a change in practice. The commercial laboratory's problem had been a reluctance to perform testing not specifically ordered by the health care provider. However, with the authoritative citations and letter provided by CDHS, the commercial laboratory was able to define the routine performance of AFB smears to be the standard of practice, with adequate documentation for health insurance auditors.

We are pleased to report that the commercial laboratory has since updated its policy and procedures, and now performs routine AFB smear examination on all specimens sent for mycobacterial culture. The LHD that first notified the TBCB of the problem will monitor the laboratory's practices and will notify us of any lapses in the new policy. The LHD has also followed up with the private medical provider regarding recommended TB treatment regimens, and laws that require timely reporting of all suspected and confirmed TB cases. Lastly, the TBCB and CDHS Laboratory are working together to propose a modification of state law to require AFB smear examination of all specimens submitted for mycobacterial culture.

In this situation, collaboration among the LHD, TBCB, and CDHS Laboratory was vital towards achievement of the commercial laboratory's change in practice. Public health laboratories are key partners in our efforts to control TB and can serve as helpful resources for TB control programs in identifying and solving problems relating to laboratory standards of practice.

—Submitted by Anne Cass, MPH
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and Edward Desmond
Calif Dept of Health Svcs Microbial Diseases Lab

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Investigating Clusters of TB Among the Homeless

In the last 5 years (1997-2001), homeless persons have accounted for 102 cases of TB in San Diego County. While this represents only 6.4% of the county's total cases, the estimated case rate for homeless persons in 2001 was 173/100,000. In comparison, the overall case rate for San Diego County was 11.8/100,000. Owing to poor nutrition, crowded conditions at shelters, and comorbidities that weaken the immune system, homeless persons are among the groups at increased risk for TB. In addition, shelters create ideal conditions for TB transmission, which may in part explain why homeless cases are seen to form clusters more often than TB cases in general.[1,2,3] In San Diego County, homeless persons are implicated in nine clusters discovered since 1997.

Of the 102 homeless persons with TB found since 1997, nearly all (90%) are male and are aged 25-64. The racial and ethnic breakdown for

Table 1: Clustered Homeless TB Cases in San Diego County, 1997-2001

Cluster	Number of Cases	R F L P bands	Links
A	2	14	Homeless shelter I
B	3	9	
C	2	13	
D	4	12	1 stayed at shelter I; 1 stayed at shelter III
E	9	7	7 stayed at homeless shelter I; 1 ate lunch at homeless shelter I, no link for 1
F	2	10	
G	2	2*	Named contacts
H	4	21	
J	5	12	2 stayed at homeless shelter II; 2 others were siblings; no link for 1
Total	33		

these persons is as follows: 32% are white, 22% are black, and 38% are Hispanic. About one third (34%) of homeless persons with TB were born outside the United States. In contrast, 69% of the total TB cases in San Diego County in the last 5 years were in foreign-born persons.

Thirty-one of the 102 homeless patients appear as part of nine genetic clusters. Nearly all (97%) of clustered patients are male, and 90% are between the ages of 25 and 64. Following is the racial and ethnic breakdown of these cases: 32% are white, 23% are black, 38% are Hispanic, 5% are Asian, and 2% are American Indian. Two other persons who were part of these clusters were not homeless.

The nine clusters were discovered through mycobacterial genetic comparisons. Restriction fragment length polymorphism (RFLP) analysis identified the clusters, ranging from 2 to 9 cases per cluster. Epidemiologic links were more difficult to discern (see Table 1).

San Diego County TB Control has expanded the contact investigation interviews conducted with homeless patients in order to elicit more details about shelters frequented, services accessed, and “hangouts” visited. When an active case is discovered in a homeless shelter resident, County TB control conducts extensive follow-up skin testing. However, contacts have often already moved out. The County is working with the homeless shelters to implement a “red flag” system that will notify shelter staff to complete contact follow-up when these individuals return to the shelter. Finally, the County is discussing a system of using chest x-rays for all entering shelter residents.

This transient population is difficult to reach with educational, diagnostic, and therapeutic interventions. Comorbid conditions such as HIV

infection, alcoholism, and drug abuse put many shelter residents at increased risk of contracting TB and of moving from latent infection to active disease. There is also a high potential for transmission in a shelter environment. Unfortunately, many shelter residents have become familiar with TB screening tools, and can avoid the trouble of a TB evaluation by answering "no" to symptom review questions. Homeless patients may be unwilling or unable to name their contacts, as many homeless persons use multiple names. Finally, many shelter clients with LTBI are uninterested in participating in treatment programs or have medical contra- indications to treatment. In this investigation, only 14% of identified contacts with LTBI began treatment. Several clusters lack identified epidemiologic links, which points to the potential for missed cases.

We will continue to investigate these outbreaks and to genetically type new cases in homeless persons to determine whether they belong to any of the nine existing clusters. By continuing to train and collaborate with shelter staff, we hope to keep TB at the top of everyone's agenda. Educating shelter residents and offering them LTBI treatment are integral components of TB control in this setting.

—Reported by Katharine E. Witgert, MPH, CDC Prevention Specialist
Wendy N. Betancourt, MPH, Research Specialist
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San Diego County TB Control Program

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Bilingual-Access Phone Cards: An Incentive to Completing LTBI Treatment Among Foreign-born Persons, Alabama, 2001

In July 2001, a textile worker in rural Alabama was diagnosed with active TB. This index patient was Hispanic, as were a large number of employees at the plant. Very few of the Hispanic employees spoke English, which hindered communication. Interpreters were employed to help explain the need for contact investigation and for the placement of tuberculin skin tests. In addition to the use of interpreters, pamphlets and other educational materials (in English and Spanish) were distributed.

Although a large number (>300) of "worried well" presented for the screening, only 46 workers were actually targeted to receive therapy for LTBI. Interpreters were again employed to help explain the need for chest x-ray and the use of INH for treatment of LTBI. Of this targeted group,

13 were considered "close" contacts, while the balance (33 persons) were considered to be "less than close." All persons in the target group were foreign born, with Mexico as the predominant birth nation. Given the high risk for progressing to disease among recent (< 5 years) arrivals, the decision was made to direct additional resources to this effort.

