DEPARTMENT OF HEALTH & HUMAN SERVICES Public Health Service

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

TB Notes
No. 1, 1999

Dear Colleague:

World TB Day was observed on March 24. This event was spotlighted on the CDC home page during the week of March 24 (March 22-26). If you have not seen the World TB Day Web site, you can access it from DTBE's home page at http://www.cdc.gov/nchstp/tb/, under What's New. The inaugural issue of the new NCHSTP newsletter, *News and Notes*, features World TB Day both on its cover and in a lead article. The World Health Organization (WHO) held a World TB Day press conference in Washington, DC, on March 23. I was in attendance to show our support of the worldwide effort to control, prevent, and eventually eliminate TB. WHO reported selected progress in TB control in some areas of the world, but worrisome and continued unmet needs in global TB control efforts.

The Division has received the last of the 1998 case reports from all reporting areas. Although the data have not yet been published, I am pleased to confirm what you already suspect: that for the sixth consecutive year, total reported TB cases in the United States have again decreased. Our country is an excellent model of the success that can be anticipated by the mobilization of targeted resources against TB. However, in spite of the impressive reductions we are seeing, we must remember that TB is still being reported in all 59 reporting areas. In addition, 43 of the 50 states have now reported persons with multidrug-resistant TB who are more difficult and costlier to cure.

The National TB Controllers Workshop was held this year on February 24 in Chicago, Illinois. This facilitated the participation of TB controllers, CDC field staff, DTBE staff, and others in the 4th annual meeting of the IUATLD, North American region, which was held in Chicago February 25-27. This IUATLD meeting focused on the scientific, social, and programmatic challenges posed by the overlap of HIV and TB. Additionally, Division field staff met for a half day on February 23. The Communications and Education Branch (CEB) of DTBE sponsored a special session on the evening of February 23. The session consisted of an informal display of and discussion about the latest training materials, courses, and training technology available from CDC, the Model TB Centers, and state and local TB programs. I understand it was well received. If you attended the session and have any comments or suggestions about what was helpful about the session and how future sessions might be enhanced, please contact Wanda Walton, Chief, CEB, at (404) 639-8504. Other sessions of the Workshop included a discussion of the FY 2000 TB Elimination and Laboratory Cooperative Agreement, which included information on writing applications, and a plenary session with updates on the National Health and Nutrition Examination Survey, the National Strategic Plan for TB Training and Education, and the National TB Communications

and Partnership Planning project. In another important session, we heard a presentation on the issues involved in the upcoming changes in the ATS recommendations on the treatment of latent TB infection. We also heard reports from several programs with innovative ideas and approaches to TB control challenges. On the evening of February 24, there was an informal discussion of TB research priorities, and on the morning of February 25 there was a business meeting of the National TB Controllers Association (NTCA). Overall the comments reflect that the Workshop was successful and useful to attendees.

On March 9, the first meeting was held of the Institute of Medicine (IOM) committee charged with evaluating the status of the TB elimination effort in the United States. At that meeting, CDC gave presentations on the epidemiology of TB in the United States, the structure of the U.S. TB control system, CDC's policies and recommendations regarding TB in foreign-born persons, and our global activities. Staff of the National Institutes of Health (NIH) presented data on NIH research efforts. Finally, USAID gave a presentation outlining their incipient activities in TB. The IOM review process will take approximately one year, and is expected to provide us with an in-depth, objective analysis of the status of TB elimination in our country. Their findings and recommendations will therefore be useful in guiding some of our future activities.

The Advisory Council for the Elimination of Tuberculosis (ACET) met in Atlanta March 10 and 11 at Corporate Square. ACET members heard presentations about and discussed several issues, trends, and concerns. An update was presented on the FY 2000 cooperative agreement process. There was a discussion of the plan to update the 1989 Strategic Plan for the Elimination of Tuberculosis from the United States, and a presentation on the IOM evaluation project. Updates were provided on several topics: the proposed ATS statement about the new recommendations for treatment of latent infection; the program management report revisions (please see Dr. John Jereb's update on the topic herein); and the revitalization of the National Coalition for the Elimination of Tuberculosis (NCET). There was a presentation on the TB epidemic in Russia, which has become quite serious; please see Dr. Nancy Binkin's article in this issue on the subject of CDC assistance to Russia. In addition, there was an update on the contact investigation studies being conducted by the Research and Evaluation Branch and by the Surveillance and Epidemiology Branch.

We have a wide array of reports and articles in this issue. I hope you will take a few moments to read about some of the efforts and accomplishments of your colleagues.

Kenneth G. Castro, M.D.

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TB Notes

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Atlanta, Georgia 30333

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

Number 1, 1999

HIGHLIGHTS FROM STATE AND LOCAL PROGRAMS

New York City's TB Program Receives Prestigious Honor

The New York City Department of Health (NYCDOH) Bureau of TB Control (BTBC) was named a finalist in the 1998 Innovations in American Government (IAG) competition. The IAG competition is an awards program of the Ford Foundation administered by the John F. Kennedy School of Government at Harvard University in partnership with the Council for Excellence in Government. Since 1986, the Foundation has honored governments at all levels for their creative and outstanding approaches to the many social problems and administrative challenges of government. The awards program has three important goals: to highlight models of innovative government in order to encourage replication; to recognize public managers; and to provide compelling and credible portraits of the many ways in which government contributes to public problem-solving and the quality of life.

The Bureau's specific program that won the honor was the Patient Review Approach (PRA). The PRA, or cohort review, is a systematic method for reviewing and discussing the history and outcome of each case of TB in NYC. During the Patient Review, each TB case is presented by case managers to approximately 50 colleagues, supervisors, and the Bureau Director in a formal meeting. The reviews occur quarterly in each of the Bureau's five regions. Instituted in 1993, the PRA establishes accountability of BTBC staff by assigning responsibility for monitoring each patient's completion of TB treatment. Through this proactive system, quarterly reviews are appropriately scheduled so that each patient has had enough time to complete the full course of therapy and to be considered cured. If a patient has not completed treatment by the time of the Patient Review, the reasons are discussed. Through these discussions, useful and practical information is exchanged providing valuable knowledge for those involved. Strategies and problems in case management and patient adherence are identified. At the end of each review, the proportion of patients who complete appropriate treatment is calculated along with other indicators and staff receive immediate feedback on progress toward meeting the goal of controlling TB.

The effect on Bureau staff has been impressive; staff morale has improved significantly. Changes are implemented quickly, and there is noticeable improvement in subsequent PRAs. The process of sharing their experiences and receiving acknowledgment for their work in a public forum has helped to foster a greater sense of teamwork and unity among the staff. Field staff presenting the information were initially uncomfortable

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making presentations before a large audience. However, through training and standardization of presentations, staff became more confident and are now proud to present their cases. Bureau director Dr. Paula Fujiwara recognizes each individual's effort and encourages teamwork when appropriate. In this way, she encourages the behaviors that achieve and maintain success.

The PRA can easily be replicated within other jurisdictions through integration into existing TB case management protocols. Although the use of computer programs designed to track all TB patients can greatly facilitate the process, this technology is not essential. Since receiving the Innovations award in October 1998, the Bureau has been contacted by other states and counties seeking information on implementing the Patient Review Approach for TB and for other health conditions such as asthma. For information on the PRA, contact Paula I. Fujiwara, Director, Bureau of Tuberculosis Control at (212) 788-4153.

—Reported by Ken Johnson
NYC Dept. of Health Bureau of TB Control

Overreporting of TB in California's AIDS Surveillance System

CDC first defined acquired immunodeficiency syndrome (AIDS) in 1982 by identifying opportunistic infections associated with the syndrome. [1,2] The CDC established extrapulmonary TB as an AIDS-defining condition in 1987 [3] and added pulmonary TB as an AIDS-defining condition in 1993. [4] TB is one of the few AIDS-defining conditions that is transmissible, preventable, and curable with proper treatment. As part of a CDC-funded project to better describe TB-AIDS patients, the Office of AIDS (OA) collected data on persons with AIDS and active TB diagnosed between 1991 and 1993. Using these data, we conducted a validation study of persons who were reported to the state AIDS Case Registry with AIDS and TB who did not match a known TB case. Our goal was to determine if these cases represented underreporting of TB cases to the TB registry or overreporting of TB in the AIDS surveillance system. This report summarizes the results of our investigation.

OA staff performed a computer match of all AIDS cases reported to the state AIDS Case Registry as of March 24, 1994 (n= 70,716) against verified TB cases counted by the state TB registry from January 1985 through December 1993 (n = 37,612). County AIDS surveillance staff verified all

possible matches for the study years 1991-1993. AIDS cases with a diagnosis of pulmonary or extrapulmonary TB not matching a counted TB case were termed "nonverified" cases and included in the validation study (n= 331). Cases were excluded if they resided in Los Angeles County (except for the cities of Long Beach and Pasadena) because Los Angeles received separate funding to conduct TB-AIDS investigations.

