



Centers for Disease Control
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TB Notes
No. 3, 2003

Dear Colleague:

The National TB Controllers Association (NTCA) and the Division of TB Elimination (DTBE) planned and carried out a very successful TB Controllers Workshop this summer in Washington, DC. Over 300 people attended the meeting, which was held June 10 to 11, 2003, at the Capital Hilton. This year's conference theme was "Maintaining Momentum." Rather than describe every talk that was given, I will summarize several highlights.

On June 9, in addition to the usual annual meetings, there were a number of presentations on the collaborative work that is being done to support and maintain the Tuberculosis Information Management System (TIMS) pending the deployment of the standardized National Electronic Database for Disease Surveillance, or NEDDS. On the morning of June 10 we heard a thought-provoking presentation entitled "TB and Public Health: Politics, Funding, and the Race to Stop a Killer" from the keynote speaker, The Honorable Sherrod Brown of the U.S. House of Representatives.

Dr. Randall Reves, President of the NTCA, gave the NTCA welcome and update, and announced the upcoming retirement of Walter Page, who has been the Executive Director of the NTCA for the past 6 years. Walt is working with the NTCA in the search for a new Executive Director. Dr. Zachary Taylor of DTBE provided information on current and future cooperative agreement funding policies. Reminding us that the purpose of cooperative agreement funding is to complement state and local TB control efforts, and that CDC is operating with level funding (amounting to a reduction in purchasing power owing to the effects of inflation), he explained that in fiscal year (FY) 2005, TB control programs will receive 80% of current-level funding; the remaining 20% will go into a "variable pool." The variable-pool funds will be distributed based on various caseload and epidemiologic factors. In subsequent years, the 80/20 ratio will gradually shift to a smaller percentage of financial assistance and a greater percentage of distributed variable-pool funds. Future funding will be based on progress toward performance goals.

In a session on case management and treatment, we heard presentations on the new TB treatment statement, which was published this year, and on the revised infection control guidelines, which will be published in 2004. In another session, we heard about the NTCA/CDC recommendations for contact investigations, which will be available in 2004, and about the theory and application of laboratory techniques such as DNA fingerprinting and the QuantiFERON test. We also heard about new training and research initiatives from some of our branches and from the Model Centers. If you attended the workshop, you have been sent a CD-ROM that contains the schedule of events and speakers, slide sets from speakers' presentations, a list of the participants, and abstracts that were presented. This replaces the print version of the workshop

proceedings previously prepared each year.

Those programs that are recipients of cooperative agreement funding from CDC should by now have received guidance on preparing and submitting FY 2004 cooperative agreement applications. These applications should be received by DTBE in mid September. If you have any questions, please contact your TB Program Consultant.

DTBE has undergone a reorganization to more accurately reflect our functional components. This reorganization has resulted in the following changes: the International Activities office, initially a one-person unit in the Office of the Director, is now officially a branch. Other branches have been renamed. The Communications and Education Branch is the Communications, Education, and Behavioral Studies Branch; the Computer and Statistics Branch is now the Information Technology and Statistics Branch; the Field Services Branch has become the Field Services and Evaluation Branch; the International Activities office is now the International Research and Programs Branch; the Research and Evaluation Branch is the Clinical and Health Systems Research Branch; and the Surveillance and Epidemiology Branch becomes the Surveillance, Epidemiology, and Outbreak Investigations Branch. While the functions and the staffing remain unchanged, these revisions are now official and will be used in all references to the branches. Please note these new names, and also see the revised organization chart included here:

<http://www.nchstp.cdc.gov/dtbe/about/pdf/orgchart.pdf>

The two research consortia that were established by DTBE researchers, the TB Trials Consortium (TBTC) and the TB Epidemiologic Studies Consortium (TBESC), are both enrolling patients for important studies. The TBTC trial Study 27 has just begun enrolling patients in North America. The TBESC trial "Enhanced Surveillance to Identify Missed Opportunities for TB Prevention in the Foreign-born" will begin in the fall. Please see the articles describing these studies in this issue.

Please take note of the following meetings and publications: The third annual meeting of the TB Education and Training Network is being convened August 13-15. The Program Managers Course for 2003 is scheduled for October 20-24, and the TB Behavioral and Social Science Research Forum will be held December 10 and 11. All three meetings will be held in Atlanta. The *Morbidity and Mortality Weekly Report (MMWR)* that contains a reprint of the Treatment of Tuberculosis statement (*MMWR* 2003;52[No. RR-11]) is available for ordering; continuing education credits can be earned for this publication. And the revised recommendations on using rifampin and pyrazinamide for treating latent TB infection were published in the *MMWR* on August 8; see *MMWR* 2003;52(31):735-739.

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

HIGHLIGHTS FROM STATE AND LOCAL PROGRAMS

World TB Day and TB Awareness Fortnight in Missouri

The Missouri Department of Health and Senior Services' TB Control Program annually 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 each year. During this time, the TB Control Program promotes awareness throughout Missouri concerning the signs and symptoms of TB, the availability of treatment, and the importance of being examined by your local health department or private physician if you have symptoms and signs of disease or have come in contact with someone who has TB disease. From March 17 through March 31, 2003, the following activities were carried out in Missouri:

- On March 13, Governor Holden signed a proclamation declaring the period of March 17 through 31, 2003, as TB Awareness Fortnight in Missouri. Representatives from the state health department attended this ceremony.
- On March 18, a seminar entitled "Knowing Tuberculosis" was held at the Missouri Baptist Hospital in Sullivan, Missouri, for health professionals in the private and public sectors.
- On March 20, Grand Rounds were held at Washington University in St. Louis for health professionals. Dr. Joseph Malone, an EIS officer with the Missouri Dept. of Health and Senior Services, conducted the session. (Dr. Michael Iseman from the National Jewish Center in Denver had been scheduled to conduct Grand Rounds but had to cancel owing to inclement weather.)
- On March 21, a seminar entitled "TB in the Colleges and Universities" was held in Kansas City for health professionals

in student health centers. It was sponsored by the Kansas City Metro TB Coalition.

- On March 24, a reception was held to commemorate World TB Day in the state TB program's central office in Jefferson City for Missouri Dept. of Health and Senior Services employees and Missouri Advisory Committee for the Elimination of TB (MACET) members. A meeting of MACET followed the reception.
- On March 25, a nurses' seminar entitled "Advance Topics in TB Control" was held at the Jefferson County Health Dept., Arnold Branch. Over 60 health professionals from the public and private sectors attended the seminar. The American Lung Association of Eastern Missouri sponsored the program.
- On March 27, a seminar entitled "Whip That Ole TB" was held at the University of Missouri, Reynolds Alumni Center, in Columbia, Missouri. Over 50 health professionals from the public and private sectors attended this seminar. The American Lung Association of Eastern Missouri sponsored the program.

The Missouri Dept. 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, six media interviews were conducted across the state.

Activities such as these noted above are conducted each year in Missouri to raise awareness about this important public health problem that some people think has virtually disappeared.

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The Prison Public Health Interface Project for Tuberculosis Control, California, 1998-2000

Tuberculosis (TB) outbreaks among HIV-infected inmates in California correctional facilities in 1995 and 1996 resulted in transmission of *Mycobacterium tuberculosis* inside and outside these facilities and revealed gaps in TB control practices.¹ The Prison Public Health Interface Project (PPHIP), a collaboration between the California Department of Corrections (DC) and the California Department of Health Services (DHS), was a joint response to the outbreaks. This programmatic intervention, supported by unobligated federal TB cooperative agreement funds, began in March 1998 and ended in June 2000. A retrospective review of PPHIP records, which is summarized here, confirmed that incarceration creates opportunities for TB case finding and treatment. The review also showed that TB notifications sometimes were delayed and that frequent relocations of inmates jeopardized continuity of care for TB, as corroborated by a low treatment-completion rate.

PPHIP targeted the nine California state correctional facilities housing 100 or more HIV-infected inmates because HIV-infected persons are highly susceptible to TB.² The target prisons were in five counties, and together had a daily census of approximately 48,500 inmates, 31% of the state's inmate population. PPHIP placed a nurse liaison in each of the five county health departments during the 28 months of the project, and these nurses used telephone contacts and medical records in prisons and health departments to coordinate information about TB diagnosis, notifications, and case management. DHS epidemiologists subsequently reviewed PPHIP records and tallied project events: an event was counted as each time that an inmate with suspected or confirmed TB entered a project prison or when TB was suspected or confirmed during a stay. Suspected TB was noted in patient medical

records by health care workers when a diagnostic evaluation was suggestive of TB but insufficient for confirmation, and confirmed TB was defined in accordance with U.S. surveillance instructions.³ Individual inmates could have multiple events.