Initially, INH was provided twice weekly and was directly observed. This was done to ensure tolerance and adherence with the regimen. Unfortunately, after 2 months of DOT, a shift change at the plant created additional difficulties and our staff were forced to institute monthly distribution of INH. Recognizing that the twice-weekly reinforcement was lost, staff proposed that patients who returned to clinic as scheduled would receive prepaid phone cards as an incentive. The cards were given to adherent patients at 2, 4, and 6 months.

The Division of TB Control, Alabama Department of Public Health (with financial assistance from the American Lung Association of Alabama) made a bulk purchase of bilingual-access phone cards. TB Control field staff negotiated with the vendor to purchase cards at $3.80 per card for 60 international minutes.

Results, while less than optimal, were encouraging. Nearly half (46%) of the 13 close contacts were considered to have completed therapy (e.g., received ≥80% of total doses within 9 months) and 42% of the less-than-close contacts completed an adequate course of therapy as well. Complicating factors during therapy included two layoffs at the plant (on September 20 and October 11, 2001) and the resulting loss of contact with 17 workers. Additionally, nine other workers failed to start or complete therapy.

Discussion with our field staff suggests that the use of bilingual-access phone cards as an incentive for adherence was an important contributing factor in this effort. In providing incentives, care should be taken to choose the most effective approach for the targeted group.

—Reported by Racine Waddell, RN,
Area TB Program Manager,
and Nancy B. Keenon, MPH, Director
Alabama Division of TB Control

Florida Utilizes New Public Health Advisors for Outbreak Response and Special Assignments

In January 2001, four new CDC public health advisors (PHAs) were assigned to the Florida Bureau of TB and Refugee Health (BTBRH). One PHA was assigned to Orange County (Orlando), one to Broward County (Ft. Lauderdale), and two were assigned to Palm Beach County (West Palm Beach). The assignments were made based on morbidity, local needs, and local capacity to train and utilize the new staff. Although all four assignees have benefitted greatly from the day-to-day work in the county health departments, opportunities for temporary duty assignments within Florida have been provided by BTBRH to ensure a complete TB training experience. In turn, the PHAs have provided Florida with a very valuable resource: qualified staff who can respond quickly to potential outbreaks and other special assignments.

The first opportunity occurred in a rural county in the Florida panhandle. Regina Gore, the PHA

assigned to Palm Beach County, was sent to the county for one week to assist with a complicated contact investigation of an HIV-positive client with infectious, pulmonary multidrug-resistant TB. The client had many social connections and traveled frequently between three Florida counties, but initially identified very few contacts when interviewed by local staff. Ms. Gore's experience with TB interviewing and contact investigations, as well as her extensive HIV/STD background, made her a good match for this assignment. Ms. Gore reinterviewed the client several times and identified several additional contacts, including HIV-infected persons and young children. The client was voluntarily transported that week to A.G. Holley State Hospital to receive expert TB and HIV medical care. Because several close contacts were HIV infected and young children had been exposed, this contact investigation needed to be handled quickly and efficiently to prevent a possible "outbreak." With only one nurse and no outreach workers available to conduct this three-county investigation, Ms. Gore was an important and effective resource.

A second opportunity arose in October 2001. Tina Albrecht, the PHA assigned to Broward County, was sent to the Miami-Dade County Health Department for 2 weeks to assist local TB program staff prepare the Aggregate Report for Program Evaluation (ARPE) LTBI report for cohort year 2000. Because the TB staff in Broward County had just finished their preliminary 2000 report, Ms. Albrecht was knowledgeable about the data system used by Florida to produce the ARPEs and had experience in identifying some key problematic issues. The assignment objectives were to perform an analysis of the current ARPE report to identify reporting or data entry issues; assist management staff in coordinating the activities for producing a comprehensive, annual ARPE LTBI report; and evaluate the current data entry responsibilities of TB staff to ensure an accurate report for the next year.

Ms. Albrecht spent the first few days observing the day-to-day activities of clerical, nursing, and field staff to assess their usage of the data system used to produce the ARPEs. She discovered several issues that affected the accuracy of the report, including data entry errors, misinterpretations of data fields, the need for additional training, and a lack of procedures identifying which staff were responsible for entering specific data. Additional analysis provided more details on the issues, and a final written report of the findings and recommendations was given to local management staff. Ms. Albrecht's assistance was well-received by local management staff and implementation of the recommendations began before the assignment ended. She is currently working in Miami-Dade County 2 days per week assisting with surveillance activities and she will also assist local staff with the production of the ARPEs due in August 2002.

In April 2002, an unexplained increase in TB cases was identified in a very low-morbidity, rural county in the Florida panhandle. Ted Misselbeck, the other PHA assigned to Palm Beach County, went to the county with two state office employees as an outbreak response team sent to work with local staff to investigate this possible outbreak situation. Mr. Misselbeck's experience with TB interviewing and contact investigation and his investigative

skills were very useful in this investigation. Lack of local staff was also an issue in this investigation. The county had only one nurse, a Nursing Director, and no outreach workers in the entire health department.

The team worked with local staff to develop objectives for the investigation, reviewed the contact investigation documentation and medical records for the four recent TB cases, conducted patient reinterviews, referred contacts in for evaluation, documented contact evaluation results for each case using a concentric circle diagram, plotted all TB cases and infected contacts on a city map to show the geographic distribution, requested DNA fingerprinting from the state laboratory for all cases, ensured all information was entered into the statewide TB data system, and prepared a final written report. Mr. Misselbeck, in collaboration with state and local staff, provided a thorough evaluation and investigation of a series of TB cases for which no epidemiologic link was identified. DNA fingerprint results are still pending.

The new CDC PHAs are a valuable resource for Florida's state and local TB control programs. They provide the knowledge, enthusiasm, mobility, and flexibility that are needed to supplement and enhance local TB program operations and respond to potential TB outbreaks.