For each nonverified case included in the study, county AIDS surveillance staff attempted to correct the discrepancy between the AIDS and TB reporting systems. Subsequently, OA staff reviewed public health and medical records of the nonverified cases not validated by county staff, beginning with records in local TB control offices and proceeding to medical records in hospitals, clinics, physician offices, and correctional settings as needed. Eleven cases were subsequently excluded because they were duplicates of a matching case, were found to be a resident of Los Angeles County, or were found not to be a valid AIDS case. For the remaining 320 non-verified cases we classified the TB diagnosis as verified or not verified. For verified TB cases, we noted where and when the case was counted and why the patient had not matched in the computer match process. For cases in which TB was not verified, we identified if this was due to other culture results (other mycobacterial species), the patient not meeting the CDC clinical case definition for TB, data entry error, or other reasons. Additionally, we ascertained if the case would have met the AIDS case definition without the TB diagnosis.

Of the 320 nonverified cases, data remained incomplete on 7 (2%) cases. The diagnosis of TB was verified for 66 (21%) cases and not verified for 247 (77%) cases. Five of the verified cases were counted as TB cases in other states and three were diagnosed with TB and began treatment in other countries. Two cases with verified TB (culture positive) were not previously known to the state TB Registry and thus represent unreported cases of TB. The remaining 56 verified cases among California residents were not identified in the initial matching process because of differences in the matching variables (n = 31, 56%) or because the TB count date was outside the 1991-93 study period (n=23, 42%). For two cases we could not identify why they did not initially match.

Table 1 summarizes the 247 cases without verified TB. Most (n=94, 34%) invalid TB classifications were due to a positive screen for acid-fast bacillus, of which TB is a type, but final culture results identified other mycobacterial species. The next largest group of invalid TB cases (n=71, 29%) was due to the care provider documenting that TB was considered in the diagnostic work-up but was eventually ruled out. Twenty-six (11%) of the nonverified TB cases would not have met the AIDS cases definition without a TB diagnosis.

Only two (0.6%) of the 320 nonverified TB cases were true cases of TB that were reported to the state AIDS Case Registry but not to the state TB registry. Assuming the matching cases (n=819) plus the two additional cases identified by this study represent all TB-AIDS cases during the period 1991-1993, the completeness of the TB reporting system is 99.8% (819/821). This also assumes that the seven nonverified cases without complete data forms and the 17 in which extensive medical review did not turn up evidence of TB (Table 1) did not have verified TB. Studies examining AIDS case reporting have found reporting to be 60%-96% complete.[5-9]

Table 1. Reasons for erroneous reports of a TB diagnosis in the California AIDS Case Registry, 1991-1993

Reason	No.	%
Final culture identified other mycobacterial species[1]	84	34
M. tuberculosis determined to be contaminant	1	0
Patient anergic	2	1
TB infection only (Class 2)	29	12
TB not clinically active (Class 4)	6	2
TB considered as part of work-up but ruled out	71	29
Data entry error on AIDS case report	20	8
Other[2]	34	14
Total	247	100

1 *Mycobacterium avium/intracellulare* (MAI or MAC), *Mycobacterium kansasii*, or others

2 Includes: extensive review found no mention of TB in medical records (17); other microbial infections (4); and case name duplicates a verified TB case but is not same person (3).

This validation study also showed that TB diagnoses in the state AIDS Case Registry were overreported by approximately 30% ([819+247]/819) during the years 1991-93. Persons completing AIDS case reports should not report TB in AIDS cases until the local TB controller verifies the TB diagnosis and assigns a Report of a Verified Case of Tuberculosis (RVCT) number.

Complete and accurate reporting of TB to the state AIDS Case Registry requires that the person completing the AIDS case report know:

✓the site of TB (pulmonary or extrapulmonary)
✓the diagnostic classification (definitive or presumptive),
✓the date of TB diagnosis (month/year of first positive culture or therapy start date), and
✓the RVTC number for the TB case.

Table 2. Classification of TB cases (pulmonary and extrapulmonary) on the AIDS Case Report Form

Criteria for TB Dx	Criteria for AIDS Dx	
	Definitive	Presumptive
Pos. culture for *M. tuberculosis*	✓	
Pos. smear for acid-fast bacillus		✓
Clinical case definition only		✓
Physician diagnosis without other criteria		✓

Table 2 shows the correct classification of a TB diagnosis (definitive or presumptive) on the AIDS case report form. In general, cases with specimens confirmed with *M. tuberculosis* or TB complex are classified as definitively diagnosed; all other means of diagnosing TB would fall under presumptively diagnosed. We encourage AIDS surveillance staff and others who report AIDS cases to collaborate with local TB control staff in reporting TB completely, accurately, and in a timely manner. Such collaboration will assist public health personnel in preventing cases of TB.

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—Reported by Allyson Sage, RN, MPH and Susan Thomas
CA Dept. of Health Services, Office of AIDS

New York Task Force on Immigrant Health School Intervention Project

In May of 1995, the New York City Department of Health Bureau of TB Control implemented a TB screening and treatment of latent TB infection program, the Community Tuberculosis Prevention Program (CTPP), with the New York Task Force on Immigrant Health (NYTFIH). The primary goal of CTPP is to reduce the incidence of TB disease among New York City's immigrant population. In order to achieve this goal, the NYTFIH established subcontractual agreements with community-based organizations serving high-risk immigrant populations to conduct educational interventions and tuberculin skin testing (TST), make referrals to TB Chest Clinics, and start over 600 clients on isoniazid (INH) treatment for latent TB infection, with approximately 80% successfully completing treatment to date. A needs assessment performed by NYTFIH in high schools with large numbers of foreign-born students revealed that this population has a high number of students who have a positive skin test and are eligible for treatment of latent TB infection with INH. For those who had previously been prescribed INH there was a high drop-out rate within the first weeks of treatment. Most students indicated that the reason for their discontinuation is that they did not understand the significance of TB treatment of latent TB infection since they were not "sick."

Based on this information, the School Intervention Project (SIP) was implemented. NYTFIH and TB control staff approached the Newcomers High School, a school in Western Queens for newly arrived immigrant students, to implement a program for treatment of latent TB infection in September 1997. Newcomers High School is attended mainly by students who have recently arrived from South America (especially Ecuador and Peru), Mexico, China, and South Asian countries such as India and Pakistan. During its first year of program implementation, the SIP program exceeded stated goals and placed 110 students on INH treatment of latent TB infection, with over 90% successfully completing treatment. Since September 1998, an additional 54 students have enrolled in the Newcomers High School SIP program. The SIP was expanded in September 1998 to include another school, John Bowne High School in Flushing, Central Queens; 19 John Bowne HS students enrolled, for a total of 183 students enrolled since September 1997. Currently (as of January 1999), there are 99 students taking medications under the SIP; 73 have successfully completed therapy and 11 have discontinued therapy for various reasons.

These numbers, although impressive, do

not reveal why the SIP has proven to be such a success. The reasons are many, including support from NYTFIH and the Bureau of TB Control. But most significantly, it is due to the commitment of the NYTF outreach staff member, Ms. Thelma McNish, assigned to Newcomers High School. She has striven to establish positive relationships with school personnel, parents, and of course, the students. Those who have spent time at Newcomers and have had the opportunity to talk to students enrolled in SIP and to observe Ms. McNish have been impressed by her interactions with the students. Ms. McNish has gained the trust and respect of the TB-infected students. She nurtures them and cajoles them to comply with the required monthly medical follow-up and to complete treatment. Ms. McNish escorts students to the Corona Chest Clinic when she feels this is appropriate. She is bilingual (in Spanish and English) and speaks to concerned parents on a regular basis to explain why treatment of latent infection, and especially, completion of treatment, is so important.

Because Ms. McNish's participation has proven to be so critical to the success of the SIP, there has also been a Spanish- and English-speaking NYTFIH case worker assigned to John Bowne HS, with a Korean-speaking postgraduate student intern. Approximately 40% of the students of John Bowne HS are immigrants, mainly Korean, Indian, and South American. Most of these foreign-born students, however, are not recent immigrants, so there is a smaller pool of eligible students than at Newcomers HS. However, the care and commitment to guide the students through the medical evaluation process and initiation of therapy for latent infection and completion of therapy remain high.

Another reason for the success of SIP, with a structured program and personal intervention on behalf of students, is the incentive schedule that has been established. In lieu of tokens and Metrocards, or coupons for McDonald's and Kentucky Fried Chicken, for each month a student remains on INH and in the SIP program, the student is given two passes to a local movie theater. It is amazing how compliant students are when a "blockbuster" movie is released.