During the 28-month project period, 312 individual inmates accounted for 410 project events of suspected or confirmed TB, an average of 1.6 events per facility per month. Of the 410 events, 342 (83%) involved suspected TB, 64 (16%) involved confirmed TB, and 4 (1%) could not be classified. Of the 342 events of suspected TB, 21 (6%) led to confirmation of TB after full diagnostic evaluation. Retrospective review of the 64 project events originally recorded as confirmed cases found that 5 could have been registered 2 to 6 weeks earlier as suspected cases, but were not notified to the health department until confirmatory diagnostic results were obtained. One of these five was discounted subsequently because laboratory cross-contamination with *M. tuberculosis* was strongly suspected.⁴

Timing of notifications. In 202 (49%) of the 410 project events, suspected or confirmed TB was recorded for the first time, that is, the diagnostic evaluation for TB began at the time of entry to a prison or during a stay at that facility. Prison health care providers notified local health department staff in 147 (73%) of these 202 project events, while in 47 (23%) events, the local health department notified the prison because PPHIP nurses were first to receive reports from laboratories, hospitals, or other local health departments. In eight (4%) events, the direction of reporting could not be determined.

California public health code and policies stipulate that suspect or confirmed TB be reported within 1 day.⁵⁻⁹ For the record review, timing of notification for cases and suspected cases detected in prisons was defined as the period between the date of

the earliest marker for possible TB (start of anti-TB therapy, first abnormal chest radiograph consistent with active TB, or first smear with acid-fast bacilli or culture with *M. tuberculosis*) and a report to the local health department. In 46 (31%) of 147 newly diagnosed TB events in which the prison notified the health department, notification occurred within 1 working day of the date of detection. The timing ranged from 2 to 7 days for 33 (22%) notifications and exceeded 7 days for 36 (25%). Information about timing was missing for 32 (22%). The extent to which late receipt of diagnostic test results might have contributed to delays was not determined – prison health care providers relied on reports from external sources (e.g., radiology services from contractors) and some reports were mailed rather than telephoned.

Inmate relocations. Evaluation of suspected TB or treatment of confirmed TB was temporarily interrupted by inmate relocation in 185 (45%) of the 410 total project events: 157 (46%) of the 342 events related to suspected TB and 41 (48%) of the 85 events related to confirmed TB. In 39 (21%) of the 185 total events ending in relocation, the inmate was paroled or released into the community. In 22 (56%) of these returns to the community, the destination local health department located the patient.

Completion of therapy. The project included 70 unique confirmed cases. Final treatment outcomes for these cases were derived from the California TB registry (table). Completion of therapy (excludes death from the denominator³) for these 70 cases was 50% within 12 months and 62% ever. The outcome was recorded as moved (without follow-up results) or lost for 29%.

Commentary. This project highlighted several challenges for correctional and public health care workers: TB case finding among prison inmates, notifications, follow-up of suspect cases, relocations of inmates, and completion of treatment for TB. The project nurses facilitated notifications, but

half of the new events of suspected or confirmed TB were notified to the health department later than 1 working day, and a quarter were reported later than 1 week. Prompt notification facilitates curative treatment for TB, isolation of contagious patients, and contact investigations both inside and outside prisons, all of which helps prevent further cases.

Nearly half of the events that were registered in PPHIP occurred when suspected or confirmed TB cases were detected by prison health care providers, which suggests a significant contribution from case-finding efforts in these facilities. While incarceration presents a unique opportunity for TB control, the additional effort that is required increases the workload for prison health care providers. After entry screening of all inmates, each inmate with a suspected case must be evaluated and observed in order to exclude or confirm TB. Sometimes extensive contact investigations for preventing or finding secondary TB cases, activities that were not recorded systematically in PPHIP, must be started while results for case confirmation are pending.¹⁰ Standard TB surveillance, upon which funding and resource-allocation decisions are made, reflects only confirmed TB cases. In PPHIP, 342 of the events involving suspected TB yielded 21 confirmed cases, a suspect-to-case ratio of 16:1. In recognition of the workload of finding cases and subsequent interventions, it is crucial to allocate sufficient systems and personnel in correctional facilities to find and cure TB patients.

Relocation of inmates who have TB, especially undetected cases, has contributed to multiple-site outbreaks.^{1,11} Inmates are moved mostly for security and also because of court arrangements or a need for special medical care. Although no suggestion of undetected TB was found through PPHIP, each move potentially disrupts continuity of care, which creates a chance for a contagious patient to enter a

Table. Treatment Outcomes^a of Verified Cases^b Identified in the Prison Public Health Interface Project Prisons

Treatment Outcome	Verified Cases Identified in the PPHIP Prisons (%)	
Completed Treatment within 12 months	34	(49)
Completed Treatment after 12 months	8	(11)
Moved	16	(23)
Lost	4	(6)
Refused	1	(1)
Died ^c	2	(3)
No Information	5	(7)
Total	70	

^aBased on the most recent follow-up information submitted to the TB Registry as of December 2000.

^bCompletion data are reported for patients alive at diagnosis and started on treatment.³

^cThe outcome category of "Died [during treatment]" is excluded from the standard U.S. calculation for completion of therapy.³

facility or a community.

Only 50% of the TB patients in this project were reported into the state TB registry as having completed therapy within 12 months, similar to rates measured in epidemiological studies of TB patients who relocate during treatment.^{12,13} This completion rate falls below the 1999 U.S. rate of 80% and the national objective of 90%.^{3,14} Furthermore, 23% moved without having follow-up results reported. It suggests the need for improved case tracking in the corrections system and statewide, to diminish the risks associated with interruption of treatment.

PPHIP did not include information about why the destination health departments did not locate inmates for 44% of project events ending in parole or release. Once returned to the community, these patients can be difficult to reach, or their social circumstances can present barriers to health care. Collaborations between correctional facilities and health departments must be focused on this critical transition to ensure care is not disrupted.

PPHIP documented some of the TB control challenges faced by both health departments and correctional facilities. It underscored their shared responsibilities, and validated the role of systematic communication and collaboration between health care staff at these agencies in the prevention and control of TB.¹⁰

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—Reported by Cathyn Fan, MPH,
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An Outbreak of TB Among Homeless Persons in Seattle & King County - Washington State, 2002-2003

The Seattle & King County TB Control Program continues to investigate an outbreak of TB among homeless persons in Seattle. High suspicion of an outbreak was confirmed in October 2002 when four cases were proven to have an identical strain type, with a 15-band RFLP DNA fingerprint. That month, seven additional homeless cases were diagnosed, mostly associated with two service centers for homeless persons. Site contact investigations at these facilities, performed at the time of each case diagnosis and at 3-month follow-up, resulted in 83% (179/216) testing of identified contacts, with 68% (122/179) of skin tests read and 23% (28/122) positive. One new case was found as a direct result of these screening efforts.

Once the outbreak was recognized, the TB program quickly received support from other programs within the county health department and from the Washington State Department of Health TB Program. In December, early observations and the public health response were presented to the Division of TB Elimination. By the end of 2002, TB had been diagnosed in 30 homeless persons. This was more than twice that reported during each of the previous 6 years, except for 1998, when another smaller outbreak had occurred. An Epi-Aid investigation was requested through

the Washington State Department of Health to determine the extent of the outbreak and to identify contacts at highest risk of exposure. The Epi-Aid investigation and ongoing State TB Program support also enabled local public health staff resources to be focused on treatment of their increased burden of difficult active cases, by relieving them of some of the contact investigation responsibilities.

Medical records of patients with active TB were reviewed, and the duration and degree of infectiousness were estimated. To identify sites of transmission, homeless facility registries were reviewed to document the presence of infectious patients, and staff and client tuberculin skin test (TST) results from homeless facilities were analyzed. Named contacts were identified by TB patients and health care providers at homeless facilities; site contacts were identified by review of logbooks at homeless facilities that TB patients frequented and where transmission likely occurred.

From January 2002 to January 2003, 20 of 33 homeless TB patients were determined to be outbreak-associated. Outbreak-associated TB patients had *M. tuberculosis* isolates with a matching 15-band RFLP pattern (n=20) or an epidemiologic link to a patient whose isolate matched the 15-band RFLP pattern (n=0). Of the outbreak-associated homeless TB patients, 11 (55%) were Native American and 13 (65%) were sputum smear positive at diagnosis. Six outbreak-associated patients (30%), including four Native Americans, were coinfecting with HIV. During the previous 5 years only 11% (9/80) of homeless TB cases in King County were Native American and 20% (16/80) were HIV infected.

Three homeless facilities (one sleeping facility and two daytime facilities) were identified as probable sites of *M. tuberculosis* transmission, including the two previously investigated during 2002. These facilities were frequented by a total of 16 infectious outbreak-associated patients.

TST-positivity rates in clients from these facilities were more than three times the rate normally seen in this community. Eighty-five named contacts and 300 site contacts from these facilities were identified for aggressive screening.

Extensive screening of high-risk contacts (e.g., symptom review, chest radiograph, sputum smear and culture, TST and HIV counseling and testing) began at the end of January 2003. Screening of high-risk contacts is conducted both in the TB clinic and on-site at homeless facilities using a mobile x-ray unit. In addition, high-risk homeless persons are being screened during county emergency room visits and county jail incarcerations. Monetary incentives are being offered to those who complete screening.