—Submitted by Heather Duncan, Senior PHA, Regina Gore, PHA, Tina Albrecht, PHA, and Ted Misselbeck, PHA
Florida Bureau of TB and Refugee Health

UPDATES FROM THE COMMUNICATIONS AND EDUCATION BRANCH

PARTNERS in Peru

The PARTNERS TB Control Program consists of a consortium of health organizations brought together by Harvard University, and funded by a grant from the Bill and Melinda Gates Foundation, with the purpose of addressing the problem of drug-resistant TB in Peru. In addition, the PARTNERS program seeks to create an exportable model for other countries to use in their MDRTB control programs. The program has four objectives:

- Demonstrate the success of the project and take it to scale in Peru.
- Define the necessary infrastructure and establish it in Peru to sustain a successful integrated program independent of PARTNERS.
- Articulate the components of a replicable generic model drawing on lessons from Peru and Russia.
- Provide strategies and a demonstration platform to strengthen global TB control efforts.

In addition to CDC, the following institutions participate in the PARTNERS program: the Peru Ministry of Health (MINSA) and Programa Nacional del Control de la Tuberculosis (PNCT), Socios en Salud (SES), Partners in Health (PIH), the Pan American Health Organization (PAHO) of the World Health Organization (WHO), the Tomsk TB Program in Russia, and the Task Force for Child Survival and Development.

The education, training, communication, and advocacy (ETCA) workgroup is one of five workgroups in the PARTNERS project. In March 2002, new representatives were appointed to the PARTNERS ETCA workgroup from the Ministry of Health in Peru (MINSA) and SES. Additionally, Dr. Eduardo Ticona was appointed in April 2002 to head the PNCT. The ETCA workgroup now has representatives from all PARTNERS members.

The PARTNERS project is in the middle of the second year of funding, and the ETCA workgroup assigned high priority to conducting a needs assessment in Peru to assist in identifying future workgroup activities. As representatives of the PARTNERS ETCA workgroup, Jacob Creswell and Nick DeLuca from DTBE's Communications and Education Branch spent April 8-12 in Lima, Peru, conducting an assessment of Peru's MDRTB training and education needs, and Jacob returned for a follow-up visit May 29-June 7. MINSA and SES work collaboratively to treat MDRTB patients within the PNCT of Peru.

The agenda for the trip included the following activities:

- Meetings with staff from MINSA and SES.
- Meetings with all five Lima Health District (DISA) coordinators and visits to different health centers within each DISA to talk to staff and to view health care facilities.
- A total of 10 focus groups with MINSA and SES physicians, nurses, nurses' aides, health promoters, and MDRTB patients.
- Presentation of preliminary findings to MINSA and SES representatives.

The needs assessment focused on the following questions:

- What are the overall MDRTB education, training, communication, and advocacy needs for health care workers (HCWs), patients, and the general public?
- What current ETCA activities regarding MDRTB need to be strengthened?

Based on the needs assessment, the following general findings were identified: (1) training for HCWs on MDRTB is limited; (2) MDRTB educational materials for HCWs are lacking; (3) the MDRTB training needs frequently identified included knowledge and management of adverse reactions to second-line drugs, management of comorbid conditions (e.g., MDRTB / HIV), infection control, HCW-patient communication, and patient emotional support; (4) there is a lack of educational MDRTB materials for patients and their families; (5) stigma is associated with MDRTB and affects both patients and HCWs; and (6) HCWs and patients expressed a desire to share common experiences regarding MDRTB.

The specific recommendations are based on the general findings and must be tailored to each group of HCWs (physicians, nurses, health promoters, DOT workers) and patients. The treatment guidelines for MDRTB should be clarified and expanded. MDRTB training courses and educational materials for HCWs must be created. Educational materials for MDRTB patients should be developed as soon as possible. After appropriate formative research has been conducted to determine the most effective methodology, campaigns should be implemented to combat stigma and discrimination associated with TB and MDRTB. A systematic process should be followed for

the development of training, education, communication, and health promotion materials. Process and impact evaluation of all activities should be conducted. HCWs need channels for sharing their experiences and receiving updates on the management of MDRTB (e.g., grand rounds, regular meetings, written materials), and patients need forums for sharing their experiences. Finally, communication and collaboration between all PARTNERS members needs to be enhanced.

Some of the other priorities that came out of this assessment are the need to (1) contribute to the new national TB plan being created by MINSA; (2) create an inventory of existing and future TB and MDRTB educational and training materials in Peru in order to guide the development of materials; (3) develop an ETCA workgroup time line and plan based on the needs assessment and inventory; (4) maintain frequent communication among PARTNERS members; and (5) begin to develop patient materials based on the inventory and needs assessment findings.

Results of the needs assessment and future plans were presented at the PARTNERS meeting in Lima, Peru, July 19-20.

—Reported by Jacob Creswell, MPH
Division of TB Elimination

HIV/TB Info for AIDS Service Organizations

The Communications and Education Branch has developed a new brochure for AIDS service organizations (ASOs). The intent of the brochure is to motivate and enable ASO staff to seek or provide services for testing and treatment of latent TB infection (LTBI) among HIV-infected persons.

Finding and treating people with LTBI before they become sick — and infectious — is essential to eliminating TB in the United States. In fact, to speed the decline of TB in this country, the Institute of Medicine recommended that CDC increase testing and treatment for LTBI in high-risk groups. To that end, CDC, the American Lung Association, and the American Thoracic Society sponsored a partnership meeting for leaders of various organizations providing services for people at high risk for TB. Participants discussed what they needed in their efforts to provide such services. At the meeting, ASO attendees identified the need for educational materials about the importance of TB skin testing for persons with HIV infection.

Based on suggestions from the partnership meeting, a brochure was drafted and subsequently tested with a focus group which included physicians, health educators, and executive directors of ASOs. The brochure 1) incorporates specific language in the opening statement that captured the attention of ASO leaders, 2) uses instructional design that stimulated questions and reader desire to learn more, and 3) lists resources participants suggested as being the most valuable.