—Reported by Mary Ann Rubino
NYCity Dept. of Health Bureau of TB Control

Mississippi's TB Controller Lectures in China

Michael Holcombe, TB Controller for Mississippi, made a visit in November to mainland China, where he gave three presentations as part of the "Visiting Scholar Program." He gave two presentations on the topic "Mississippi's Approach to the Implementation of Directly Observed Therapy and Directly Observed Preventive Therapy," and one presentation on the topic "Tuberculosis Research and Diagnosis Using DNA Technology." The visit was arranged by the Anti-TB Institute of Sichuan Province in Chengdu at the request of Dr. Yang Qi, a former Program Director for the Institute. Mike presented to the TB physicians, nurses, and other staff of the Anti-TB Institute of Sichuan. During a visit to the United States earlier in the year, Dr. Yang was struck by the success of TB control efforts in Mississippi, and had suggested at that time that Mike travel to China and share his experience in TB control.

The Sichuan Province is home to 113 million people, approximately 10% of China's total population. The best estimate for the annual TB incidence in Sichuan Province is over 21,000 new cases per year, and in conversations with provincial TB staff Mike learned that roughly 50% of

the cases exhibit resistance to at least one drug, possibly owing to the ready availability of over-the-counter drugs for TB. One report that he reviewed stated that during 1992 to 1996, World Bank funding enabled the staff to obtain chest x-rays and sputum smears on 483,000 suspects, provide free therapy to 83,689 cases, and count 42,271 smear-positive cases as cured.

A number of challenges were identified, including the scheduled end to World Bank funding in the year 2000. The Chinese TB control staff have limited fiscal and material resources, and the quality of their medications is inconsistent. The already difficult situation is compounded by a lack of transportation to cover the large rural areas, an inadequate number of staff, and aging equipment for x-ray and laboratory services. The Chinese are responding to some of the challenges they face by developing a manual, currently in draft form, that outlines the rules and policies for the management of their TB program. Consultations such as this reiterate the need for international collaborations, and help us remember that TB is truly a global challenge that calls for global responses.

—Reported by Scott Jones
Division of TB Elimination

Update on the Aggregate Reports for TB Program Evaluation

In a project that began in January 1998, the Field Services Branch (FSB) has been developing new reports for measuring key program performance indicators. These reports have evolved from the old TB Program Management Reports Series.

National reporting for program evaluation began in 1961 with 20 pilot sites sending their case registration data to CDC in an aggregate format. More areas were recruited until essentially the entire United States was included, and other aggregate reports were introduced. A radically new direction was taken in 1985, the first year all of the reporting areas were using the Report of a Verified Case of Tuberculosis (RVCT) system—a comprehensive set of uniform, national, record-based TB data. The other program reports have remained in an aggregate format. The RVCT system has confirmed its versatility recently by absorbing the function of collecting data about completion of therapy for cases, via the RVCT Follow-up 2 form. For count-year 1994, the RVCT data superceded the aggregate reports when the rates for completion of therapy were published.

FSB anticipates that during 1999 the two remaining reports in the old series, Contact Follow-up (CDC 72.16) and Completion of Preventive Therapy (CDC 72.21), will be superceded by the two Aggregate Reports for Tuberculosis Program Evaluation: Follow-up and Treatment of Contacts to Tuberculosis Cases, and Targeted Testing and Treatment for Tuberculosis Infection. These reports feature a strong focus on the priority activities in contact investigations and targeted testing. In both reports, the completion of treatment for latent TB infection is the “bottom-line” result.

In an e-mail to all TB controllers in July 1998, the proposed reports were announced and made available to anyone who wanted to review them. In September drafts were sent to the 21 individuals who requested them. By November, formal reviews had been submitted by TB controllers in the California Department of Health Services, the New York Department of Health, the City of New York Department of Health, the New Jersey Department of Health and Senior Citizens, and the Oklahoma Department of Health.

In addition, FSB personnel went to Virginia,

Michigan, and the City of San Francisco to join TB controllers in on-site reviews and pilot tests of the new reports. The TB controller for Montana ran another pilot test and shared the results by telephone conference calls.

After input from a work group from the National TB Controllers Association in February 1999, the reports have been sent to the Federal Office of Management and Budget for a review of compliance with the National Paperwork Reduction Act. FSB intends to begin implementation of the reports in July 1999.

Although the new reports feature less stratification and a simpler data flow than the reports that they supercede, the new reports have stricter definitions and they include novel features, such as interfacing with the Tuberculosis Information Management System (TIMS). Therefore, FSB is committed to providing special training about how to complete the reports and how to interpret the results. Eight regional training workshops are being planned. Please contact Rita Varga at (404) 639-8125 for information about these workshops. For information about the reports themselves, please contact John Jereb at the same number.

—Reported by John Jereb, MD
Division of TB Elimination

COMMUNICATIONS AND EDUCATION BRANCH REPORTS

National TB Partnership Communication Strategy Implementation

One of DTBE's challenges is to motivate the media, opinion leaders, and those with influence over high-risk individuals to take new steps in the fight against TB in the United States. Specifically, there is a need to build increased awareness of the TB threat and a need to maintain a strong TB control infrastructure by supporting the research and development of new medications, vaccines, and diagnostic procedures; by enhancing awareness that TB is preventable, treatable, and curable; and by improving and strengthening TB services in communities across the country, particularly those with high numbers of cases and case rates.

In order to meet these needs, DTBE, in conjunction with the NCHSTP Office of Communications (OC), worked with a contractor to conduct a needs assessment to determine how state and local partners in TB prevention and control view perceived barriers to TB elimination and how to best overcome them. In addition, state and local TB control efforts in both the public and nongovernmental sectors were compiled, and data on organizational partnership development, current and proposed messages and channels, and communication initiatives and capabilities were collected.

Based on the information collected and analyzed, the NCHSTP OC is developing a national partnership strategy to build consensus among TB partners and expand the partnership base to include workers in the AIDS, homeless, prison, and substance abuse communities. To guide this strategy, OC will conduct exploratory message research with target audiences. This will involve the following: a series of meetings with traditional and nontraditional partners; the development of materials and messages relevant to nontraditional partners, including information packets, exhibits for national meetings, and matte articles for organizational newsletters; and satellite meetings at existing conferences.

—Reported by Rose Pray, MPH
Division of TB Elimination

Evaluation of the Implementation of the Essential Components of a TB Prevention and Control Program

In 1995, the CDC/DHHS Advisory Council for the Elimination of Tuberculosis (ACET) published and distributed *Essential Components of a Tuberculosis Prevention and Control Program*, *MMWR* 1995;44(No. RR-11):1-16, to provide a model for TB control programs and to describe the essential components of a successful TB control program necessary to achieve elimination of TB in the United States. At the current time, it is unknown how well TB control programs are doing in implementing the recommendations. This evaluation, to be conducted by the University of Alabama at Birmingham in 1999, will allow for the assessment of the current level of implementation of the TB program essential components by the 138 TB controllers, program managers, public health advisors, and nurse consultants with programmatic management responsibilities at the state, city, and regional (within a state) levels. Finally, it will provide an opportunity to determine why the essential components are or are not being fully implemented in TB programs, and thus, which interventions (e.g., training or elimination of barriers) are needed to increase implementation.

—Reported by Wanda Walton
Division of TB Elimination

CMEs and CNEs Available for *Morbidity and Mortality Weekly Report* on Prevention and Treatment of TB/HIV

As a new feature of the *Morbidity and Mortality Weekly Report* (*MMWR*) series, the Centers for Disease Control and Prevention (CDC) now sponsors continuing education opportunities for physicians and nurses in connection with selected *MMWR* Recommendations and Reports. Participants can earn 2.0 continuing medical education credits (CMEs) or 2.4 continuing nursing education credits (CNEs) for the *MMWR* "Prevention and treatment of tuberculosis among patients infected with human immunodeficiency virus: principles of therapy and revised recommendations," *MMWR* 1998; 47(No. RR-20). (A summary of this report is included later in this issue of *TB Notes)*. Participants must read the *MMWR* article and complete a short posttest exam. There is no fee for participating in this continuing education activity.

This *MMWR* article provides recommendations for the diagnosis, treatment, and prevention of TB among patients with HIV. These guidelines are based on recommendations made at a meeting of expert consultants convened to discuss these issues. These recommendations should guide clinical practice and policy development related to appropriate management of patients with or at risk for HIV-related TB. Upon completing this education activity, the reader should possess a clear working knowledge regarding this topic.

The continuing education component of the *MMWR* is available in a printed version or electronically on-line. To order a printed copy of the *MMWR* report, you may call the CDC Voice and Fax Information System (recording) toll-free at (888) 232-3228, then press 2, 5, 1, 2, 2, 2 (you may select these options at any time without listening to the complete message). When prompted, request the *MMWR* report "Prevention and treatment of TB among patients infected with human immunodeficiency virus: principles and revised recommendations," publication number 99-5879. A printed version can also be ordered from the DTBE on-line ordering system available on the DTBE Web site (http://www.cdc.gov/nchstp/tb/).