On-site enhanced screening has found 132 additional site contacts who were not found by the homeless facility registries, bringing the total high-risk contacts to 517. Of these, 301 (58%) have been evaluated with a chest radiograph or AFB sputum examination. As of April 18, 2003, 33 outbreak-associated patients have been identified. Of the 16 outbreak-associated patients diagnosed in 2003, 10 (63%) were on the original named or site contact lists and 8 (50%) were diagnosed through health department screening efforts. Two additional homeless TB patients without known epidemiologic links to an outbreak patient were also diagnosed through screening efforts. Five (1.9%) of 269 contacts tested for HIV infection were seropositive. A total of 242 contacts without a history of a prior positive TST have had at least one TST placed and read. Of these, 95 have tested positive, 86 (91%) of whom received a chest radiograph. Treatment of latent TB infection has been initiated for approximately 28 infected homeless persons so far during 2003, mostly directly observed.

In summary, a large, ongoing outbreak of TB is occurring in Seattle and King County.

An extensive and enhanced screening effort, carefully focused on identified segments of King County's homeless community, with significant support from numerous institutions, has combined screening for infection and for disease, and has accomplished effective case finding. After ensuring completion of therapy for new cases of TB disease, the most effective approaches need to be determined to ensure completion of therapy for new cases of TB infection.

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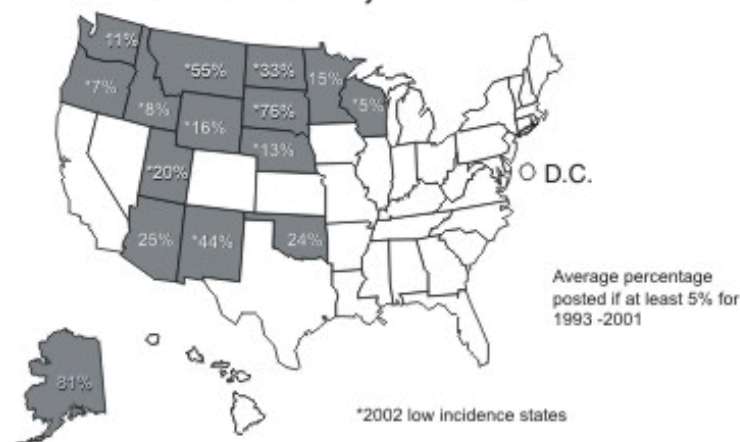
Advancing TB Control Among American Indians and Alaska Natives

American Indians and Alaska Natives contributed 177 (2.4%) of 7,252 cases in U.S.-born persons in 2002. This count is deceptively low: American Indians and Alaska Natives constitute only 0.7% of U.S. total population, but have a TB rate of 7.0/100,000, compared to 1.3/100,000 for white, non-Hispanic persons. TB in the United States is a reflection of the nation's racial health disparities. Among racial/ethnic groups, American Indians and Alaska Natives have the lowest rates of decline in TB cases since 1992.¹

A closer look at cases in U.S.-born persons for the period 1993-2001 demonstrates that American Indians and Alaska Natives contribute greater than 5% of the TB cases in 15 states. Two thirds of these states are low-incidence (<3.5 TB cases /100,000 population) states: Idaho, Montana, North Dakota, Nebraska, New Mexico, Oregon, South Dakota, Utah, Wisconsin and Wyoming. Because of their low-incidence status, they face distinctive challenges in maintaining a TB control infrastructure.²

Bolstering partnerships between the Indian Health Service (IHS) and CDC, and especially between tribal and state TB control programs, will be essential for achieving TB elimination in these states.

Percentage TB Cases in AI/AN, U.S.-Born Patients Only, United States, 1993-2001



In May 2001, DTBE convened an internal meeting for the purpose of assessing TB control efforts directed toward American Indians and Alaska Natives. Representatives from the Indian Health Service (IHS) participated as advisors. At the meeting, recommendations were developed for a specific TB control strategy. The goal of the strategy is to build systems that will improve TB control.

The proceedings of the meeting, *Advancing Tuberculosis Control for American Indians and Alaska Natives: Developing a DTBE Plan*,³ were mailed to all state TB control directors in 2002. Copies were also sent to the IHS Epidemiology Program, to FSB field staff, and to members of the Advisory Council for the elimination of TB (ACET).

Over the last 6 months DTBE staff have been moving forward on the following recommendations that were made at the meeting:

1. Prepare for a meeting in the area of the Great Plains States for Northern Plains tribes. Activities have included holding a teleconference with the state TB Controllers in the Northern Plains states of Montana, Wyoming, North Dakota, South Dakota, Nebraska, and Iowa; meeting with area Tribal Leaders through the Aberdeen Area Tribal Chairman Health Board and the Montana – Wyoming Tribal Leaders Council Subcommittee on Health; and holding a teleconference with Indian Health Service Chief Medical Officers and TB controllers from the Aberdeen and Billings IHS Area.
2. Train key IHS personnel at the DTBE Program Managers Course in October 2003. The Aberdeen Area IHS TB controller plans to attend this fall course. Nominations can be made through state TB controllers.

In addition, a longer-term strategy is to explore Cooperative Agreement options for increasing technical and financial TB control assistance to health departments that have memoranda of understanding or agreement with tribal governments.

—Submitted by Jennifer Giroux, MD
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Rethinking the Socioeconomics and Geography of Tuberculosis Among

Foreign-Born Residents of New Jersey, 1994–1999

The following is abstracted from a previously published article (*Am J Public Health* 2003;93:1007-1012).¹

Tuberculosis has long been noted as a disease of the poor. Explanations for this notion have traditionally included crowded living quarters associated with an increased risk of transmission. Poverty-related co-morbid conditions such as HIV infection, intravenous drug use, alcoholism, and nutritional deficiencies increase one's susceptibility to progressing from latent TB infection to active disease. However, clinicians at the New Jersey Medical School National Tuberculosis Center anecdotally observed an increasing number of foreign-born patients who did not fit the archetypical profile of a tuberculosis patient burdened with multiple social and medical problems. For the most part employed and educated, these patients presented no exceptional risk factors except for being born in one of the 22 nations that comprise the World Health Organization's list of high TB burden countries. In aggregate, these 22 countries contain 80% of the world's TB.

These observations led us to conduct an analysis of TB cases by place of birth reported to New Jersey's tuberculosis registry in the years 1994-1999. To get a sense of each TB patient's individual socioeconomic status, we examined the variables "occupation" and "medical supervision" as recorded by the TB registry. As per the examination, foreign-born subjects were more likely than U.S.-born subjects to be working within the 2 years prior to diagnosis and to have their entire treatment managed exclusively by a private physician. In addition, linkage of case-level tuberculosis records with Census data showed that foreign-born TB patients were more likely than US-born TB patients to live in areas where (1) a greater percentage of persons aged 25 years or older had some college education and (2) a smaller

percentage of persons lived in homes with more than one person per room (a measure of crowding used by the Census). We also found that the per-capita income was higher on average in zip codes where foreign-born patients resided as compared to zip codes where US-born patients resided.

It is important to note that there was tremendous heterogeneity among the foreign-born patient population. The relationships observed overall were driven in large part by the substantial number of foreign-born TB patients of relatively high socioeconomic circumstances born in South Asia (Bangladesh, India, Pakistan: n=437) and East Asia (China, Korea, Philippines, Taiwan, Viet Nam: n=437). Among persons aged 25-65 years, 46% of the Asians and 55% of the South Asians were treated exclusively by private providers and, respectively, 65% and 62% of them were employed in the 2 years prior to diagnosis. Nevertheless, there remain a substantial number of foreign-born patients whose socioeconomic status is as low as that which characterizes the average US-born TB patient.

These findings have important implications for TB control. First, if a large portion of foreign-born patients are being treated exclusively by private providers, efforts will have to be made to ensure that private providers are ensuring proper public health follow-up (as noted by the Institute of Medicine Report²), and providing correct TB treatment regimens (as noted in Liu et al.³). Second, clinic hours, directly observed therapy programs, and incentives will need to accommodate patients who are employed. Third, resources may need to be allocated for TB control in localities that heretofore were not considered to be at high risk for tuberculosis. This will include resources for the conduct of increasing numbers of workplace contact investigations.

We have shown that, at least in New Jersey, the long-established link between

TB and lower socioeconomic status may have been altered by the arrival of large numbers of TB patients from regions of high TB endemicity. In order to make progress towards TB elimination in the United States, it will be important to conduct similar analyses in other US states and regions that are likewise experiencing a rising proportion of TB cases among the foreign-born.

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TB ETN Update: Member Highlight

The TB Education and Training Network (TB ETN) section of TB Notes will highlight a member each quarter. The hard-working and dedicated people who develop health education materials and conduct TB education and training are among those at the forefront of the fight against TB, and it is our intention to honor and recognize the

wonderful work TB ETN members are doing.

Ann Levison, BS, RRT, is the Director of Lung Health Programs and the TB Education Coordinator for the American Lung Association of Connecticut. She received her BS in Public Health from Charter Oak State College, Connecticut.

In her job, Ann is responsible for health education programs related to all lung diseases except asthma. Her work is primarily focused on TB and chronic lung disease as well as influenza and pneumococcal immunization programs. In her TB-related activities, she works under contract for the Connecticut Department of Health TB Program and provides TB educational programs and materials for the state. Some of the programs and products she has been instrumental in developing include *TB Transmissions*, a newsletter for health professionals; a TB video lending library; TB skin testing workshops; a patient incentive program; organization of quarterly meetings of TB outreach workers around the state; conferences; and catalogs of TB materials.