The next step in conducting formative research on the brochure was to obtain input on the document with state and big city TB controllers; this process was completed. The brochure was printed and has been distributed to TB control programs, and will be available for ordering mid-September at the DTBE Web site,

http://www.cdc.gov/nchstp/tb/.

—Reported by Scott McCoy, MEd
Division of TB Elimination

UPDATE FROM THE LABORATORY

Results of the National Genotyping Network Project

The National Tuberculosis Genotyping and Surveillance Network research project is ending this year. The study enrollment period ran from 1996 through 2000, and data on 10,883 patients were included in the final databases. This represents about 11.6% of all TB cases in the United States during that period. A special issue of CDC's *Emerging Infectious Diseases* planned for this fall will be devoted to reports from network participants. In addition to providing service for the research study, the regional genotyping laboratories have fingerprinted isolates submitted by TB control programs in their region in support of outbreak investigations and other studies. To continue this service, the National Center for Infectious Diseases (NCID) is planning to fund genotyping activities in regional laboratories via contracts; for that purpose, a request for proposals is being issued in late fall. This contract will be open to all entities in the United States, including public health laboratories, universities, research institutions, and commercial laboratories.

The results of the network study clearly demonstrate the utility of universal genotyping. However, the study also showed that standard fingerprinting by the IS*6110* RFLP method is laborious and costly and the turnaround time is too long for efficient use by TB control programs. To overcome these difficulties, regional laboratories will use high-throughput, PCR-based genotyping methods to provide rapid results. The more specific IS*6110* method will be reserved for typing isolates clustered by the PCR assays. The goal will be to provide genotyping for all *M. tuberculosis* isolates in the United States. This will require considerable commitment from the TB control programs, not only to acquire the isolates for typing, but also to integrate the results of genotyping into their program including contact investigations, outbreak studies, and program evaluation.

—Reported by Jack Crawford, PhD
Div of AIDS, STDs, and TB Laboratory Research

UPDATES FROM THE RESEARCH AND EVALUATION BRANCH

Meeting on Rifamycins

On April 8-9, the Global Alliance for TB Drug Development, in collaboration with the CDC and the National Institutes of Health's National Institute on Allergies and Infectious Diseases (NIAID), sponsored a workshop on long-acting rifamycins. The meeting, which was held at NIAID offices in Bethesda, Maryland, gathered some 30 scientists from academia, industry, and public research institutes.

Data on the marketed, long-acting rifamycins, rifapentine and rifabutin, were critically reviewed, especially with regard to efficacy of widely-spaced intermittent regimens in HIV-positive TB patients and to their interactions with

antiretroviral drugs. Protein-binding effects on the pharmacokinetics and pharmacodynamics of rifamycins were further discussed. Data on two newer rifamycins in early clinical development, rifalazil and rifametane, as well as several other compounds (FCE 22250, FCE 22807, and rifalazil analogues), were also reviewed. Presentations were given on research regarding mechanisms of action that could lead to enhanced sterilizing activity of the rifamycins, such as crystallography of targets and apoptosis.

The meeting participants reached the following conclusions: 1) of the compounds discussed, rifapentine remains of greatest interest; 2) further work on rifalazil and rifametane would be required to raise interest in those drugs; 3) studies of higher doses of daily rifampin aimed at increasing the sterilizing activity and shortening treatment are warranted; and 4) a program to develop additional novel rifamycins with improved activity, while feasible, is not a high priority, although further investigations of older compounds and screening of rifamycin libraries might be of interest.

CDC's TB Trials Consortium remains quite interested in additional studies of rifapentine. Recent experimental studies have suggested that the efficacy of once-weekly rifapentine-based regimens may be markedly improved with the addition of moxifloxacin as a companion drug. In addition, efficacy may be increased with the use of the 900-mg dose of rifapentine that is currently being used in TBTC Study 26, a large randomized clinical trial of once-weekly rifapentine and isoniazid for the treatment of latent TB infection.

—Reported by Rick O'Brien, MD
Division of TB Elimination

Report on the 11th Semiannual Meeting of the TB Trials Consortium

The TB Trials Consortium (TBTC) held its 11th Semiannual Meeting in Atlanta on May 17-18, immediately preceding the 98th International Conference of the American Thoracic Society (ATS). All TBTC field sites were represented at the meeting. The following key issues were discussed at the TBTC meeting:

1. Progress on Study 26 (a study of the effectiveness and tolerability of weekly rifapentine and isoniazid for 3 months versus daily isoniazid for 9 months for the treatment of latent TB infection): Enrollment was 669 just prior to the meeting, and continues to grow. The preplanned toxicity evaluation (required by the protocol after 644 patients had been enrolled) took place in early summer, and sites are gearing up for a major enrollment effort.

2. The developing design of Study 27 (a phase 2 study evaluating the activity and tolerability of moxifloxacin during the first 2 months of treatment for pulmonary TB): This study is expected to prepare the way for a phase 3 trial of moxifloxacin-based, shortened therapy for pulmonary TB. The study is expected to be a full-scale collaboration between TBTC and the NIAID-funded TB Research Unit field site in Kampala, Uganda. The TBRU expects to enroll half the patients for this trial, and is represented on the protocol team by Drs. John Johnson of Case Western Reserve

University and Charles Daley of the University of California at San Francisco, whose institution participates in both research groups. Also participating on the protocol team is Dr. Mark Kunkel from Bayer, the manufacturer of moxifloxacin. This substantive engagement on the part of the manufacturer has been extremely important in helping the protocol team move rapidly to an appropriate study design.

3. The design and implementation of Study 26A (a substudy evaluating the impact of chronic viral hepatitis on patient discontinuation of treatment for latent TB infection due to hepatotoxicity in Study 26): as part of this substudy, field sites are involved with the many issues presented by coinfection with hepatitis B and hepatitis C viruses. Testing and counseling related to these viral infections — for example, potential for transmission through sexual contact (substantial for B, low but not zero for C), or casual contact (low for both) — was discussed extensively during a plenary session and in training sessions with the site coordinators.