In addition, the *MMWR* report can be accessed on-line on the *MMWR* Web site (http://www2.cdc.gov/cep/cea.htm) or from the DTBE Web site (http://www.cdc.gov/nchstp/tb/) under "Publications/Products," "Major TB Guidelines."

CMEs: This activity has been planned and implemented by CDC in accordance with the Essentials and Standards of the Accreditation Council for Continuing Medical Education (ACCME). CDC is accredited by the ACCME to provide continuing medical education for physicians. CDC awards 2.0 hours of category 1 credit toward the AMA Physician's Recognition Award for this activity.

CNEs: CDC provides 2.4 contact hours for this activity. CDC is accredited as a provider of continuing education in nursing by the American Nurses Credentialing Center's (ANCC) Commission on Accreditation.

Please inform other physicians and nurses in your city and state of this continuing education opportunity.

—Reported by Nickolas DeLuca
Division of TB Elimination

TEACH Program
(Tuberculosis Education Aimed at Community Health)

In light of the increase in U.S. TB cases between 1985-1991, we felt that, besides the other treatment, control, and management measures already in place, TB education for physicians and physicians-in-training was important. We believed that, in our area, awareness about the importance of TB as a public health problem in the United States was limited among medical students and other allied health care workers, and that community-based education about TB in institutions and congregate settings such as nursing homes, long-term care facilities, and correctional centers could be improved. Collaborations between university/academic centers, the public health system, and community health care units also needed to be improved. With these goals in mind, we initiated an NIH-funded Tuberculosis Academic Award Program. A core curriculum, with teaching focused on TB, and innovative teaching models were developed. The TEACH program (Tuberculosis Education Aimed at Community Health) attempts to provide one such model of interactive medical education incorporating medical students and faculty at the university level and linking with community outreach education. The control of TB in the United States will entail increased awareness and education coupled with prevention and treatment strategies, and this program provides educational incentives both at the school and community level and forms a bridge to improve access to education and awareness of TB in the community.

The objectives of the TEACH program are geared towards student and faculty development and education, and results in increased educational and teaching avenues for the community where it is most needed. It results in the development of a model with educational products that are not only reproducible but applicable to other teaching venues.

Design and Method:

- Interested sophomore medical students were recruited through a letter/invitation sent out through the Dean, Student Affairs, and the Office of Community and Minority Health Education at Louisiana State University School of Medicine, New Orleans.
- A preliminary meeting was held to

explain the backgrounds goals and objectives of the program, and to delineate the commitment involved.

- A final list of students was drafted and the first teaching session organized.
- At this time, individual groups of student teams were formed and potential community venues identified. The venues selected in the first year of the program included:
  -Public housing project clinic
  -Homeless shelter clinic
  -Nursing home
  -Substance abuse center
  -High School summer science program
- Each medical student/faculty team was then assigned a community venue and with prior arrangement, a presentation and group discussion session titled "To Be Informed" was arranged. At the conclusion of each presentation, a question and answer period was held to address any myths and misconceptions held by the audience. The students, with the help of the accompanying faculty, responded to these questions and notes were taken.
- After all the community sites had been visited and presentations completed, a concluding workshop of the medical student teams/faculty was arranged to share and discuss experiences at each center. At this stage, all the questions and issues raised at these presentations were tabulated and appropriate responses discussed.
- A multilingual brochure/newsletter was then developed to be circulated to community physicians, health care organizations, and the general public.
- Evaluation tools based on precourse and postcourse questionnaires are being used to determine the efficacy of this program and assessments of outcome parameters are being developed.

This synopsis is part of a preliminary report submitted to peer review journals for comment.

—Submitted by Juzar Ali, MD, FRCP (C),
Associate Prefessor
Director, LSU/Wetmore TB Clinics
Louisiana State University Medical Center

UPDATES FROM THE RESEARCH AND EVALUATION BRANCH

Prevention and Treatment of Tuberculosis Among Patients Infected with Human Immunodeficiency Virus: Principles of Therapy and Revised Recommendations-Summary

The following is a reprint of the Summary of MMWR 1998; 47(No. RR-20).

These guidelines update previous CDC recommendations for the diagnosis, treatment, and prevention of TB among adults and children coinfected with human immunodeficiency virus (HIV) in the United States. The most notable changes in these guidelines reflect both the findings of clinical trials that evaluated new drug regimens for treating and preventing TB in HIV-infected persons and recent advances in the use of antiretroviral therapy. In September 1997, when CDC convened a meeting of expert consultants to discuss current information about HIV-related TB, special emphasis was given to issues related to coadministration of TB therapy and antiretroviral therapy and how to translate this information into management guidelines. Thus, these guidelines are based on the following scientific principles:

- Early diagnosis and effective treatment of TB among HIV-infected patients are critical for curing TB, minimizing the negative effects of TB on the course of HIV, and interrupting the transmission of *M. tuberculosis* to other persons in the community.
- All HIV-infected persons at risk for infection with *M. tuberculosis* must be

carefully evaluated and, if indicated, administered therapy to prevent the progression of latent infection to active TB disease and avoid the complications associated with HIV-related TB.

- All HIV-infected patients undergoing treatment for TB should be evaluated for antiretroviral therapy, because most patients with HIV-related TB are candidates for concurrent administration of anti-TB and antiretroviral drug therapies. However, the use of rifampin with protease inhibitors or nonnucleoside reverse transcriptase inhibitors is contraindicated.

Ideally, the management of TB in HIV-infected patients taking antiretroviral drugs requires a) directly observed therapy, b) availability of experienced and coordinated TB/HIV care givers, and in most situations, c) use of a TB treatment regimen that includes rifabutin instead of rifampin. Because alternatives to the use of rifampin for anti-TB treatment are now available, the previously recommended practice of stopping protease inhibitor therapy to allow the use of rifampin for TB treatment is no longer recommended for patients with HIV-related TB. The use of rifabutin-containing anti-TB regimens should always include an assessment of the patient's response to treatment to decide the appropriate duration of therapy (i.e., 6 months or 9 months). Physicians and patients also should be aware that paradoxical reactions might occur during the course of TB treatment when antiretroviral therapy restores immune function. Adding to CDC's current recommendations for administering isoniazid preventive therapy to HIV-infected persons with positive tuberculin skin tests and to HIV-infected persons who were exposed to patients with infectious TB, this report also describes in detail the use of new short-course (i.e., 2 months) multidrug regimens (e.g., a rifamycin, such as rifampin or rifabutin, combined with pyrazinamide) to prevent TB in persons with HIV infection. A continuing education component for U.S. physicians and nurses is included.

UPDATES FROM THE SURVEILLANCE AND EPIDEMIOLOGY BRANCH

Tuberculosis and Air Travel: Guidelines for Prevention and Control

The ease and ready availability of air travel, the large number of persons traveling yearly (over 1.3 billion passengers in 1996 reported by the International Civil Aviation Organization), and international movement of immigrants and refugees, all serve to increase the possibility that passengers and crew on commercial jet aircraft may be exposed to persons with infectious TB.

Because of concern that the closed aircraft cabin might be an environment conducive to transmission of *M. tuberculosis*, the Surveillance and Epidemiology Branch (SEB), DTBE, and state and local health departments conducted seven investigations examining possible transmission of *M. tuberculosis* aboard commercial jet aircraft. These investigations involved one flight attendant and six passengers with active TB, over 2,600 potentially exposed passengers and crew, and a total of 191 different flights.

In all seven investigations, the persons with TB were considered highly infectious. Despite the clinical findings of the TB cases, only two of the seven investigations found evidence to suggest transmission of *M. tuberculosis* infection: one suggested transmission from the flight attendant with active TB to other crew members with whom she worked, and one suggested

transmission from a passenger with active TB to other passengers. Additionally, evidence of transmission from the flight attendant to other crew members was only found for those with 12 or more hours of exposure while working with the flight attendant with TB. Evidence of transmission from passenger to passenger was only found for a few passengers who were seated in close proximity to the passenger with active TB and only on one flight more than 8 hours' duration. No secondary cases of active TB were identified in any of the investigations.

As a result of these investigations, there was a great deal of interest in developing internationally accepted guidelines advising how to deal with potential exposure to TB on commercial jet aircraft. SEB assumed the lead in developing WHO guidelines that apply to all domestic and international airline carriers throughout the world. This was a cooperative project involving SEB, DTBE, the Global Tuberculosis Program of WHO, representatives of airline companies, and international TB experts. The guidelines provide airline companies, health authorities throughout the world, general practitioners, and airline passengers with 1) a description of the problem of TB transmission on commercial aircraft, 2) a review of the practices adopted in the past for the management of patients with infectious TB and history of air travel, 3) highlights of the difficulties most commonly encountered in such cases, and 4) guidance on procedures to follow when a case of infectious TB with a history of air travel is diagnosed.