Ann not only provides the services and programs described above, she is also actively involved in the development of products. Her most recent product is a poster, with English and Spanish versions, promoting treatment for people with latent TB infection. This poster compares latent and active TB to a quiet or active volcano. "It is a dramatic-looking poster (I didn't design it so I can say that) to draw attention to the need to comply with medication regimens." She has also reprinted the booklet *Mr. TB Germ*, with slight updating of graphics. "This old, much-beloved educational piece was discontinued by the national American Lung Association office some time ago." She is currently working on a pamphlet describing the tuberculin skin test, a publication which was also discontinued by ALA.

Having heard about TB ETN from a colleague in TB control, Ann joined to get new ideas and develop new skills. She also wanted the opportunity to relate to other people providing the same services. "I felt quite isolated before TB ETN. I didn't have regular contact with anyone providing TB education as a main focus (although I believe that every person working in TB provides education). I would occasionally see someone at a conference or see some new material, but there was no forum for regular exchange of information."

Fortunately for TB ETN, Ann was not content to simply join the ranks of the network. She is an active and interested member of the Membership and Communications Subcommittee. "I joined because I see the value in membership and want others to take advantage of the organization's offerings." When asked what she hopes TB ETN can accomplish in the next 2 years, she replied that she "would like to see lung associations more involved in TB programs, and I think that TB ETN is an organization that can provide the tools for that to happen. As a goal I would hope to have, at the very least, a member from each state association."

Ann grew up in England, beginning her professional life as a radiographer (x-ray technician). When she was in her twenties, she came to the United States for a short-term job. After several years she switched to the field of respiratory therapy, which eventually led her to volunteer with the American Lung Association. "I have been with the Lung Association for more than 25 years and love it." Some of Ann's hobbies or interests outside of TB are "in-door plants and gardening, recycling, theatre, art, the color purple, camping, and travel." She is an animal lover and is on the board of the local dog park.

In closing, Ann very generously shared a bit of family information that provides a glimpse into the personal reasons for her dedication to the cause of TB control and elimination.

"I've always had an interest in TB, as my maternal grandmother died at 29 of TB when my mother was 6 years old. TB had a devastating effect on my mother and her sister. In some small way, I guess I am hoping that my work will prevent that happening to another family."

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

UPDATES FROM THE COMMUNICATIONS, EDUCATION, AND BEHAVIORAL STUDIES BRANCH

Stop TB Partnership Advocacy and Communications Assessment of the 22 High-Burden Countries

Background: Tuberculosis (TB) rates have been increasing in a number of regions of the world owing to poverty, rapid population growth, ineffective TB programs, and the HIV pandemic. In 2001, the World Health Organization (WHO) laid out a global plan to stop TB; the plan is known as the Stop TB Partnership. The first phase of this plan, to be carried out during 2001-2005, involves (1) expanding the currently available anti-TB strategy, known as directly observed treatment, short-course (DOTS), to allow all people with TB to have access to effective diagnosis and treatment; (2) adapting this current strategy to meet emerging challenges of HIV and drug resistance; (3) improving existing tools by developing new diagnostics, new drugs, and new vaccines; and (4) strengthening the Stop TB Partnership in order for proven TB-control strategies to be effectively applied.

The Stop TB Partnership developed a cross-cutting Advocacy and Communications Strategy to help achieve these first-phase objectives. A Task Force for Advocacy and Communications was established in January 2002 to oversee implementation of the Strategy. At a Task Force meeting in April 2002, members

recommended undertaking a comprehensive baseline assessment of advocacy and communications for TB control in the 22 high-burden countries (HBCs) to better inform subsequent activities. The assessment was initiated in July 2002 and is ongoing. This article summarizes the findings reported to date.

One objective of this assessment is to improve the Strategy by assessing current National Tuberculosis Programme (NTP) advocacy and communications capacities and activities in the 22 HBCs and by providing a baseline against which the subsequent impact of this Strategy can be progressively measured. Another is to begin documentation of national and subnational advocacy and communications activities, leading to identification of best practices.

The methods used in this assessment were rapid desk analysis of HBC TB control plans and relevant documents, in-depth review of HBC TB control plans, and key informant interviews with NTP teams from Kenya, South Africa, Cambodia, Indonesia, Philippines, Uganda, United Republic of Tanzania, Myanmar, India, China, as well as with WHO staff.

Following are the main findings of the 10 in-depth country reviews together with pertinent issues for all 22 HBCs.

Current advocacy activities: Six out of the 10 HBCs included in the in-depth assessment have established reasonably strong national advocacy mechanisms. However, advocacy for TB in Myanmar, UR Tanzania, Uganda, and China is either limited to urban centers or is extremely weak, especially at the district level. All 10 HBC program teams requested assistance in strengthening advocacy activities at national levels but especially at the district level where, as a consequence of health reforms, many budgetary and human-resource decisions are now made.

Current communications activities: The 10

HBCs included in the in-depth assessment varied in terms of the intensity and reach of communications activities currently taking place. All countries, apart from Uganda, celebrated World TB Day 2002 at various levels of society. World TB Day 2002 produced the following reported results: new alliances between government departments and between governments and NGOs (Philippines and Myanmar); an increased awareness in the general public (Cambodia and UR Tanzania); and an anecdotal increase in the number of new TB patients presenting for treatment (Kenya). Other countries reported no specific impact resulting from World TB Day 2002. Only Philippines, India, UR Tanzania, and Cambodia reported any communications activities outside World TB Day (excluding the ongoing work of health staff in their consultations with suspected TB patients and patients currently on treatment).

NTP capacity to conduct advocacy and communications: Capacity to conduct advocacy and communications activities depends upon having (1) designated managerial staff with appropriate qualifications and experience; (2) access to appropriate agencies from which technical advice can be regularly sought and to which specialized work can be subcontracted; (3) a well-researched strategic plan with a precise behavioral goal by which activities can be properly coordinated, monitored, and evaluated; and (4) sufficient financial resources to implement planned activities.

Managerial staff: Of the 10 HBCs assessed in-depth, only Kenya, South Africa, and UR Tanzania report having a designated advocacy and communications manager. The other countries report using combinations of other staff and/or institutions.

Technical assistance: All 10 HBCs had access to Ministry of Health and WHO Regional Public Relations Officers. Only India and South Africa reported contracting with private-sector agencies

to assist with their advocacy and communications activities.

Strategic planning: All 22 HBCs have prepared plans to address barriers to expansion of the DOTS strategy. Few of these plans detail any comprehensive approach to advocacy and communications activities. Of the 10 HBC countries assessed in this baseline, *only* UR Tanzania reported having developed a definitive plan to manage, monitor, and evaluate advocacy and communications activities.

Financial resources: A few HBCs have been successful in securing financial support through the Global Fund for AIDS, TB, and Malaria (GFATM). Others receive support through the Global Drugs Facility (GDF). A range of donors are actively supporting several NTPs. NTP capacity to process external funds has proved problematic in some HBCs.

Training and materials development needs: Representatives of each NTP from the 10 HBCs selected for this assessment stated they would welcome training on a range of advocacy and communications issues, including planning Information, Education, and Communication (IEC) campaigns, generating media coverage, spokesperson media training, communicating to public officials, creating coalitions and partnerships with community groups to impact elected officials, and producing brochures for general distribution, press kits or press releases, and briefing papers for elected officials.

Recommendations to Date

1. Additional effort must be made to assess the impact of World TB Day (in terms of specific indicators such as increased case detection rates and increased funding) given the quantity of resources dedicated to this exercise.

2. NTPs should ensure that the complex, multilevel advocacy and communications activities required to support DOTS expansion is managed by a designated, full-time, well-qualified staff member or team. If required, there should be further in-country assessment of the capabilities of designated staff and institutions.

3. More in-country advocacy is required to ensure adequate resources are available to support social mobilization and communication for behavioral impact, especially at sub-national level. NTPs should use local resources *as thoroughly as possible*, and only afterwards seek external resources – first elsewhere in the country, and finally internationally. Capacity building in financial management may be required for managers or teams responsible for implementing TB control at national and especially at subnational levels.

4. NTPs should be actively encouraged to seek support from multinational and national corporations, not just in cash or other resources but in terms of *skills*. These linkages may result in substantial benefits to NTPs as well as serve as a useful public relations exercise for the corporations concerned. Resource groups that are available within country to help plan, develop, and implement advocacy and communication activities need to be identified. These would include media professionals, production agencies, patient organizations, NGOs, and other professional bodies.

5. Comprehensive training programs are urgently required to build capacity in strategic social mobilization and communications planning, implementation, and monitoring. Training should also emphasize evaluation of advocacy and communications strategies, e.g., pretesting interventions, process evaluation, outcome evaluation, and impact evaluation. Training programs could include short courses, in-service distance education, and on-the-job technical assistance to field staff.

Centralized or regional training teams could be established so that one or more teams of “master trainers” travel to various locations to deliver high-quality training.

6. More detailed assessment is required of the current and potential advocacy and communications linkages between NTPs and HIV/AIDS programs in the 22 HBCs.