4. Further work with long-acting or high-dose rifamycins: Dr. Charles Peloquin from National Jewish Medical Center in Denver reviewed data on the pharmacokinetics of rifampin, and suggested that the use of higher-dose rifampin regimens merits further evaluation. Dr. Jacques Grosset shared data from studies of rifapentine in the murine TB model, providing further support for TBTC work with this promising newer rifamycin.

In other segments of the meeting, Dr. Bernard Fourie from the South African Medical Research Council provided an update on the efforts to develop a TB clinical trials collaboration in the Republic of South Africa and Dr. Naomi Bock, now chair of one of CDC's IRBs, provided an update on the TBTC efforts to implement a "central IRB" process. Finally, the group reviewed its planned presentations for the ATS Conference, which included five posters, an oral presentation, a noontime session devoted to TBTC work, invited presentations by several TBTC members, and three symposia or mini-symposia chaired and organized by TBTC investigators. More information on the TBTC is available at its Web site, http://www.cdc.gov/nchstp/tb/tbtc.

—Reported by Andrew Vernon, MD
Division of TB Elimination

TRAINING AND EDUCATIONAL MATERIALS

Highly Requested TB Training Videos Are Offered as First NIOSH Product on DVD

Two training videos designed to help protect health care employees from the risk of job-related tuberculosis infection are available together in one package from CDC's National Institute for Occupational Safety and Health (NIOSH) as NIOSH's first health and safety training resource in DVD format.

The free DVD includes "Respirators: Your TB Defense," a training video for educating health care employees about proper respiratory protection against TB exposure, and "TB

Respiratory Protection: Administrator's Review," a companion video that takes health care administrators step-by-step through development of a worker respiratory protection program.

The two programs are NIOSH's most requested training videos in their previously released VHS videocassette format. The new DVD packages both videos in a convenient, easy-to-use format that provides greater visual clarity and more user options than VHS. The DVD also includes reference documents, forms, and checklists. Viewers can use an on-screen menu to choose among the videos and the supplementary features.

Three percent of all TB cases occur in health care employees. Respiratory protection is a key measure for preventing the risk of occupational exposure, and training is important for the proper selection and use of respirators.

To request copies of the new DVD, contact Roger Wheeler, NIOSH Education and Information Division, at RWheeler@cdc.gov, or call toll-free 1-800-35-NIOSH (1-800-356-4674). For additional information on other NIOSH training videos, other NIOSH resources on preventing job-related TB among health-care workers, and NIOSH research in other areas, contact the toll-free number or visit NIOSH on the Web at http://www.cdc.gov/niosh.

NEW CDC PUBLICATIONS

Bock NN, Sterling TR, Hamilton CD, Pachucki C, Wang YC, Conwell DS, Mosher A, Samuels M, and Vernon A. A prospective, randomized, double-blind study of the tolerability of rifapentine 600, 900, and 1,200 mg plus isoniazid in the continuation phase of tuberculosis treatment. *Am J Respir Crit Care Med* 2002 Jun 1; 165 (11): 1526-30.

CDC. Acquired rifamycin resistance in persons with advanced HIV disease being treated for active tuberculosis with intermittent rifamycin-based regimens. [Notice to readers.] *MMWR* 2002;51(10):214-215.

CDC. Guidelines for preventing opportunistic infections among HIV-infected persons — 2002. *MMWR* 2002; 51 (No. RR-8).

CDC. Progress toward TB control — India, 2001. *MMWR* 2002;51(11):229-232.

CDC. Progressing toward tuberculosis elimination in low-incidence areas of the United States. *MMWR* 2002;51(No. RR-5).

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Fitzpatrick LK, Okwera A, Mugerwa R, Ridzon R, Ehiner J, and Onorato I. An investigation of suspected exogenous reinfection in tuberculosis patients in Kampala, Uganda. *Int J Tuberc Lung Dis* 2002 Jun; 6 (6): 550-2.

Reichler MR, Reves R, Bur S, Ford J,

Thompson V, Mangura B, Onorato IM, Valway SE, for the Contact Investigation Study Group. Treatment of latent tuberculosis infection in contacts of new tuberculosis cases in the United States. *Southern Medical Journal* 2002; 95 (4): 414-420.

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PERSONNEL NOTES

Karen Bandel, BA, who had joined the Communications and Education Branch (CEB) on May 6, 2002, as an Association of Schools of Public Health (ASPH) intern, has completed her 3-month internship. Karen received her BA at the University of North Carolina at Chapel Hill and is currently pursuing her MPH at the University of Michigan. During her 3 months with CEB, Karen was responsible for evaluating, revising, and updating the Mantoux tuberculin skin test wall chart. She also assisted Gaby Benenson of CEB in the production of the Mantoux tuberculin skin test video.

Bruce Bradley has accepted the position of Assistant Project Manager for the Tuberculosis Information Management System (TIMS). He most recently served as Health Coordinator with the Fulton County Adolescent Health Program. From December 1993 through January 1998, Bruce served as Regional TB Outreach Coordinator in the Georgia TB control program, in which position he excelled in using Epi Info to analyze TIMS data for statistical reporting. Such experience provided an excellent background for his new duties related to TIMS user support, data management, and training. Bruce joined the staff of the Computer and Statistics Branch in his new position on June 3.

Karina Celaya, MPH, joined the staff of the Communications and Education Branch (CEB) on May 20. Karina is an ASPH Fellow in health communications and education. She recently graduated from the University of Michigan School of Public Health with a masters degree in Health Behavior and Health Education. She completed her undergraduate work at Stanford University, where she earned a degree in Human Biology. Utilizing culturally sensitive approaches to health care to improve the health of underserved populations is her professional passion. Karina will be involved in a number of CEB projects including helping to plan and conduct the TB Program Managers Course, updating *Forging Partnerships to Eliminate TB* with information on how to work with diverse cultures, and assisting with the development of the Cohort Review Process training program.