The guidelines recommend that persons known to have infectious TB refrain from travel until they are not infectious. If it is discovered that a person has flown while infectious with pulmonary TB, the guidelines recommend informing other passengers and crew on the plane if the flight was over 8 hours' duration and the flight occurred within the past 3 months. Whenever possible, only those passengers seated in the same area of the plane as the person with TB should be informed of their exposure and advised to see their physician for tuberculin screening. These guidelines were published in December 1998 (Valway SE, Watson JM, Bisgard JC, Scudeller L, Espinal M, Raviglione MC. *Tuberculosis and Air Travel: Guidelines for Prevention and Control.* WHO/TB/98.256, Geneva, 1998) and are also available on the internet at the following site: http://www.who.int/gtb/publications/index

—Reported by Sarah Valway, DMD, MPH
Division of TB Elimination

National Health and Nutrition Examination Survey

For the first time since 1971, the National Health and Nutrition Examination Survey (NHANES) will include tuberculin skin testing as one of the procedures in the survey. NHANES consists of interviews and physical examinations conducted by the National Center for Health Statistics (NCHS) among civilian noninstitutionalized Americans from a sample of households. Over the next 6 years, 35,000 persons will be TB skin tested. In 1998 the major planning for the TB component was completed: the Surveillance and Epidemiology Branch, DTBE, developed the protocol and the TB questionnaire, which were approved by the CDC Internal Review Board (IRB) and Office of Management and Budget (OMB). A request to use unlicensed antigens, PPD-S1 and PPD-B, which will help distinguish between infection with *M. tuberculosis* and nontuberculous mycobacteria, was submitted to the Food and Drug Administration (FDA) and an investigational new drug (IND) status was granted. SEB also developed a training manual and

conducted training for survey personnel who will place and read the skin tests. The nationwide survey will begin in 1999. These data on the prevalence of infection with *M. tuberculosis* in the United States by geographic and demographic group will be used to plan strategies for the elimination of TB and to target prevention programs.

—Reported by Diane Bennett, MD
Division of TB Elimination

The National Tuberculosis Genotyping and Surveillance Network

The National Tuberculosis Genotyping and Surveillance Network (Network) was established in 1996 as a collaborative project between DTBE and the Division of AIDS, STD, and TB Laboratory Research (DASTLR). Seven regional genotyping laboratories and seven sentinel surveillance sites have been funded for 5 years by a competitive cooperative agreement process. The regional genotyping laboratories include the Public Health Research Institute in NYC, the University of Alabama at Birmingham, the Texas Center for Infectious Diseases in San Antonio, the McClellan Veterans Administration Medical Center in Little Rock, and public health laboratories in New York, Michigan and California. Sentinel surveillance sites include the states of Massachusetts, New Jersey, Maryland, Arkansas, Michigan, four counties in Texas and seven counties in California. Culture-positive tuberculosis cases reported in these areas starting in 1996 constitute sentinel cases.

The national DNA fingerprint database contains one representative example of each different DNA fingerprint pattern from sentinel cases. DNA fingerprint patterns are based on a standardized IS6110 RFLP method. As of January, 1999, this database contained 3,435 different patterns.

Epidemiologic information for each sentinel case is collected at CDC from all sites. As of January 1999, the national epidemiologic database included 7,100 sentinel cases, a 16% sample of culture-positive cases in the United States. DNA fingerprint analysis has been achieved for 5,523 (78%) of these cases. Information collected concerning each case includes the connections identified among sentinel cases from routine contact investigations.

DNA fingerprint cluster analysis reveals that among 3,825 cases from 1996-1997, 51% had isolates with unique DNA fingerprint patterns and 49% (1,858) had isolates with fingerprint patterns that clustered with one or more other isolates forming 356 clusters. IS6110 patterns with greater than five restriction fragments, or bands, are considered to best differentiate all *M. tuberculosis* strains: the number of clusters based on DNA fingerprint patterns with greater than five bands was 296 or 83%, with 2 to 41 cases per cluster. There were 60, or 17% of clusters based on patterns with less than or equal to five bands, with 2 to 177 cases per cluster.

For all patterns, 756, or 40% of cases were in clusters confined to one state, and 1,102, or 60% of cases were in clusters which spanned multiple states. For cases in interstate clusters based on fingerprint patterns with more than five bands, an epidemiologic relationship to other cases in the same state and cluster was found for only 9% of cases in routine contact investigations.

In total, routine contact investigation identified 248 cases epidemiologically related to one or more other cases, forming 138 source and secondary case pairs. DNA fingerprint analysis of isolates from source and secondary case pairs revealed that 43 (31%) of pairs had isolates with

different DNA fingerprint patterns.

Population-based *M. tuberculosis* DNA fingerprinting has identified many case clusters within and among project states. Routine contact investigations do not identify epidemiologic relationships among the vast majority of clustered cases, indicating potentially extensive TB transmission among people and places unknown to local public authorities. The information from routine contact investigations concerning TB transmission among cases is often inaccurate. By January 1999, standardized interview and record review based investigation of clustered sentinel cases will be conducted by all sentinel surveillance sites. Results of intensive cluster investigations will be collected at CDC for inclusion in the project epidemiologic database, centering on the relationships and settings of transmission among clustered cases. The results of these intensive cluster investigations will be compared to the results of routine contact investigations to determine the potential value of DNA fingerprint analysis in TB control.

The Network has included a study of laboratory cross-contamination of *M. tuberculosis* cultures. This is a prospective study with two components: a clinical laboratory–based component which surveys all specimens submitted for AFB testing to clinical laboratories involved in this project, and a population-based component which surveys for TB cases within the project state wrongly diagnosed with TB owing to false-positive cultures. This activity is funded for the years 1998 and 1999 by CDC via a separate competitive cooperative agreement process limited to Network participants. The Department of Health laboratories in California and Arkansas are conducting the laboratory-based component and the departments of health in Arkansas, Massachusetts, and New Jersey are conducting the population-based component.

—Reported by Chris Braden, MD
Division of TB Elimination

Surveillance for TB Infection in Health Care Workers

In FY1995 and FY1996, DTBE funded state and local health departments in nine areas (Colorado, Florida, Massachusetts, Mississippi, New Jersey, Oregon, and the cities of New York, San Diego and San Francisco) to conduct surveillance for tuberculin skin test (TST) conversion among employees who have potential for exposure to *M. tuberculosis*. The purposes of the projects are to 1) implement TST programs consistent with CDC guidelines in health departments and health care facilities, 2) track and monitor TST data and TB infections among health care workers (HCWs), and 3) pilot a microcomputer software system developed by CDC to assist in the collection, tracking, management, and analysis of occupational TB exposures and infections. In September 1998, the project was expanded in existing project areas to enroll a larger number of laboratory HCWs in an attempt to better define the risk for TST conversion among employees working in mycobacteriology and nonmycobacteriology laboratories.

From May 1995 through June 1998, 25,659 HCWs were enrolled in the TST demonstration project. Of these, 13,597 (53%) HCWs who were TST-negative at baseline and had at least two follow-up TSTs were included in the analysis. Among the 13,597 HCWs, 112 TST conversions were identified for a crude conversion rate of 0.8%. Health care workers who were Asian or black were almost three times more likely to convert

their TSTs compared to whites, and foreign-born health care workers were two times more likely to convert than US-born health care workers. Univariate analysis revealed that the occupation most strongly associated with TST conversion was "outreach worker"; however, when adjusted by all potential confounders, the association diminished. Additionally, data on 1,386 HCWs enrolled in the TST programs received two-step testing. The booster phenomenon was seen in 3.3% (39/1169) of US-born health care workers compared to 15.4% (32/208) of foreign-born health care workers (birthplace was unknown for 9). Health care workers exhibiting boosting were more likely to be Asian, male, BCG-vaccinated, and employed as an outreach worker, compared to health care workers who did not exhibit boosting. These data suggest that foreign birthplace, Asian race, BCG vaccination, and certain occupations may be associated with the likelihood of exhibiting the booster phenomenon.

These results support CDC's recommendation of two-step tuberculin skin testing among new employees enrolled in TST programs. A prospective cohort study has been proposed to assess risk factors for TST conversion among outreach workers, especially risk associated with household and community exposure to infectious TB patients.