7. Based on this present assessment, the Task Force for Advocacy and Communications recommended the following HBCs for Stop TB Partnership support to strengthen their advocacy and communications capacities and activities: Cambodia, Indonesia, Myanmar, South Africa, Uganda, and Tanzania.

Acknowledgments: This report was prepared by Scott McCoy (CDC), Tim Raftis (American Lung Association), Ninan Varughese (TBP/WHO), and Will Parks (SMT/WHO). The project was coordinated by Ninan Varughese and Michael Luhan (STB/WHO). Other WHO staff who assisted in compiling information for this report were Kraig Klauadt, Petra Heitkamp, Everold Hosein, and Elil Renganathan. A number of National TB Program managers, staff, and advisers also provided detailed data.

—Reported by Scott McCoy, MEd
Div of TB Elimination

TB Behavioral and Social Science Research Forum: Planting the Seeds for Future Research

DTBE is pleased to announce plans for a *Tuberculosis Behavioral and Social Science Research Forum* to be held December 10 and 11, 2003, in Atlanta, Georgia.

The Institute of Medicine report, *Ending Neglect: The Elimination of Tuberculosis in the United States*, identified the need for further behavioral and social science research in a number of areas, including the determinants of health-seeking and

treatment-adherence behaviors of patients, health care provider behaviors, and the organizational structures that affect the control of TB. The proposed Forum will build on the foundation of a previous workshop, *Tuberculosis and Behavior: National Workshop on Research for the 21st Century*, held in 1994. It will also bring together behavioral and social science researchers and health professionals interested in the enhancement of TB control and services.

The goals of the proposed *TB Behavioral and Social Science Research Forum* are as follows:

- Establish an ongoing partnership among national, state, and local governmental and nongovernmental behavioral and social science researchers focusing on TB;
- Create a mechanism for ongoing communication among TB behavioral and social science researchers;
- Identify and prioritize TB behavioral and social science research gaps; and
- Develop a feasible, goal-oriented research agenda that will guide TB behavioral and social science activities.

If you would like more information or if you have any specific questions on the Forum, please send an e-mail to TBBSForum@cdc.gov, or contact Nick DeLuca at (404) 639-8988 or Robin Shrestha-Kuwahara at (404) 639-8314.

—Reported by Nick DeLuca, MA
Div of TB Elimination

UPDATE FROM THE CLINICAL AND HEALTH SYSTEMS RESEARCH BRANCH

Tuberculosis Trials Consortium (TBTC) Update

US Public Health Service Study 27

On January 13, 2003, and April 22, 2003, a CDC central institutional review board (IRB) approved the protocol for Study 27, a new TBTC multicenter clinical trial, for North American and international TBTC sites, respectively. Enrollment of patients in North

Sites participating in Study 27:

1. Boston University Medical Center, Boston, MA
2. Case Western Reserve Univ./Makerere Univ., UGANDA
3. Columbia University, New York, NY
4. Denver Health and Hospitals, Denver, CO
5. Emory University, Atlanta, GA
6. Harborview Medical Center, Seattle, WA
7. Harlem Hospital Center, New York, NY
8. Johns Hopkins Univ Sch of Med, Baltimore, MD
9. Los Angeles Cnty, USC Med Cn, Los Angeles, CA
10. Montreal Chest Institute, Montreal, Quebec, CANADA
11. New York University School of Medicine, New York, NY
12. South Texas Hospital, Harlingen, TX
13. Univ. of British Columbia, Vancouver, BC, CANADA
14. Univ. of California/San Diego, San Diego, CA
15. Univ. of California/San Francisco, San Francisco, CA
16. Univ. of Manitoba, Winnipeg, Manitoba, CANADA
17. Univ. of Medicine and Dentistry of New Jersey, Newark, NJ
18. Univ. of North Tx Health Sci Cn, Fort Worth, TX
19. VAMC Hines, IL
20. VAMC Houston, TX
21. VAMC San Antonio, TX
22. VAMC Washington, DC

America began in July 2003. The trial will also involve collaboration with the Tuberculosis Research Unit of Case Western Reserve University and will recruit study patients in Kampala, Uganda, where enrollment will also begin in August 2003. This arrangement represents the first time that TBTC has undertaken a tuberculosis treatment trial in Africa.

Study 27 is a double-blind, placebo-controlled comparison of the efficacy and tolerability of moxifloxacin (a newer-generation fluoroquinolone antibiotic) with ethambutol when each is used with isoniazid, rifampin, and pyrazinamide during

the initiation phase of treatment of pulmonary tuberculosis. Implementation of Study 27 also involves collaboration with Bayer Pharmaceuticals, the maker of moxifloxacin, with whom CDC signed a Cooperative Research and Development Agreement in March 2003. Since moxifloxacin is currently approved only for short-duration treatment of community-acquired respiratory tract infections, its use for Study 27 in the treatment of tuberculosis required CDC to obtain Investigational New Drug approval from FDA. Study 27 will require a total enrollment of 300 patients and is expected to take 3 years to complete.

Questions regarding patient referrals, participating sites, and whether a patient qualifies for the study can be directed to CHSRB (404.639.8123) or Philip Spradling, MD, Project Officer at (404) 639-5346 or pps9@cdc.gov.

—Reported by Philip R. Spradling, MD
Div of TB Elimination

UPDATES FROM THE SURVEILLANCE, EPIDEMIOLOGY, AND OUTBREAK INVESTIGATIONS BRANCH

Plans for Implementation of Universal TB Genotyping

CDC anticipates that the Universal TB Genotyping Program will be implemented by fall 2003. CDC will contract with laboratories to serve as national resources for the provision of TB genotyping services. The laboratories will perform rapid polymerase chain reaction (PCR) tests on at least one isolate for every culture-positive case and, when requested by TB control programs, will perform IS6110-based restriction fragment length polymorphism (RFLP) on isolates that match by PCR.

Universal access to rapid diagnostic tools for identifying the similar genetic strains among persons with TB should greatly

enhance TB control programs and promote the elimination of TB. The use of genotyping to differentiate *Mycobacterium tuberculosis* (Mtb) strains has been shown to improve TB control in a number of ways. For example, genotyping has enhanced and expedited contact investigations (CIs) by demonstrating unsuspected relationships between patients, identifying new and unusual settings of transmission, and establishing priorities in CIs. Genotyping has assisted in the control of outbreaks by allowing them to be detected earlier, promoting thorough investigations, and again, establishing priorities in CIs. Genotyping has also helped identify cross-jurisdictional transmission and laboratory cross-contamination, and has been used to evaluate patterns and prevalence of Mtb strains. Finally, genotyping has been used as a tool to evaluate TB control efforts. Completeness of routine CIs can be assessed, and progress toward TB elimination can be evaluated (by the monitoring of genetic clustering as a surrogate marker for recent TB transmission). The recently-ended National TB Genotyping and Surveillance Network (NTGSN) project, a pilot project undertaken to evaluate the usefulness of genotyping in TB control settings, provided a wealth of information about this technology. The success of this project demonstrated the value of using IS6110-based RFLP for TB control and paved the way for this current programmatic effort. Rapid new PCR tests for TB genotyping hold even greater promise for promoting TB control.

The National Tuberculosis Controllers Association (NTCA) and CDC have established a technical advisory and planning workgroup that provides advice regarding the development of the framework and infrastructure of the Universal TB Genotyping Program to ensure its effective operation. In order to help TB control programs maximally use the opportunity of universal genotyping, we are developing user-friendly protocols and flow diagrams that will help programs address technical,

logistical, laboratory, and epidemiologic issues, and we are also developing an NTCA/CDC *Guide to the Application of Genotyping to Tuberculosis Prevention and Control* (see next article). In addition to the Guide, TB programs will be provided with templates to help them develop program implementation plans for genotyping. The templates for such plans as well as forms and updates to the Guide will be posted on the Web board.

In addition, we plan to perform operational research in order to pilot test universal genotyping. The pilot test would evaluate protocols, data elements, and functional requirements for systems for the collection and transmission of data between partners, integration of genotyping and program data to ensure that genotyping results are readily accessible for field application, and tracking and notification of specimens and results. The additional costs of a genotyping program would also be quantified.

We hope these steps will build the foundation for effective implementation of universal genotyping, which holds great promise for enhancing TB control and prevention.

—Reported by Lisa Rosenblum, MD
Div of TB Elimination

Guide to the Application of Genotyping to TB Prevention and Control: A Handbook for TB Controllers, Epidemiologists, and Other Program Staff

In 1996, CDC established the National Tuberculosis Genotyping and Surveillance Network (NTGSN) to determine the usefulness of specific genotyping techniques in understanding the epidemiology of TB in the United States (Castro KG, Jaffe HW. *Emerg Infect Dis* 2002;8:1188-91). Some of the results of this 5-year project were published in a special issue of *Emerging Infectious Diseases* in

November 2002.

The success of NTGSN and the experience gained from it led to a commitment by CDC to support the implementation of universal genotyping of *Mycobacterium tuberculosis* isolates, i.e., the genotyping of at least one isolate from every culture-positive case in the United States. After the implementation of universal genotyping, TB programs will receive genotyping results on all initial patient isolates within 2 weeks of submission of the isolate for typing. CDC recognizes that building laboratory capacity at the state and local levels is crucial to the implementation of universal genotyping. Policies and procedures to enable TB program staff to interpret genotyping results correctly and to respond effectively to results are essential.