Victoria M. Gammino, PhD, is the new Epidemic Intelligence Service Officer in the Outbreak Investigations Section, SEB. Victoria received her BA degree in anthropology from Wheaton

College in 1983 and her MPH degree in epidemiology from the School of Public Health and Tropical Medicine of Tulane University in New Orleans in 1990. She received her PhD in International Health from the School of Hygiene and Public Health at Johns Hopkins University, Baltimore, in 2001. Victoria has done extensive epidemiology and programmatic research on a wide variety of topics, both in the United States and abroad. She assisted Allyn Nakashima at CDC in analyzing the 1991 *Gonococcal Isolates Surveillance Project* (GISP) data. She worked closely with SmithKline Beecham and WHO to develop a drug donation program to eliminate lymphatic filariasis. She designed and implemented a cross-sectional research study on diet and growth in children under 6 in the Republic of the Marshall Islands in Micronesia, and conducted a longitudinal follow-up of the nutritional status among study subjects to assess their risk factors for child undernutrition. Most recently, Victoria was a technical consultant to the Doris Duke Foundation in their effort to support AIDS research at the Joint Clinical Research Center in Kampala, Uganda. She belongs to several professional organizations, including the International Network for Social Network Analysis. Victoria, a Lieutenant in the U.S. Public Health Service, began working at CDC on July 1, and after 4 weeks of EPO-led training, she joined the Division on July 29.

Idalia González, MD, MPH, FAAP, joined the Outbreak Investigations Section in July. Idalia received her MD in 1994 from State University of New York (SUNY) at the Buffalo School of Medicine and Biomedical Sciences. She completed her pediatric residency training at Children's Hospital of Buffalo. She received her MPH degree from Johns Hopkins University, Bloomberg School of Public Health, in 1998. Her area of concentration at Johns Hopkins was Health Policy and Management, and she received a Certificate in Healthcare Finance and Management. Idalia came to CDC with the Epidemic Intelligence Service (EIS) class of 1999 and worked in the National Immunization Program, Immunization Services Division, Health Services Research Evaluation Branch. Her work there focused on epidemiological and operational research projects to determine better ways to control vaccine preventable diseases, to recommend appropriate public health actions for the control of these diseases, and to improve the delivery of vaccines. She also was a member of the team that investigated reports of intussusception among recipients of rotavirus vaccine and received the Commissioned Corps Outstanding Unit Citation for that work. Idalia graduated from EIS in 2001 and entered the Preventive Medicine Residency Program where she has worked for the last 2 years at the DeKalb County Board of Health in Decatur, Georgia. Her work there includes analyzing public health programs, managing communicable disease surveillance systems, developing public health policy, and participating in community-based interventions. Idalia is a Lieutenant Commander in the U.S. Public Health Service, and she is fluent in Spanish.

James (Jimmy) E. Lai, MPH, completed his 6-month assignment as a Public Health Prevention Specialist with the Research and Evaluation Branch (REB) in early August 2002, and moved back to his home state of Oklahoma to begin medical school. Prior to attending graduate school, he worked as a molecular

biologist for the US Air Force's Armstrong Laboratory, and served as an Emerging Infectious Diseases (EID) Fellow with the CDC's Division of Parasitic Diseases. Jimmy's assignment with REB was focused primarily on conducting a cost-effectiveness analysis of the clinical and economic impact of the nucleic acid amplification (NAA) test for the diagnosis and treatment of TB. Jimmy had worked with Jerry Mazurek and Noreen Qualls of REB on this study, carefully examining the clinical and cost data being collected at one of four study sites and establishing prototype data analysis systems.

Maureen O'Rourke-Tilton was selected for the public health advisor (PHA) position in Nashville, Tennessee. She is currently functioning as the technical and programmatic advisor to the state TB program manager and other state public health officials. Maureen began her career with CDC in Columbia, South Carolina, as a PHA in the Sexually Transmitted Diseases (STD) program. Before that, she was a state Disease Intervention Specialist (DIS) for a year and a half in Hillsborough and Manatee Counties in Florida. Her job experiences also included clerical and administrative positions at the Veterans Administration and with a National Guard MASH unit. As a state and federal DIS, Maureen was trained and educated in the fundamentals of public health delivery and epidemiology. She worked in the field and consulted with physicians, nurses, and other health care providers regarding identification of infection, diagnostic standards, and correct treatment guidelines. In 1995 she was promoted, and in that same year, she was reassigned to Dallas, Texas, where she worked more independently and continued to develop her skills and abilities. She planned, coordinated, and implemented special screening activities at homeless shelters, detention centers, and other special target populations. Maureen also presented educational and training programs. In October 1999 Maureen joined DTBE and was assigned, with a promotion, to the New Jersey TB program as the assistant to senior public health advisor, Ken Shilkret, and other state public health officials. In that role, Maureen compiled data regarding TB program activities, including chest clinic activity, school tuberculin skin testing, ARPEs (contacts and targeted testing) and other data in support of state and CDC progress reporting, TB Cooperative Agreement applications, and audits of local TB control programs. Maureen conducted liaison activities with the Division of AIDS, Prevention and Control regarding disease/ infection notification and registry matching. She conducted training activities for state and local health department employees and participated in audits of local TB programs. Maureen also served as a liaison to the local TB programs to which federal PHAs are assigned, and to the NJDHSS Refugee Program regarding the examination of refugees with TB and those who subsequently have latent TB infection. She was responsible for the preparation of Interstate Notification Forms for those leaving New Jersey and securing follow-up information regarding completion of therapy for active TB cases. Maureen started her new assignment on January 27, 2002.

Joe Posid, Special Assistant for High-Risk Populations in the DTBE Office of the Director, has left DTBE after having accepted an offer from the National Center for Infectious Diseases (NCID) Bioterrorism Preparedness and

Response Program (BPRP). In joining that program, he will be developing CDC's Operational Readiness Plans, which would be implemented in the event of future acts of bioterrorism. During his short time with DTBE Joe proved quite productive. He was primarily in charge of addressing TB in special populations (such as persons in correctional settings and racial/ethnic minorities). In addition, he assisted with projects related to the TB Task Force and other assignments in the Office of the Director. He also played a key role in reviewing and offering comments on the final draft of CDC's response to the IOM report; he provided us with a welcome "fresh outlook," and embraced the DTBE mission of eliminating TB.