Studies have been conducted on the use of infection control measures in hospitals caring for TB patients. However, there are no data on infection control programs in TB clinics. In February 1999, the National TB Controllers Association sent a questionnaire to all state and big city TB controllers to attempt to document the use of CDC recommended infection control practices in the largest public TB clinic in each area. The survey asks about administrative measure to reduce exposure to infectious TB patients, respirator use, tuberculin testing programs for staff, environmental controls, and use of infection control on field visits by outreach workers. Data from the survey will be used to encourage TB clinics to examine and improve programs to decrease the risk of transmission of *M. tuberculosis* to TB program staff.

—Reported by Yvette Davis, VMD, MPH
Division of TB Elimination

INTERNATIONAL ACTIVITIES

Technical Assistance to Russia

TB in Russia is increasing at an alarming rate, as are rates of drug resistance. Factors contributing to the increase include an inability to financially support the previous infrastructure for TB diagnosis and treatment, the unavailability of quality drugs, high levels of TB transmission in prison settings, and hesitancy to adopt the directly observed therapy, short-course (DOTS) strategy as employed in the United States and recommended by the World Health Organization. At the request of USAID Moscow, CDC and USAID will collaborate on the institution of basic DOTS programs for two oblasts (territorial administrative divisions) that have indicated a willingness to begin the DOTS strategy. CDC will also implement DOTS-plus (the WHO strategy for the management of MDR TB in low-resource settings) in a third oblast where the DOTS program has already been successfully implemented. Activities planned include the assignment of CDC public health advisors on 3-month temporary tours of duty to assist in the implementation of the DOTS and DOTS-plus strategies; establishment of a computer-based TB surveillance system; conduct of a course on MDR TB management, which will be attended by others from the former Soviet Union who

have successfully implemented DOTS and have obtained funding for DOTS-plus; and epidemiologic studies of risk factors for the development of MDR TB in the Russian setting so that appropriate measures can be taken to reduce new cases.

—Reported by Nancy Binkin, MD
Division of TB Elimination

BOTUSA Project in Botswana

In 1995, CDC was invited into Botswana at the request of its Ministry of Health (MOH). Botswana is a country with high HIV prevalence and TB case rates. Approximately 25% of its adult population and 75% of its TB patients are HIV infected. Through a memorandum of understanding between CDC and the Botswana MOH, CDC implemented and now maintains in Botswana a TB/HIV research project called BOTUSA.

During 1998, the site had its first formal evaluation by a joint CDC/WHO/MOH team, which concluded that the site is making important contributions to the global understanding of TB/HIV and has integrated well with the host government. The site is collaborating with WHO and other countries on several projects, including involvement of the community in the care of patients with TB and advanced AIDS, provision of TB treatment of latent TB infection to persons living with HIV, and improvement of TB surveillance through the use of a software tool initially developed by BOTUSA and recently adopted by WHO for global application. Through a collaboration with the U.S. Food and Drug Administration, BOTUSA and DTBE have raised global awareness about the potential for substandard TB drugs in the market through the pilot-testing of appropriate technology for the rapid screening of drugs.

Specific research projects completed in 1998 included a spectrum of lung disease study in adults hospitalized with AIDS, an autopsy study to determine causes of death in adults and children dying of AIDS, a validation study of the TB surveillance system, a study of risk factors for TB transmission in the household, and a study of transmission at the population level through the use of restriction fragment length polymorphism (RFLP) techniques. Another study underway is assessing the malabsorption of TB drugs in patients with TB and HIV, as well as conducting long-term follow-up of these treated patients to determine risk factors for relapse, reinfection, and death.

Collaboration with the Division of HIV/AIDS Prevention (DHAP) began in 1998 with ongoing technical assistance regarding HIV testing and counselling in support of the prevention of maternal to child transmission of HIV. Botswana is among the first countries to adopt the CDC Bangkok AZT regimen which it plans to implement in 1999. BOTUSA also serves as an important training site for EIS officers, U.S. medical students, and public health students from University of California-Berkeley.

—Reported by Thomas Kenyon, MD
Division of TB Elimination

Model Program in Vietnam Training and Conduct of Operations Research in TB Designed to Improve Patient Outcome and Program Effectiveness

Although an effective strategy has been developed for the diagnosis and management of TB in developing countries that results in over 90% cure among those treated, few countries have effective programs in place. In late 1997, CDC established a model training program in operations research that has been

fieldtested in Vietnam. CDC conducted a 2-week course in TB operations research for members of the Vietnamese national TB program. As a result of this project, participants have developed six protocols on operational topics such as risk factors for treatment failure and for default, reasons for patient delay in seeking initial TB treament, and knowledge, attitudes, and beliefs about HIV and HIV counselling and testing among TB patients. Each group has been provided with a CDC mentor and funding to conduct the research, and projects are now underway.

—Reported by Nancy Binkin, MD
Division of TB Elimination

TRAINING AND EDUCATIONAL MATERIALS

Model TB Center Activities

Evaluations Show Educational Programs Are On Target

At times, the solutions to our problems are right in front of us. The New Jersey Medical School National Tuberculosis Center uses the views of those who experience the day-to-day challenges of TB control to identify barriers to TB elimination. Evaluation of existing educational interventions by those key players in local TB control programs is a simple yet necessary step to problem solving.

We analyzed 309 written evaluations from a variety of TB educational programs in 1997. Respondents were asked to indicate *needed* TB-related subject material. It is important to note that these respondents consisted of all levels of TB control program personnel on a nationwide basis. These individuals included case managers, physicians, nurses, program managers, outreach workers, and health officers. From the responses, 105 proposals were given for future education. We found that responses from those at the “grassroots” level reflect consistency with concerns that researchers and policymakers have identified in various large-scale studies. These areas include public policy, comorbidity, case management, diagnosis, treatment and adherence, contact investigation, funding, unique consumer needs, workplace TB, and others.

Research and policy development are important in the reduction of disease prevalence. It is reassuring to know that the same perspectives are shared by the researchers and by those who actually implement the research.

—Submitted by Rajita Bhavaraju, MPH, CHES, and Debra J. Kantor, PhD
NJ Medical School National TB Center

Civil Surgeon Training Materials

Annually, nearly 500,000 foreign-born persons already living in the United States apply for adjustment of their status to become permanent residents. They must undergo a physical examination conducted by licensed physicians known as civil surgeons who follow specific CDC-developed guidelines. A study was recently conducted to gain a better understanding of current civil surgeon practices. Based on the results of this study, and in collaboration with the Charles P. Felton and Francis J. Curry National TB Centers and the CDC divisions of TB Elimination and Quarantine, the New Jersey Medical School National TB Center is taking the lead in developing printed self-study materials for civil surgeons. These materials will improve the civil surgeon’s ability to screen applicants for TB infection and disease as well as make appropriate and timely referrals to health departments for follow-up. All information will be

provided in one user-friendly, easily referenced document dedicated to TB screening and diagnosis. As an incentive to civil surgeons to review the educational materials, the NJMS National TB Center will offer continuing medical education (CME) credits.

—Reported by Debra J. Kantor, PhD
NJ Medical School National TB Center

Panel Physician Training Materials

Annually over 400,000 immigrants are screened overseas prior to entering the United States. While applying for immigration, they are examined by panel physicians who are contracted by U.S. embassies and consulates around the world. The DTBE has initiated a project to ensure that the panel physicians are knowledgeable about the TB screening and classification procedures for immigration according to CDC's revised Technical Instructions for Medical Examination of Aliens, and to enhance their skill in diagnosis of TB disease and their ability to monitor performance of laboratory and radiological services. Working with the Francis J. Curry and New Jersey Medical School National TB Centers, and an advisory board with representatives from the CDC divisions of TB Elimination and Quarantine, the Charles P. Felton National TB Center at Harlem Hospital will produce a series of self-study modules for the panel physicians. The package will also include slides, a glossary of TB/HIV terms in four languages, and patient education materials. The Center will also design an overall training plan for these physicians, focusing on countries with high prevalence of TB **and** large numbers of persons immigrating to the United States.

—Reported by Bill Bower
Charles P. Felton National TB Center
at Harlem Hospital

New Guidelines for Effective TB Control Practices

The Institutional Consultation Services (ICS) of the Francis J. Curry National TB Center (CNTC) has developed four new guidelines for establishing effective TB control practices. To obtain an order form for these guidelines, please call CNTC at (415) 502-4600 or visit the Web site: www.nationaltbcenter.edu

Printed Guidelines

Conducting Sputum Induction Safely addresses the administrative, engineering, and respiratory protection controls that should be used by facility staff when performing sputum induction procedures. The guide includes step-by-step sputum induction procedures, sample forms, questionnaires, worksheets, and signs.

Isolation Rooms: Design, Assessment, and Upgrade provides basic information to health-care facility staff about negative-pressure isolation rooms. Topics include an introduction to engineering controls against *M. tuberculosis* transmission; designing a new isolation room; assessing and upgrading an existing isolation room; and converting a patient room into an isolation room. The guide also includes highlights of other published guidelines and regulations for isolation rooms.