To coordinate the building of TB program capacity for interpreting and responding to genotyping results, the National Tuberculosis Controllers Association (NTCA) and CDC formed a workgroup on genotyping. Members of that group are developing a *Guide to the Application of Genotyping to Tuberculosis Prevention and Control* to provide direction toward understanding genotyping and how it can be used in routine TB prevention and control practices. It is hoped that this Guide will serve as the first step in the implementation of universal genotyping.

The Guide is organized as follows: Section 1, *Overview of the Genotyping Process*, describes how genotyping of *M. tuberculosis* is accomplished. Section 2 explains how the universal genotyping program will be implemented and how universal genotyping will provide timely results to TB programs. Interpreting genotyping results is covered in Section 3, and how to apply results to TB prevention and control practices is detailed in Section 4. Specific information about developing a state plan to implement universal genotyping is provided in Section 5.

Appendices A and B contain a glossary and a list of useful resources.

Currently the Guide is being reviewed by the members of the workgroup. After incorporating comments from reviewers, we plan to publish the Guide in the early fall of 2003.

*—Reported by Scott J.N. McNabb, PhD, MS
Div of TB Elimination*

Enhanced Surveillance to Identify Missed Opportunities for TB Prevention in the Foreign-born: Closing the Gap

The first study involving all 22 sites of the Tuberculosis Epidemiologic Studies Consortium (TBESC) will begin this fall. The study's goal is to identify missed opportunities for TB prevention in foreign-born persons, the population that now accounts for more than half of the TB cases reported annually in the United States and Canada (currently about 15,000 for the United States and approximately 2,000 in Canada).

This will be the first large population-based epidemiologic study of TB in foreign-born persons in the U.S. and Canada. It will involve in-person interviews with approximately 1,500 persons in 16 states and two Canadian provinces. The three co-principal investigators for the study are Amy Davidow, Ph.D., assistant professor of preventive medicine and community health, New Jersey Medical School; Randall Reves, M.D., medical director, Denver Metro Tuberculosis Clinic, and president, National TB Controllers Association; and Dolly Katz, PhD, senior epidemiologist, Division of Tuberculosis Elimination, CDC.

The TBESC was established in September 2001 to conduct TB research and to strengthen TB public health infrastructure in the U.S. and Canada. The sites include academic institutions, medical centers, and TB control programs across the U.S. and

Canada. The TBESC currently has 13 research projects in development or underway.

The TBESC selected the epidemiology of TB in foreign-born persons as a top research priority because of its critical importance to TB elimination in the U.S. and Canada. In the past decade, TB in North America has increasingly become a disease of persons born outside the U.S. and Canada. In 2002, for the first time, TB cases among foreign-born persons accounted for the majority (51%) of the 15,078 TB cases reported in the United States. In Canada, foreign-born persons have accounted for the majority of TB cases since 1990.

The reason for the increasing concentration of TB among foreign-born persons is that TB case numbers and rates have dropped much more sharply among native-born persons than among foreign-born persons. Among U.S.-born persons, for example, TB rates per 100,000 persons dropped from 8.2 in 1992 (19,225 cases) to 2.8 in 2002 (7,252 cases), a decline of almost 66%. Rates among foreign-born persons were 34.5 (7,270 cases) in 1992 and 23.6 (7,544) in 2002, a 31.6% decline. The goal of the TBESC study of TB in foreign-born persons is to close that gap.

As with native-born persons, reducing the incidence of TB among foreign-born persons depends upon increasing the yield from the three basic TB control activities of (1) detection and treatment of active TB, (2) contact investigations, and (3) targeted testing and treatment for latent TB infection.

However, these activities need to be tailored to the special circumstances of foreign-born persons, which often involve complicating factors such as visa status, drug resistance, social and economic hardships, linguistic barriers, and cultural beliefs that deter diagnosis and interfere with adherence to therapy and cooperation with contact investigations. Although current national

surveillance data for the U.S. and Canada have identified the increasing importance of TB among the foreign-born, these data lack the level of detail needed to identify the proportion of TB cases that could have been prevented by improvements in each of the three basic TB control activities.

The TBESC study will focus on in-person interviews with a random sample of approximately 1,500 foreign-born persons living in the 22 sites of the Tuberculosis Epidemiologic Studies Consortium (TBESC) who were diagnosed with TB in 2003-2004. Epidemiologic data collected for each case will describe the means of diagnosis (through screening for disease or due to symptomatic disease), time from arrival to disease onset to diagnosis and initiation of treatment, immigration status, country of origin, migration in the U.S. or Canada, access and barriers to care (including insurance coverage and cultural barriers), treatment outcomes, and other information that will shed light on missed opportunities for prevention. Additional information will be collected from health department records, national surveillance databases, and record linkage with CDC's Division of Global Migration and Quarantine.

The study's protocol development team includes a community representative who will help craft the protocol and questionnaire with an eye to the concerns and sensitivities of persons from different cultural and linguistic backgrounds. In addition, the team is seeking advice from community outreach groups on how best to inform the target communities about the upcoming project and encourage their participation.

Data obtained from case interviews will provide unique epidemiologic information collected consistently from site to site. These data will be used to identify interventions that can improve each of the three basic TB control activities and inform public health efforts to eliminate TB among foreign-born persons in the U.S. and Canada.

—Reported by Dolly Katz, PhD
Div of TB Elimination

TRAINING AND EDUCATIONAL MATERIALS

TB Education and Training Resource Guide

DTBE is pleased to announce the availability of the updated *TB Education and Training Resource Guide*, an inventory of TB educational products, Internet resources, and funding organizations. The guide includes resources from DTBE, the model TB centers, and numerous other organizations. It has an index system that is organized by language, target audience, material format, and source organization. In addition, the guide contains over 600 new items as a result of extensive new materials acquisition.

The *TB Education and Training Resource Guide* can be accessed on-line at www.cdcnpin.org/scripts/tb/guide/toc.asp. It can also be requested in the following ways:

- Through the DTBE's on-line ordering system: www.cdc.gov/tb
- By mailing or faxing a DTBE Educational and Training Materials Order Form
- Through the CDC Voice and Fax Information System by calling, toll-free, 1-888-232-3228 and requesting the *TB Information CD-ROM*, order #99-6879, or the *TB Education and Training Resource Guide*, order #99-6352.

Education and Training Products Available from the New Jersey Medical School National Tuberculosis Center

The New Jersey Medical School National Tuberculosis Center (NJMS NTBC) has developed two new materials for health department TB program workers and health care providers in the community.

Treating the Patient with Tuberculosis: Guidelines for Collaborating with Community Physicians

This handbook is designed for use by state and local health department personnel working in TB control programs. It contains templates for forms and letters to facilitate communication between the public and private sector. A narrative section that offers tips and suggestions for the use of the forms precedes each template.

Because regulations and resources vary from state to state, the templates have been designed so that they can be easily adapted, personalized, and printed on agency letterhead. A CD-ROM that contains a pdf version of the handbook and templates in MS Word format is enclosed with each handbook. In addition, this product can be easily downloaded from the NJMS NTBC Web site.

Management of Latent Tuberculosis Infection in Children and Adolescents: A Guide for the Primary Care Provider

This document in handbook format is designed to provide pediatric primary care providers with an overview of the most current LTBI recommendations and offer suggestions for achieving the best patient outcome. Targeted skin testing and guidelines for administering and interpreting the tuberculin skin test are provided as well as guidelines for the medical management of LTBI in children.

A wall chart for quick reference accompanies the handbook. It summarizes key points regarding tuberculin skin testing and treatment in the pediatric population. The handbook is also available on the NJMS NTBC Web site.

To order these products, call the New Jersey Medical School National Tuberculosis Center at (973) 972-0979 or access the Web site at <http://www.umdnj.edu/ntbcweb>.

—Reported by D.J. McCabe, RN, MSN

New Jersey Medical School National Tuberculosis Center

NEW CDC PUBLICATIONS

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PERSONNEL NOTES

Tracy Agerton, RN, MPH, transferred from the International Research and Programs Branch (IRPB) to the Field Services and Evaluation Branch (FSEB) within DTBE effective June 15, 2003. Tracy has been part of DTBE since 1996, when she came to the Surveillance, Epidemiology, and Outbreak Investigations Branch (SEOIB) as an Epidemic Intelligence Service (EIS) Officer. For the past 2 years she was part of the TB/HIV team in IRPB and worked in different countries conducting epidemiologic and operational research studies, participating in program evaluations, and helping design and teach epidemiology courses. She is now returning to the domestic side of DTBE and will be an FSEB assignee to the Bureau of TB Control in the New York City Dept. of Health and Mental Hygiene, where she will function as the Assistant Director of the Epidemiology Unit, directing the field epidemiology services there.

