DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL AND PREVENTION
National Center for HIV/AIDS, Viral Hepatitis, STD and TB Prevention
Division of Tuberculosis Elimination

Advisory Council for the Elimination of Tuberculosis
March 6-7, 2012
Atlanta, Georgia

Record of the Proceedings

Table of Contents

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Minutes of the Meeting

The Department of Health and Human Services (HHS) Centers for Disease Control and Prevention (CDC), National Center for HIV/AIDS, Viral Hepatitis, STD and TB Prevention (NCHHSTP) Division of TB Elimination (DTBE) convened a meeting of the Advisory Council for the Elimination of Tuberculosis (ACET) on March 6 and 7, 2012, in Building 8 of CDC's Corporate Square Campus, Conference Room A/B/C, in Atlanta, Georgia.

Call to Order, Welcome, and Roll Call: March 6, 2010

Hazel Dean, ScD, MPH
Deputy Director, NCHHSTP
Centers for Disease Control and Prevention
ACET Designated Federal Official

At 8:42 a.m. on Tuesday, March 6, 2012, Dr. Dean conducted a roll call of ACET voting members, *ex officio* members, and liaison representatives who were present in person and via telephone. She verified that there was a quorum of ACET voting members and *ex officio* members.

Dr. Dean welcomed the meeting participants, reminding them that ACET meetings are open to the public, and that all comments made during the proceedings are a matter of public record. Further, she reminded ACET members to be mindful of potential conflicts of interest identified by the CDC Committee Management Office (CMO) and to refrain from voting or participating in discussions on issues that represent conflicts of interest.

Dr. Dean recognized ACET members who are scheduled to rotate off of the committee as of June 30, 2012: Dr. Iram Bakhtawar and Dr. Christine Hahn. Dr. Dean welcomed new ACET liaison and *ex officio* representatives: Dr. John Bernardo from Stop TB USA; Dr. Catherine Torres from the Association of State and Territorial Health Officials (ASTHO), and Lt. Cmdr. Tiffany Moore, RN, US Marshals Service (USMS). She also welcomed Dr. Jon Warkentin from the National Tuberculosis Controllers Association (NCTA) and Ms. Linda Danko from the Department of Veterans Affairs (VA). Letters have been sent to the Indian Health Service (IHS), the Office of Minority Health (OMH), and the Association of Professionals in Infectious Control and Epidemiology (APIC) to identify new representatives to serve on ACET.

Shannon Jones III
Acting Director of Public Health and Community Services,
City of Austin / Travis County
Texas Health and Human Services Department
ACET Chair

Mr. Jones added his welcome and asked that meeting participants introduce themselves. The list of participants in person and via telephone is appended to the minutes as Attachment 1.

National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention Program Progress Reports

NCHHSTP Director's Update

Hazel Dean, ScD, MPH
Deputy Director, NCHHSTP
Centers for Disease Control and Prevention
ACET Designated Federal Official

Dr. Dean presented the NCHHSTP Director's Update on behalf of Dr. Kevin Fenton, who sent his regrets for being unable to attend the ACET meeting.

The appropriation for domestic HIV, Viral Hepatitis, Sexually Transmitted Disease (STD), and tuberculosis (TB) prevention for fiscal year (FY) 2012 was approved and is essentially level to FY 2011, save for a $10 million increase for viral hepatitis prevention through the Prevention and Public Health Fund. CDC's overall funding in FY 2012 was level.

The President's proposed FY 2013 budget for CDC is $222 million less than FY 2012. NCHHSTP's proposed FY 2013 budget is $36 million above FY 2012. HIV Prevention and National Programs are proposed to receive a $30 million increase, and HIV School Health is proposed to receive an additional $10 million, restoring it to its FY 2011 level. In the center's proposed budget, Viral Hepatitis will receive an additional $10 million over FY 2012. In the President's budget, TB is reduced by $5 million. Domestic HIV/AIDS prevention is proposed to have a $40 million increase in its budget.