Interactive Guidelines - available June 1999

Available as templates on computer disks, the interactive guidelines are designed to be customized by each facility. Each computer disk is accompanied by a binder and hard copy of the guide. Use of this template requires a PC or Macintosh computer with Windows™-based Microsoft Word™ or Corel WordPerfect™ installed.

Tuberculosis Exposure Control Plan: Template for the Clinic Setting can be modified by the user to create a customized TB exposure control plan that meets a facility's specific needs. The guide features

sample forms, worksheets, and "cover your cough" signs.

Policy and Procedures for Tuberculosis Screening of Health-Care Workers can be modified by the user to create a customized TB screening policy and procedure for health-care workers. The guide includes: a thorough explanation of the components of a TB screening program; the materials needed to develop facility-specific policies; step-by-step screening program procedures; detailed flowcharts; and examples of TB screening questionnaires.

Other Resources Developed by ICS

A Guideline for Establishing Effective Practices: Identifying Persons with Infectious TB in the Emergency Department is targeted to emergency department managers, and infection control and employee health personnel. The guide describes how to decrease the risk of *M. tuberculosis* transmission in the emergency department, take appropriate action after a TB suspect is identified, and implement TB triage practices. Included are easy-to-use worksheets, checklists, and "cover your cough" signs.

How You Can Assess Engineering Controls for TB in Your Healthcare Facility: You Don't Need a Weatherman to Know Which Way the Wind Blows is a 25-minute VHS video and viewer's guide introducing basic techniques for evaluating TB engineering controls in the health-care setting. The video is organized in a chapter format covering 10 topics, including isolation rooms, sputum induction, and waiting rooms. The viewer's guide contains the main points from the video, engineering control recommendations, and forms and tables that can be put to immediate use in your facility.

—Submitted by Cathy Miller
Francis J. Curry National TB Center

Brown Bag Opera - New Address

The last issue of *TB Notes* (No. 3, 1998), contained an article entitled, “Brown Bag Opera’s TB Video,” summarized as follows:

> *TB or Not TB*, a funny, touching, and dynamic drama on the history, treatment, and prevention of TB, is now on video. It can reach people in clinics, hospitals, and schools, and is very effective for those with low reading skills. An easy-to-read TB education booklet, complete with cartoon characters, is included and may be copied...Each video, booklet included, is $35 complete. Please make checks payable to Brown Bag Opera.

Brown Bag Opera now has a new address. Please send your orders and checks to

Brown Bag Opera
PO Box 600589
Newtonville, MA 02460-0006
Tel: (617) 859-8287
Fax: (617) 424-1430

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PERSONNEL NOTES

Sharlene Broadnax has accepted a position as a Program Assistant in the Research and Evaluation Branch, taking the position previously held by Debbie Hocieniec. She will be working with the entire branch and will be supervised by Margaret Jackson. Sharlene came to CDC from the Environmental Protection Agency (EPA). She has 17 years of government service; 12 of these were with EPA, where she worked with 13 attorneys as a legal technician. She was an active member of Women in Science & Engineering (WISE), the Secretarial Advisory Council, and the Black Employment Program Advisory Council (BEPAC).

Ken Bupp retired effective January 1, 1999, after 30 years of service to the U.S. Government (4 years of military service and 26 years with CDC). Ken spent the last 22 years with DTBE, making valuable contributions to the TB programs of state and big city health departments, his last assignment being in Columbus, Ohio. Joining the CDC in 1972, Ken began his career in the STD program, initially being assigned to work in Greenville, South Carolina, then going to Black Mountain, North Carolina, in 1974. Ken joined the Division of TB Control (now Elimination) in 1976 and was assigned to the Baltimore City Health Department. Ken also worked in New York City and Madison, Wisconsin, before moving to his assignment at the Ohio Department of Health in Columbus. We in the Division appreciate the excellent contributions he has made in our effort to eliminate TB.

Dan Burrows left the division in January to take a position in the Public Health Practice Program Office (PHPPO). Dan was a Health Education Specialist in the Communications and Education Branch (CEB), where he had responsibility for a

number of projects, including organizing and overseeing the 1998 TB Program Managers Course; coordinating the production of the supplemental self-study modules on TB; and serving as the contact point for the DTBE portion of the 1998 NCHSTP program review document. Prior to his assignment in CEB, he had served as a Public Health Representative with New York State's Bureau of TB Control. Besides the valuable experience and perspective he brought to DTBE from his experience "in the field" with a state health department, Dan was liked and appreciated for his affable, never-met-a-stranger personality and ability to work well with any and all types of people. We miss Dan and wish him the best of luck!

Nick DeLuca, an Association of Schools of Public Health (ASPH) Fellow in the Communications and Education Branch, has received the Carl W. Tyler, Jr., Award for Excellence in Public Health Practice. The award, sponsored by CDC and the ASPH, was established in honor of Carl W. Tyler, Jr., MD, at the time of his retirement from outstanding and dedicated public health service. The award recognizes achievement and commitment toward elevating the scholarship of public health practice for students and practitioners, as exemplified by Dr. Tyler. For 1999, the nomination and selection of candidates was open to the current second-year ASPH Public Health System fellows who have demonstrated excellence in public health practice. This award was given to Nick on January 28, 1999, at the Omni Hotel during the CDC Partnering Meeting. Congratulations, Nick!

Heather Duncan was selected for the vacant senior public health advisor position in the Florida Department of Health. Heather's career as a public health advisor began with the STD program in Long Beach, California, in 1991. In 1993 she joined the DTBE with an assignment to the New York City TB Control Program. Ms. Duncan's assignment in NYC provided her with a broad understanding of public health issues, and she gained a vast amount of knowledge about the organizational structure of clinical services and programmatic concepts in public health. In NYC she served as primary liaison for activities between clinical services and the planning and evaluation unit, the epidemiology and surveillance unit, the training and education unit, and outreach services. During her assignment in NYC she was selected for a 3-month TDY in Atlanta to assist with the TIMS project. In 1997 Heather was assigned to the Chicago Department of Public Health TB program were she was a special projects coordinator. In Chicago she worked with the supervising PHNs and provided consultation and technical assistance for program operations including staffing, high-risk screening for TB, data analysis, and data systems support. She also assisted in the supervision of junior public health advisors. Heather started her new assignment in Tallahassee, Florida, on January 17, 1999.

Lisa Favors, who has worked in the division since 1993, has accepted a reassignment and promotion to a position outside DTBE. Prior to the position she held for the past 2 years in DTBE, in which she reviewed and processed travel and procurement documents, Lisa was Dr. Ken Castro's secretary for 4 years. Effective February 1, Lisa began working in the administrative office of the National Center for HIV, STD, and TB Prevention, overseeing the unit that processes field reassignments and rewriting the NCHSTP policy manual on personnel transfers. Congratulations on this new challenge, Lisa!

Alstead (Al) Forbes has been selected for the assistant TIMS project manager

position. In February 1993, Al began working with CDC as a public health advisor assigned to the New York City Bureau of TB. He began working in the interviewing and contact investigation units in Brooklyn. Upon his first promotion, Al worked in the DOT unit. Upon his second promotion he served as a lead public health advisor for the return to service unit. In April 1997, Al was transferred to his current assignment with the New Jersey TB program. In this assignment he has worked with the field staff, compiled program management reports and assisted the senior public health advisor. Al began his assignment in Atlanta on January 17, 1999. Al's field assignments will serve him well in this new position. Congratulations Al!

Theresa Goss accepted a position in the Surveillance and Epidemiology Branch (SEB) as a secretary. Teresa came to SEB from the Immigration and Naturalization Service (INS) where she worked as a secretary for 5 years. She started work in November.

Sylvia Ivill has accepted a promotion to the position of Visual Information Specialist in the Communications and Educations Branch, effective December 20. Congratulations, Sylvia, for this well-deserved recognition!

Katherine Koski has been selected for the vacant assistant public health advisor position in the Florida Department of Health. Kathryn joined the DTBE field staff in 1997 with an assignment to the Los Angeles TB Control Program. In her assignment in LA she had a wide range of responsibilities including the management of the TB registry, oversight of the laboratory surveillance and mobile chest x-ray units, and the management of the incentive and enabler program. Kathryn also gained experience in grant preparation of the state budget, preparation of Program Management Reports, and as liaison to the Los Angeles HIV Prevention Planning Council. She had the lead for coordinating the county-wide implementation of DTBE study on TB contact investigations. Prior to joining the DTBE, Kathryn was a supervisory PHA with the Division of STD Prevention in Los Angeles and Miami, Florida, where she gained experience in public health delivery with public, private, and nonprofit organizations. Kathryn is a recent graduate with honors from Emory University's Graduate Certificate Program, class of 1998. Kathryn started her new assignment in Tallahassee, Florida, on January 3, 1999.