Rachel Albalak, PhD, has accepted the position of Leader of the Epidemiology Team of the Surveillance, Epidemiology,

and Outbreak Investigations Branch and Project Officer of the Tuberculosis Epidemiologic Studies Consortium (TBESC), effective July 2003. Rachel received her doctorate in Biological Anthropology from the University of Michigan. After receiving her doctorate, she worked for 3 years as a Research Assistant Professor in the Department of International Health at the Rollins School of Public Health of Emory University. At Emory, she taught courses in epidemiologic research design and international health. Her research involved work in the areas of air pollution, respiratory health, and nutritional status among indigenous and Spanish-speaking populations in Bolivia, Guatemala, and Honduras. She came to CDC in 2000 where she worked at the National Center for Environmental Health in the Lead Poisoning Prevention Branch. She joined the Division of Tuberculosis Elimination in 2001 as a senior epidemiologist in the Surveillance branch. Her work has included being Principal Investigator of TBESC Task Order #5, "Prevalence of latent TB infection among high-risk populations in the United States," and co-P.I. of Task Order #13, "Factors associated with acceptance of, adherence to, and toxicity from treatment for latent tuberculosis infection (TLTBI) and pilot study of TLTBI effectiveness."

Warren Benson has been selected as DTBE's new administrative officer (AO). Warren will be taking over most of the duties that Mrs. Fay Neal had when she was the AO. Fay was promoted to Management and Program Analyst earlier in the year and will be overseeing many of the AO functions and also performing manpower, policy, and budgetary activities. Warren joined CDC in September 1993 after a successful career in the U.S. Navy as a Data Analyst. Prior to his naval enlistment he attended Florida Junior College and Valdosta State College. In 1994 and 1995 he provided administrative support while assigned to the Division of Reproductive Health as an Office Automation Clerk. In 1996 he accepted a

position with the Division of Adolescent and School Health as a Fiscal Accounting Assistant and was responsible for all budget activity. In 1996 he joined DTBE as a Staff Specialist responsible for administrative tasks.

Alyssa Finlay, MD, joined the staff of the International Research and Programs Branch in July 2003 as an Epidemic Intelligence Service (EIS) officer (2003-2005). Alyssa is board certified in internal medicine and just completed a year of chief residency combined with a general medicine fellowship at Bellevue Hospital (New York University) in New York City. During her clinical training, Alyssa spent significant time working with immigrants in New York, including the primary care of refugees with histories of torture, and conducting cancer screening research in collaboration with local Chinese-American community-based organizations. Prior to her medical training, Alyssa was a chemical engineer and worked in the industry for 5 years.

Jennifer Giroux, MD, has completed the practicum of her preventive medicine residency with DTBE in Atlanta. She will be board eligible for preventive medicine after she completes her MPH from the University of Minnesota. Meanwhile she expects to enjoy some deserved time traveling with her family before starting work as an epidemiologist for American Indian health issues in South Dakota. While Jennifer was with DTBE, she focused on TB-control issues relevant to American Indians and Alaska Natives. Tapping into her experience, she provided consultation on these issues to DTBE personnel, and she initiated a long-term, network-building process with state TB control officials and other parties who have a stake in these issues. She traveled to present TB education to the tribal chairman's councils of the Billings Area and the Aberdeen Area. Her other large project, unrelated to TB in American Indians, was evaluation of the nationwide TB investigation of two circus

troupes having a worker with contagious TB. Jennifer joined the Epidemic Intelligence Service (EIS) program in 1998, and served as the EIS Officer assigned to the Indian Health Service National Epidemiology Program in Albuquerque, New Mexico. During her EIS years, Jennifer investigated diverse public health problems, including a food-borne outbreak, infections with methicillin-resistant staphylococcus aureus, Hanta virus disease, plague, fatal TB cases, hepatitis B mortality, and molar (false) pregnancies. Jennifer is a member of the Rosebud Sioux Tribe of South Dakota. Before EIS she worked with the Indian Health Service on prevention of HIV/AIDS and cancer in the Great Plains states.

Sheila Jain, MPH, who joined the Prevention Effectiveness (PE) Team, Clinical and Health Systems Research Branch, DTBE, in March 2003, has now completed her second 6-month headquarters assignment with CDC's Public Health Prevention Service (PHPS) Program. Sheila worked with branch staff members on analyzing data from the NAA clinical and economic study. She obtained her graduate degree in epidemiology from the University of California, Los Angeles, and has worked in the areas of physical activity and chronic disease. Her first CDC headquarters assignment was with the Public Health Practice Program Office, where she developed an evaluation plan to assess the impact of bioterrorism preparedness on the scope and direction of the Centers for Public Health Preparedness program.

Venkatarama (Ram) Rao Koppaka, MD, PhD, has taken on a new challenge as the Policy and Preparedness Officer in the Division of Global Migration and Quarantine (DGMQ), National Center for Infectious Diseases, effective July 7, 2003. In 1998 Ram was recruited as a Commissioned Corps Officer to the Field Services and Evaluation Branch (FSEB), DTBE. He was assigned to Virginia as TB Controller, and his contributions there were exemplary. Most recently, Ram moved to Atlanta to

assist with the support and mentoring of Commissioned Corps Officers and Field Medical Officers, and enhance our capacity to provide medical consultations. He was also instrumental in the development and publication of the ATS/CDC/IDSA TB treatment guidelines. The recipient of numerous PHS awards, Commander Koppaka is a model officer. Ram's interest in and commitment to the elimination of TB will not cease with this move. On the contrary, it provides our two respective divisions with an opportunity to better address TB as it affects immigrants and refugees, and to contribute to the updating of quarantine laws as they relate to TB prevention and control.

Diane Lowry, MPH, MSW, who joined the Prevention Effectiveness (PE) Team, Clinical and Health Systems Research Branch, DTBE, in March 2003, has completed her second 6-month headquarters assignment with CDC's Public Health Prevention Service (PHPS) Program. She worked with PE Team members on the healthcare workers adherence study and an evaluation of targeted testing and treatment of LTBI programs. Diane obtained her graduate degrees from the University of Washington and, before joining the PHPS Program last fall, worked for 3 years with immigrant and refugee communities in Seattle. Her first CDC headquarters assignment was with the Division of International Health, EPO, where she developed an evaluation plan for outbreak investigations conducted by Field Epidemiology Training Program participants.

Jane Mezoff, DrPH, MPH, CHES, is the newest member of the Communications, Education, and Behavioral Studies Branch. Jane joined us as a Behavioral Scientist on August 11, 2003. Jane has a masters of public health degree from the University of North Carolina at Chapel Hill and a doctorate of public health degree from the University of South Carolina, and is a Certified Health Education Specialist. Jane

has extensive experience as a health educator, trainer, and behavioral scientist, and has worked at CDC since 1995. She started her career at CDC as an Association of Schools of Public Health (ASPH) Fellow in the National Immunization Program. She has also worked in the Behavioral Intervention Research Branch, Division of HIV/AIDS Prevention, National Center for HIV, STD, and TB Prevention. Most recently, Jane was with the Division of Reproductive Health, National Center for Chronic Disease Prevention and Health Promotion, where she served as an evaluation specialist on the teen pregnancy prevention team. Jane conducted behavioral and social science research and evaluation, and served as a project officer for various research and demonstration projects. We look forward to working with Jane in our expanding behavioral science research efforts in DTBE.

Taraz Samandarí, MD, has replaced Elizabeth Talbot as the Associate Director for TB Research of BOTUSA. Taraz received a BS degree in electrical engineering at the University of Colorado at Colorado Springs, and a PhD degree in biochemistry and an MD degree at the University of Colorado Health Sciences Center. He completed his internal medicine residency at the Vanderbilt University Medical Center and an infectious diseases fellowship at the University of Maryland, where he was also an Assistant Professor of Medicine and Infectious Diseases, prior to joining the CDC Epidemic Intelligence Service (EIS) in 2001. At CDC he was assigned to the Division of Viral Hepatitis in the National Center for Infectious Diseases. Taraz had a remarkably productive EIS career. Among other activities, he was a field investigator in the Florida mail-associated anthrax outbreak; evaluated the success of Kenya's routine childhood immunization after it implemented a quadrivalent vaccine (DTP-HepB); and assessed the immune response of Palau's adolescents after infant immunization with a recombinant hepatitis B vaccine. He

received several awards for his work at CDC and has several publications, including one on Shigella research conducted at the University of Maryland. Taraz is a U.S. citizen but was born in Somalia and grew up in Dar-es-Salaam and Nairobi. His wife, Atieno Mboya, is Kenyan and is a human rights lawyer (specializing in women's rights). Taraz will focus especially on the IPT trial and the IPT program, building on the work of those who preceded him.

Steven Shapiro, Public Health Advisor in the Field Services and Evaluation Branch (FSEB), has accepted a promotion to the position of Program Consultant in the Division of Sexually Transmitted Diseases Prevention (DSTDP). Steve has served for the past 4 years as an across-the-board advisor to, and integral member of, the Maine STD/HIV and TB programs, assisting in developing program policy, procedures, and evaluation methods. In addition, he provided operations and grant-writing support for Maine's Infectious Epidemiology and Emergency Preparedness programs, and recently completed a one-year tenure as chairperson of the TB field staff working group. Steve began his career with CDC in June 1989 as a DSTDP Public Health Associate, assigned to the Broward County (Florida) Public Health Unit. He was reassigned to the Washington, DC, STD prevention program in June 2000, where he worked as a field and surveillance disease intervention specialist (DIS), and the Training and Education coordinator. In January 1993, Steve was promoted to front-line supervisor and transferred to the Dade County (Florida) Public Health Unit STD program, where he managed the only evening satellite STD/TB clinic in Dade County. He also supervised the STD surveillance unit during his Miami tenure. Steve began his new assignment in Atlanta on July 28, 2003.