Dr. Dean noted that CDC recently launched a new iPad app, which offers access to CDC health articles, popular journals, health news updates, blogs, and podcasts. It includes social media tabs and is available at no cost. More information can be found at the following website: http://www.cdc.gov/mobile/Applications/CDCGeneral/promos/ipad_promo.html.

Dr. Dean shared the organizational chart for NCHHSTP with ACET, noting that Dr. Edwin W. Ades has been converted from Acting Associate Director for Laboratory Science to the permanent position of Director.

CDC recently released new data security and confidentiality guidelines. The guidelines establish minimum standards to ensure appropriate collection, storage, sharing, and use of data across NCHHSTP's surveillance and program areas. These guidelines replace the current guidelines for HIV surveillance programs and establish standards for viral hepatitis, STD, and

TB programs. The guidelines can be found at: http://www.cdc.gov/nchhstp/programintegration/docs/PCSIDataSecurityGuidelines.pdf.

NCHHSTP recently launched its new internet-based atlas, which will increase the public's access to the center's data across its programs. The atlas provides interactive maps, graphs, tables, and figures showing geographic patterns and time trends of HIV, AIDS, Chlamydia, gonorrhea, and primary and secondary surveillance data. TB and viral hepatitis data will be included later in 2012. The atlas is located at: http://www.cdc.gov/nchhstp/atlas/.

NCHHSTP recently redesigned its web site to highlight social media, improve access to overarching strategic priorities, create a more dynamic and clean visual experience, and ensure flexible format for future growth. Dr. Dean encouraged ACET to view the updates at http://www.cdc.gov/nchhstp/.

Upcoming events for NCHHSTP include the 2012 TB Awareness Walk on March 24 at Grant Park in Atlanta, Georgia; the 2012 National STD Prevention Conference in Minneapolis, Minnesota on March 12-15; the launch of the Act Against AIDS Campaign, *Take Charge. Take the Test*, aimed at increasing testing among African American women; and the AIDS 2012 International AIDS Conference in Washington, DC on July 22-27.

Regarding the decreases in several CDC programs, Dr. Ken Castro clarified that TB has experienced an annual reduction of approximately 5% or less for a few years.

ACET recognized rationales for restoring HIV and School Health and augmenting viral hepatitis. There was discussion regarding the increase for HIV prevention funding and the decrease in the TB funding. Dr. Dean clarified that the budget for 2013 is only being proposed and is based on the President's priorities.

The recent move of part of the Division of Adolescent and School Health (DASH) to NCHHSTP will not require a name change for the center, given that the work of DASH within NCHHSTP focuses on STDs and HIV.

Some ACET liaison representatives observed that the decrease in TB funding could serve as a call to better inform policymakers about the value of TB infrastructure and programs, and the need to increase the budget.

DBTE Director's Report

RADM Kenneth Castro, MD
Assistant Surgeon General, US Public Health Service
Director, Division of Tuberculosis Elimination/NCHHSTP
Centers for Disease Control and Prevention

Dr. Castro described the efforts of a DBTE team that is working to investigate a rapidly-growing genotype cluster in "Jurisdiction A." This large outbreak with on-going transmission resulted in the highest TB Genotyping Information Management System (TB GIMS) alert level ever assigned. In January 2010, 42 genotype-matched cases and 17 additional possible cases were linked. The initial cluster was associated with persons housed in a mental health facility, and the neighboring homeless community has been affected. Over 90 genotypically-matched cases have now been identified. The more recent cases have a history of homelessness or

incarceration. Epi-Aid began on February 15, 2012, and on-site support is expected to end March 13, 2012; however, it is likely that longer-term support will be needed. This experience serves as a reminder that each outbreak is a setback in meeting the national objective of TB elimination.

Working with state and local health departments and CDC and academic partners, DTBE has developed an Outbreak Detection Work Group. This group includes representatives from low-, medium-, and high-incidence jurisdictions. The group has developed a consensus document entitled "Best Practices for Genotyping-Based Tuberculosis Outbreak Detection." The goal of the document is to promote better use of genotyping for early warning and to allow for early intervention. In 2012, the group will develop standard definitions for "epidemiologic link," "outbreak," and "transmission cluster." They will coordinate and share data for priority research topics, including evaluating the impact of genotyping for early warning and early intervention.