Sameer Rajbhandary completed her 2-year assignment as a Prevention Effectiveness Fellow with the Research and Evaluation Branch at the end of June 2002, and relocated to Canada with her husband. Sameer worked with Naomi Bock and Suzanne Marks on estimating the costs of MDR TB, and with Lauren Lambert and Noreen Qualls on determining the costs of implementing and maintaining tuberculin skin test (TST) programs in select health departments and hospitals.

Wyndham Reed, MPA, retired from CDC after 38 years of service. Wyndham began working for CDC in 1964 in the Sexually Transmitted Diseases (STD) program in Newark, New Jersey, and subsequently had a number of STD assignments in the New Jersey region and in New York City. In 1972 he was hired by DTBE and assigned to the TB program in New York City. He held assignments in Maine, Washington, DC, and Pittsburgh, Pennsylvania. Wyndham held a brief assignment with the Pittsburgh immunization program and then transferred back to the STD Program assigned to Los Angeles, California. He returned to DTBE while assigned to Los Angeles County. In 1995 he returned to the District of Columbia TB Control Program. In 2000, Wyndham transferred to DTBE in Atlanta as a Program Analyst to work on special projects in Field Services Branch.

Renee Ridzon, MD, Chief of the Outbreak Investigations Section, Surveillance and Epidemiology Branch (SEB), DTBE, accepted a position in the Office of the Director, Division of HIV/AIDS Prevention - Surveillance and Epidemiology (DHAP-SE). Renee will be helping DHAP address unmet needs in the prevention and treatment of HIV-associated opportunistic infections. Renee received her MD from St. Louis University Medical Center in St. Louis, Missouri, in 1986. She completed her residency in internal medicine at St. Louis University Medical Center and her infectious diseases fellowship at Brown University Program in Medicine in Providence, Rhode Island. In 1992 she joined the Epidemic Intelligence Service (EIS), working first at the Massachusetts Department of Public Health, then in the Clinical Research Branch (precursor of the Research and Evaluation Branch), DTBE. She joined the staff of SEB in 1994, and in 2000, Renee became Chief of SEB's Outbreak Investigations Section. For the past 9 years, Renee has made outstanding contributions to the epidemiology of TB, focusing on investigations of outbreaks and unusual clusters. She is well known for her energy, enthusiasm, and critical eye for detail in the review of EIS presentations and scientific documents. She has also been a unique mentor to her staff and other EIS officers, and an expert

advisor on great restaurants. Renee's commitment to TB elimination is evident in her decision to complete the revision of the guidelines for preventing TB in health care facilities.

Kathryn Ruck has been selected for the public health advisor (PHA) position in Columbia, South Carolina.She is currently functioning as technical and programmatic advisor to the state TB program manager, Carol Pozsik, and other state public health officials for DTBE's project, Intensive Interventions to Increase the Impact of Contact Investigations. Kate served as a PHA for the New Jersey Department of Health and Senior Services' TB Program since January 2001. Before coming to DTBE, she was a member of the Louisiana TB control program. As a new PHA, she was assigned to the Hudson County TB Program as a public health field representative where she worked as a member of a case management team and provided outreach services: interviewing TB cases and suspects, providing DOT, and ensuring that individuals in need of or overdue for initial or follow-up examinations received them. Kate began her assignment on March 24, 2002.

Demeatrice (Dee) Simmons Smith has been selected for the public health advisor (PHA) position in Detroit, Michigan. Dee has been assigned to the Detroit TB program as Special Project Coordinator since November 2001. In her current role, she has been providing guidance and leadership to city TB staff in program planning, implementation, and evaluation. As Special Project Coordinator, Dee is responsible for assisting program officials in all phases of program activities, including the development of policies and procedures, the evaluation of program efforts, and the implementation of new initiatives. In addition, she is responsible for establishing and maintaining relationships with private providers, conducting data analysis, providing TB training to program staff and other public and private agencies, building partnerships with other agencies and organizations working towards the elimination of TB in Detroit, and assisting in the preparation of reports. Dee brings vast CDC field experience from assignments at local and state levels. She started as a PHA with the Division of Sexually Transmitted Diseases Prevention (STD) in 1992 in Detroit, Michigan. In 1998, Dee joined the National Immunization Program and was assigned to Ohio; in 2000, she was transferred to Lansing, Michigan, as the state influenza coordinator. The surveillance, epidemiology, and outreach experience Dee has gained in previous assignments with the STD and Immunization programs will serve as an asset to the Detroit health department.

Philip R. Spradling, MD, has left DTBE to work for the National Immunization Program. Phil joined DTBE in 1999 as an Epidemic Intelligence Service (EIS) officer. He brought 11 years of clinical experience to the job, first as a staff physician with Kaiser Permanent in Denver, then as Medical Director of Addictions in Maryland, and finally as a TB clinical consultant in Maryland. During Phil's 2 years as an EIS officer, he distinguished himself by providing excellent advice on the diagnosis and treatment of TB and on the management of several outbreaks, and with his constant willingness to help. Three months into his 2-year stint, he went to South Carolina to head the investigation of a large TB outbreak in a prison. For this work,

Phil's team was awarded the prestigious Outstanding Unit Citation "for rapidly bringing under control a dangerous outbreak of tuberculosis and for developing comprehensive recommendations on how to prevent future outbreaks in correctional facilities." In 2000 Phil traveled to Russia to conduct a survey of antituberculosis drug resistance, where he found that being a prisoner was an important risk factor for being infected with drug-resistant TB. Phil has also played a key role in numerous other outbreak investigations such as ones in Phoenix, Las Vegas, and the ongoing investigation of adverse effects associated with taking rifampin and pyrazinamide for latent TB infection. Phil will be joining the Child Vaccine Preventable Diseases Branch in the Division of Epidemiology and Surveillance, National Immunization Program.