Dixie E. Snider, Jr., MD, MPH, has been selected as the Acting Deputy Director for Public Health Science, CDC, and Acting Deputy Administrator, ATSDR, effective

June 16, 2003. Dr. Snider has been the Associate Director for Science, CDC, since 1993. He holds the rank of Assistant Surgeon General (Rear Admiral) and is the primary advisor to the Director of CDC on scientific issues. During the past decade, he has focused his efforts on improving the quality and integrity of science at CDC and on improving the science infrastructure. Dr. Snider also oversees the Technology Transfer Office, the Human Subjects Protection Office, and the CDC Data and Specimen Bank, as well as chairs a number of CDC committees and participates on several Department of Health and Human Services committees, including serving as the Executive Secretary of the Advisory Committee on Immunization Practices. Dr. Snider received his bachelor of science degree in chemistry in 1965 from Western Kentucky University. He graduated from the University of Louisville School of Medicine in 1969 with highest honors. He served his internship in internal medicine at Barnes Hospital in St. Louis, Missouri, and was a resident in internal medicine at Barnes Hospital and at Vanderbilt University. He received a masters of public health degree from Emory University in 1984. Dr. Snider is board-certified in internal medicine, allergy and clinical immunology, and preventive medicine. Dr. Snider joined CDC in 1973; much of his early career was spent as an expert in tuberculosis and other mycobacterial diseases. From 1976 to 1985, he served as Chief, Research and Development Branch, Division of Tuberculosis Control. In 1985, he became Director of the Division of Tuberculosis Control and was the major architect of the Strategic Plan for the Elimination of Tuberculosis in the United States and a key player in developing a national plan for addressing multidrug-resistant tuberculosis. In addition, Dr. Snider is the recipient of numerous distinguished honors, including CDC's William C. Watson, Jr., Medal of Excellence, the U.S. Public Health Service (USPHS) Outstanding Service Medal, the USPHS Meritorious Service Medal, and the DHHS Secretary's Award for Distinguished

Service. Dr. Snider is a member of several professional societies and has held several offices in these societies. He is the author or co-author of more than 150 scientific articles and has made hundreds of presentations at scientific meetings.

Kathrine Tan, MD, is one of two new Epidemic Intelligence Service officers in the International Research and Program Branch. Kathrine received her bachelor of science degree in physiology as well as her MD degree from the University of California at Davis. During medical school, she took a year off to work abroad, which included doing volunteer work in a rural clinic in Mexico, researching tuberculosis in Peru, and implementing a knowledge, attitudes, and practice study of oral rehydration solution in Swaziland. She completed residency and was chief resident in family medicine at the University of California, Davis Medical Center. Her hobbies include learning foreign languages, traveling, and participating in outdoor activities and she looks forward to doing at least two, possibly all three, in her new position.

Jay Varma, MD, has been selected as the Section Chief for Tuberculosis Prevention and Control of the Thailand-US Collaboration (TUC). Jay is assigned to the TUC from the International Research and Programs Branch of DTBE. As Chief, Jay will serve as the liaison for DTBE, the Global AIDS Program (GAP), and the Collaboration for Regional Asia-Pacific TB prevention and control efforts. DTBE has several ongoing projects in the Philippines, Vietnam, and Cambodia that will benefit greatly from Jay's oversight. In addition, GAP/Thailand has several funded cooperative agreement projects with the Thailand MOPH and the Bangkok Metropolitan Administration on surveillance, laboratory-confirmed diagnosis, and directly observed treatment for TB that will benefit enormously from his clinical and epidemiologic technical expertise. As Asia has been hard hit by TB, Jay's attention to regional GAP TB issues will be welcomed.

Jay comes to the TUC from CDC's Foodborne and Diarrheal Diseases Branch, National Center for Infectious Diseases. Since joining CDC in 2001, Jay has participated in a variety of foodborne outbreak investigations, including botulism in the Republic of Georgia and *Salmonella* spp. in the U.S. and Canada, conducted several large case-control study analyses to identify risk factors for contaminated food with *Salmonella* spp. and *Listeria monocytogenes* using FoodNet, a multi-state surveillance network in the U.S., and has worked with the Philippines Field Epidemiology Training Program to establish enhanced surveillance, antimicrobial resistance testing, and serotyping for *Salmonella* spp. infections. Jay has also assisted in developing and conducting a WHO Global *Salmonella* surveillance training course held in Bangkok in January 2002. Prior to joining CDC, Jay completed his medical residency training in internal medicine at the University of California - San Diego Medical Center (1997-2001), where he also served as Chief Medical Resident (2000-2001). He has published several essays on medicine and medical training, and has several scientific publications and numerous scientific presentations. Jay earned his MD degree from the University of California - San Diego School of Medicine in 1997, and he graduated with highest honors from Harvard College in 1993. He is board certified in the U.S. to practice internal medicine. Jay arrived in Thailand in July with his family.

CALENDAR OF EVENTS

September 10, 2003
TB Case Management and Contact Investigation
Anaheim, California
Francis J. Curry National TB Center
Contact: Training Coordinator
Tel: (415) 502-4600; fax: (415) 502-4620
E-mail: tbcenter@nationaltbcenter.edu
Web site for information:
www.nationaltbcenter.edu

September 15-17, 2003

Effective TB Interviewing and Contact Investigation

Newark, New Jersey

NJMS National TB Center

Contact: Anita Khilall

Tel: (973) 972-9102

Web site for information:

www.umdnj.edu/ntbcweb/et_frame.html

September 17-19, 2003

TB Vaccines for the World (TBV 2003) - First International Conference Montreal, CANADA

Web site for information:

http://www.meetingsmanagement.com/tbv_2003/index.htm

October 9 - 12, 2003

41st Meeting of IDSA

San Diego, California

Infectious Diseases Society of America

Web site for information:

<http://www.idsociety.org/>

October 15, 2003

Medical Management of TB in the Person Living with HIV

Location to be announced

NJMS National TB Center

Contact: Rajita Bhavaraju

Tel: (973) 972-4811

Web site for information:

www.umdnj.edu/ntbcweb/et_frame.html

October 29 - November 2, 2003

34th IUATLD World Conference on Lung Health

Paris, FRANCE

Web site for information: www.iuatld.org

November 4-7, 2003

TB Case Management and Contact Investigation

San Francisco, California

Francis J. Curry National TB Center

Contact: Training Coordinator

Tel: (415) 502-4600; fax: (415) 502-4620

E-mail: tbcenter@nationaltbcenter.edu

Web site for information:

www.nationaltbcenter.edu

November 6-7, 2003

NCET Postgraduate Course & Annual Meeting

Newark, New Jersey

NJMS National TB Center

Contact: John Seggerson

Tel: (770) 455-0801

Fax: (770) 455-4221

November 10, 2003

TB Update (US-Mexico binational focus) Metamoras, Tamaulipas, MEXICO

Francis J. Curry National TB Center

Contact: Training Coordinator

Tel: (415) 502-4600; fax: (415) 502-4620

E-mail: tbcenter@nationaltbcenter.edu

Web site for information:

www.nationaltbcenter.edu

November 12, 2003

TB Update (US-Mexico binational focus) El Paso, Texas

Francis J. Curry National TB Center

Contact: Training Coordinator

Tel: (415) 502-4600; fax: (415) 502-4620

E-mail: tbcenter@nationaltbcenter.edu

Web site for information:

www.nationaltbcenter.edu

November 13-14, 2003

First-Line Supervisor's Course Newark, New Jersey

NJMS National TB Center

Contact: Lauren Moschetta

Tel: (973) 972-1261

Web site for information:

www.umdnj.edu/ntbcweb/et_frame.html

November 15-19, 2003

APHA 131st Annual Meeting San Francisco, California

American Public Health Association

Theme: Behavior, Lifestyle, and Social Determinants of Health

Web site for information:

www.apha.org/meetings

December 8-9, 2003

Cohort Review Methodology: The Patient Review Approach New York, New York

Charles P. Felton National TB Center at
Harlem Hospital and the New York City
Department of Health and Mental Hygiene
Bureau of TB Control
Tel: (212) 939-8254
Fax: (212) 939-8259
The application form can be accessed at
[tbn303 Harlem-cohorts flyer.pdf](#)

December 9, 2003

TB Update (US-Mexico binational focus)

Tijuana, Baja California Norte, MEXICO

Francis J. Curry National TB Center
Contact: Training Coordinator
Tel: (415) 502-4600; fax: (415) 502-4620
E-mail: tbcenter@nationaltbcenter.edu
Web site for information:
www.nationaltbcenter.edu

December 10-11, 2003

TB Behavioral and Social Science

Research Forum

Atlanta, GA

CDC

For information, e-mail

TBBSForum@cdc.gov, or telephone Nick
DeLuca at (404) 639-8988 or Robin
Shrestha-Kuwahara at (404) 639-8314