Jocelyn McLaughlin was selected for the PHA position in Hauppauge, Long Island. She will serve as an assistant to the NYS regional TB program supervisor and will be generally responsible for providing TB consultation and technical assistance to local health care providers in the Long Island area, and will be involved in a variety of special TB projects. Jocelyn began her career with CDC in July 1993 as a Division of Sexually Transmitted Disease Prevention (DSTDP) Public Health Associate I, assigned to the Chicago Health Department. There she developed her skills in interviewing and investigating syphilis reactors and conducting pretest and posttest counseling of positive HIV patients. Ms. McLaughlin also gained experience in consulting with clinicians, administrators, and others in public, private, and nonprofit health agencies on CDC guidelines on the treatment of patients with sexually transmitted diseases. In July 1994 she was promoted to Public Health Associate II. After spending 2 years in Chicago, Ms. McLaughlin was reassigned to the Philadelphia STD program. She learned to use community-based resources to assist her in motivating patients to respond to planned treatment options. Ms. McLaughlin was involved in a number of

lead and special assignments, including an improvement group committee, which provided suggestions and recommendations for improving clinic services, patient care, and patient education. Ms. McLaughlin has provided numerous presentations to schools, churches, community-based organizations, and colleges, including a 2-hour presentation to the graduating class of the St. Joseph University masters in epidemiology program. Jocelyn started her new assignment on December 7, 1998.

Gabe Palumbo was selected for the vacant senior public health advisor position in the Hawaii TB Control Program. Gabe joined the DTBE field staff in February 1993 with an assignment to the New York City TB Program. Gabe's assignment to the initial evaluation unit in NYC provided him with a broad understanding of public health and knowledge about programmatic issues and clinical services. His experiences in NYC encompassed surveillance activities at local hospitals and clinics, case management, working with drug and alcohol rehabilitation programs, and housing facilities. Gabe was reassigned in January 1996 to the New York State TB Control Program with responsibilities for both Nassau and Suffolk counties. Gabe was assigned in October 1997 to Wisconsin, where he provided consultation and technical advice on state-wide TB program development and assistance to local jurisdictions. Gabe relocated from Wisconsin to Hawaii on January 31, 1999.

Melinda Salmon, senior public health advisor for the Philadelphia TB control program, has accepted a position with the Health Communication Branch of the Division of Diabetes Translation of CDC. In her new position, Melinda will spend part of her time as a project officer for the branch, while the remainder of her time will be devoted to the development of public health communications. Melinda joined DTBE in December 1993 as DTBE's field assignee in Philadelphia. Congratulations on your new position, Melinda!

Roger Schilling, Division of TB Elimination program consultant, has retired after 32 years of service with CDC. Roger had been a consultant with the Field Services Branch since 1995, serving as the representative, advocate, and technical assistant for over a dozen states. In 1966, Roger started his public health career with CDC as a public health advisor in Detroit, Michigan, assigned to the STD program. His assignments took him to Detroit and Flint, Michigan, then back to Detroit in 1970 when he joined the TB Division. He also had assignments in Cuyahoga Falls, Ohio; Washington, DC; New Orleans, Louisiana; and Rome, Georgia over the course of his 29 years as a field assignee. From these many journeys in assisting local health programs, he brought a wealth of public health program management knowledge and experience that contributed to his outstanding role as a program consultant. Roger has long been recognized by his constituents and fellow consultants as a highly dependable, resourceful, helpful, and respected friend and colleague. Roger was constantly sought by staff in DTBE for his counsel on public health issues, especially by his fellow consultants. As a program consultant, Roger has been recognized by the staff in his project areas for his guidance and assistance involving all aspects of program activities. The project directors in his areas have praised Roger for his valuable leadership. He will be missed by all of us here at DTBE and by his colleagues in the field. We would all like to congratulate Roger on his retirement, thank him for sharing his time with all of us over the past 32 years, and wish him happy trails and enjoyment with his children and grandchildren and travels with his wife Karen.

Louella Simonetti has joined the staff of the Computer and Statistics Branch (CSB) as branch secretary. She joined CSB on February 16, 1999. She transferred to CDC from Gulfport, MS, where she was employed by the U.S. Navy. Her background has involved experience with a variety of computer software applications, hardware repairs, internet usage, and administrative support. Currently Louella is attending Georgia State University where she was accepted into the Law program. She is presently taking a course in creating web sites, and hopes to design, create, and market her own web sites.

Rita Varga has been selected for the position of Training and Career Development Coordinator for the Field Services Branch (FSB). Rita's main duties will be to coordinate, track, and facilitate field staff training and career development. She will also be responsible for additional activities, including coordinating the Field Staff Work Group and coordinating and evaluating the minifellowship program. Ms. Varga joined the DTBE field staff in June 1994 as the training manager in the Division's public health associate program in New York City. From June 1992 until her transfer to the TB program, she was a training coordinator in the Los Angeles STD program. In her New York City assignment, she provided expert management and oversight of the training of public health advisors including city and federal staff. As training needs changed in New York City, she responded by taking on new and additional responsibilities. For several months, she was the acting director of the Education and Training Unit, Bureau of Tuberculosis Control, New York City Department of Health. Ms. Varga has a strong training and education background, having served as a high school science teacher prior to joining CDC in 1986. She is currently enrolled in CDC's Graduate Certificate Program at Emory University's Rollins School of Public Health, where she is concentrating in the health education track. Rita reported to Atlanta on February 15, 1999.

Wanda Walton was selected for the position of Chief, Communications and Education Branch in the Division of TB Elimination. Wanda came to CDC in August 1989, where she has worked as a health education specialist. Over the last several years she has played an essential role in the Division's development of print-based, electronic-based, and distance-based educational materials. Additionally, last August 1998, Wanda completed the course work and comprehensive exams towards a PhD, majoring in health education and health promotion at the School of Public Health, University of Alabama at Birmingham. Congratulations, Wanda!

Maureen Wilce joined DTBE on November 23,1998, as a behavioral scientist in the Prevention Effectiveness Section of the Research and Evaluation Branch. Maureen worked for the last 5 years as a research specialist with Macro International and previously had served for 5 years as a Project Leader for the Office of Evaluation and Inspections, Office of Inspector General, Department of Health and Human Services. At Macro, Maureen conducted evaluation research and provided technical assistance for health and human services programs addressing issues such as services coordination, children’s mental health services, automated information systems, child care, cancer prevention, and immunization. For the Office of Inspector General, she worked on over a dozen other projects examining the effectiveness and efficiency of Departmental programs. Her work focused on issues such as access to health care for underserved populations, rural and frontier health care, services integration, child support, foster care,

services for the homeless, use of paraprofessionals in health care, home health care, services for people with mental retardation, consumer satisfaction with health care, and managed care. Maureen is a graduate of Georgia State University, from which she received an MS in Urban Studies.

CALENDAR OF EVENTS

May 3-4, 1999
TB Intensive Course
Newark, New Jersey
NJ Medical School National TB Center
Rajita Bhavaraju
Tel: (973) 972-4811

June 7, 1999
TB and the Law Course
Newark, New Jersey
NJ Medical School National TB Center
Rajita Bhavaraju
Tel: (973) 972-4811

June 9-10, 1999
Meeting of the Advisory Council for the Elimination of TB
Atlanta, Georgia
CDC
Tel: (404) 639-8158

June 11, 1999
TB Radiology Seminar
San Francisco, California
Training Coordinator
Francis J. Curry National TB Center
Tel: (415) 502-4600

June 15-18, 1999
TB Case Management and Contact Investigation Course
San Francisco, California
Training Coordinator
Francis J. Curry National TB Center
Tel: (415) 502-4600

July 12-16, 1999
TB Program Manager's Course
San Francisco, California
Training Coordinator
Francis J. Curry National TB Center
Tel: (415) 502-4600

September 13-14, 1999
31st Bi-Annual Education Conference
Redondo Beach, CA
California TB Controllers Association
Lynda Wagner
Tel: (510) 883-6077

September 15-18, 1999
30th World Conference of the International Union Against TB and Lung Disease
Madrid, Spain
Tel: 93-487-51-06
Fax: 93-488-21-54
E-mail: bcm@filnet.es

September 22, 1999
TB Skin Testing Workshop
San Francisco, California
Training Coordinator
Francis J. Curry National TB Center
Tel: (415) 502-4600

October 6-7, 1999
Meeting of the Advisory Council for the Elimination of TB
Atlanta, Georgia
CDC
Tel: (404) 639-8158

October 18-22, 1999
Postgraduate Course on Clinical Management and Control of TB
Denver, Colorado
National Jewish Medical and Research Center
Catheryne J. Queen
Tel: (303) 398-1700
Fax: (303) 398-1806