Lorna Thorpe, PhD, left DTBE at the end of June, but is remaining with CDC and is assigned to the New York City Department of Health, working with Dr. Tom Frieden and Dr. Steve Helgerson in the city's new Division of Epidemiology. Her new assignment will be with the National Center for Chronic Disease Prevention and Health Promotion (NCCDPHP), and her task will be to improve the city's chronic disease epidemiology capacity and conduct epidemiologic investigations on risk factors for chronic diseases. Lorna made tremendous contributions to international TB control during her 2 years as an EIS officer, and was the recipient of the 2002 Paul C. Schnitker International Health Award, which was presented at the Epidemic Intelligence Service (EIS) Conference in April. In her first project, she designed a national MDR TB treatment registry and surveillance system for Latvia. In a second project, she analyzed data on Russian TB patients receiving treatment using the directly observed therapy, short course (DOTS) strategy in Orel, Russia, and showed that DOTS can be implemented in Russia despite that country's different approach to TB control. Lorna also undertook a four-state study of U.S. TB cases among foreign-born persons, in which she evaluated the existing overseas screening procedure for immigrants and refugees coming to the United States. Her study provided the first national estimate of infectious and noninfectious TB in newly arriving refugees to the United States, with rates specific to different regions of origin. In another project, Lorna traveled to one of South Africa's provinces to provide technical assistance in an ongoing national study of MDR TB treatment. She calculated initial smear conversion, death, and dropout rates of patients receiving a lower-cost, standardized treatment regimen for MDR TB; as a result of her study, the South African Medical Research Council and National TB Control Program effected a major shift in their MDR TB program to emphasize case-holding of patients and sustained treatment adherence. Lorna also studied treatment outcomes for India's Revised National Tuberculosis Control Programme (RNTCP). Lorna traveled to India to analyze the outcomes for all patients registered in the program (300,000+) from 1993 through June 2000. While there, she also analyzed the seasonal variation in TB diagnoses in different regions of India and confirmed the seasonality of TB, particularly in the North. Her quantification of seasonal trends was used to correct the national drug supply distribution system; the program improvements stemming from her seasonality work should help to forestall the development of anti-TB drug resistance in the regions where seasonality has

negatively impacted TB drug supplies. Lorna also secured funding, codesigned the curriculum, and served as a primary lecturer for a training course in basic epidemiology and operations research held in June 2001 for the national TB control program staff of the Baltic countries (Latvia, Lithuania, and Estonia) and later again in South Africa (May, 2002). These courses have enabled TB control professionals to more fully and effectively analyze the data from their national surveillance systems to improve their program performance in controlling TB and MDR TB.

IN MEMORIAM

Andrew Theodore, a statistician who retired from CDC in 1973 as chief of the TB research branch, died at the age of 96 of sepsis on July 22 at Suburban Hospital in Maryland. He lived in North Bethesda. Mr. Theodore was a native of Athens, Greece, who came to the United States to study at Northwestern University, where he received a bachelors degree and a masters degree in sociology. He was a statistician with the Illinois public welfare department before World War II and served in the Army in France during the war. For his work in the liberation and transfer of prisoners held at the Buchenwald camp, he was recorded as a "liberator" in the annals of the U.S. Holocaust Memorial Museum. Mr. Theodore began working for the chronic diseases division of the Public Health Service in 1946. After he retired, he continued his work as a volunteer with Greek heart patients at the Clinical Center of the National Institutes of Health. He was editor of the newsletter at the Greek Orthodox Church of St. George in Bethesda and was given the Archdiocese Laity Award for his service to the Greek community.

CALENDAR OF EVENTS

September 14-18, 2002
ERS Annual Congress 2002
Stockholm, SWEDEN
European Respiratory Society
Web site for information: www.ersnet.org

September 24-26, 2002
Tuberculosis Intensive
San Francisco, California
Francis J. Curry National Tuberculosis Center
Contact: Training Coordinator
Tel: (415) 502-4600; fax: (415) 502-4620
E-mail: tbcenter@nationaltbcenter.edu

October 4-5, 2002
TB Trials Consortium (TBTC) Meeting
Montreal, Quebec, CANADA
Wyndham Hotel

October 6-10, 2002
33rd IUATLD World Conference on Lung Health
Montreal, Quebec, CANADA
International Union Against TB and Lung Disease
www.iuatld2002.org

October 10-11, 2002
Advisory Council for the Elimination of TB Meeting
Atlanta, Georgia
CDC

October 16, 2002
Medical Management of TB in the Person Living with HIV
Newark, New Jersey
NJ Medical School National TB Center

Contact: Education and Training Dept.
Tel: (973) 972-0979

October 24-27, 2002
40th Annual Meeting of IDSA
Chicago, Illinois
Infectious Diseases Society of America
Web site for information: www.idsociety.org/#

October 28-30, 2002
TB Supervisor's Workshop
Newark, New Jersey
NJ Medical School National TB Center
Contact: Education and Training Dept.
Tel: (973) 972-0979

November 2-7, 2002
Chest 2002
San Diego, California
American College of Chest Physicians
Tel: (800) 343-2227
Fax: (847) 498-8313 or (847) 498-5460
Web site for information: www.chestnet.org

November 4-7, 2002
Case Management and Contact Investigation
San Francisco, California
Francis J. Curry National Tuberculosis Center
Contact: Training Coordinator
Tel: (415) 502-4600; fax: (415) 50204620
E-mail: tbcenter@nationaltbcenter.edu

November 7-8, 2002
Meeting of the Advisory Council for the Elimination of Tuberculosis
Atlanta, Georgia
CDC
Contact Paulette Ford-Knights
Tel. (404) 639-8158

November 9-13, 2002
130th APHA Annual Meeting and Exposition
Philadelphia, Pennsylvania
American Public Health Association
Web site for information: www.apha.org

Dec. 11, 2002
TB Update
Location to be determined
Francis J. Curry National Tuberculosis Center
Contact: Training Coordinator
Tel: (415) 502-4600; fax: (415) 50204620
E-mail: tbcenter@nationaltbcenter.edu