The division has been conducting training and education activities. The "TB 101 for Healthcare Workers" online course was posted on January 5, 2012, and has had more than 1300 participants. Evaluations from the participants have been positive. The 2012 TB Education and Training Network conference will be held September 18-20, 2012 in Atlanta, Georgia in conjunction with the TB Program Effectiveness Network (TB PEN). Many of these meetings are being convened every other year, in response to a directive from CDC and HHS.

TB GIMS is a secure online genotyping database that is now available to state and local TB programs. It generates automated alerts for concerning genotype clusters. This system is aligned with the goal to use technology to improve programmatic performance and activities.

Dr. Castro offered the following selected progress updates on the division's clinical research activities:

- Tuberculosis Trials Consortium (TBTC) Study 29X, Phase 2 high-dose daily rifapentine, is 25% enrolled.
- TBTC Study 33 has Institutional Review Board (IRB) approval at CDC. This study is an evaluation of self-administered therapy (SAT) versus directly observed therapy (DOT) of a 12-dose 3HP regimen used for treatment of latent TB infection (LTBI).
- The TBTC Scientific Retreat was held in Atlanta, Georgia on February 13-15, 2012. Priorities were defined during this retreat.
- TBTC Study 26, an evaluation of the efficacy of a 12-dose regimen of 3HP was published in *The New England Journal of Medicine (NEJM)*, and guidelines on the use of 3HP for treatment of LTBI were published concurrently in the *Morbidity and Mortality Weekly Report (MMWR)*.

Other recent publications address the following topics:

- Multiple cytokines are released when whole blood from patients with culture-confirmed TB is stimulated with Mycobacterium tuberculosis (Mtb) antigens;
- The discordance among commercially available diagnostics for LTBI;
- An evaluation of the use of genotyping and geospatial scanning to estimate recent TB transmission; and
- Predictors of failure in timely TB treatment completion.

Dr. Castro reminded ACET that World TB Day is commemorated on March 24, 2012. Leading up to that date, CDC and other partners are utilizing the Global Stop TB Partnership slogan and theme, "Stop TB in My Lifetime," and "Call for a World Free of TB." On March 20, 2012, there will be a Congressional briefing and the announcement of a TB Congressional Caucus. Dr.

Castro has been invited to attend with a number of other representatives and stakeholders. A Senate briefing will occur on March 21, 2012. CDC's observance of World TB Day will take place on March 22, 2012 in collaboration with the Division of Global HIV/AIDS. Video streaming will be available for partners outside Atlanta. The March 23, 2012 issue of the *MMWR* will include a box to describe World TB Day and two articles on tuberculosis, including an epidemiology update that shows a 5% decrease in the rate of TB infection.

Discussion Points

ACET hoped that multidrug-resistant tuberculosis (MDR-TB) and extensively drug-resistant tuberculosis (XDR-TB) would be mentioned at the Congressional briefings in March 2012. It should be emphasized that most of the new data coming from South Africa and China indicate that the spread of drug-resistant strains is occurring as a result of person-to-person spread, with no history of prior treatment. This observation has implications for the US and for other countries.

Dr. Castro indicated that Dr. Mario Raviglione of the World Health Organization (WHO) will share information about global TB at the Congressional briefings. He will highlight areas in need of attention, especially MDR-TB. WHO is also drawing attention to HIV-associated TB and the neglected problem of pediatric TB.

ACET requested that the priorities established by the clinical trials group be shared. A number of recent clinical trials have used Interferon-Gamma (IFN-g) as well as interferon-alpha (IFN-a). Most seem to have a positive patient outcome, but there not have been additional trials with larger numbers of patients in some time.

Dr. Castro said that some studies have examined the potential role of immunomodulating therapy as adjunctive to TB treatment. The studies indicated that the therapy adds value for patients with MDR-TB.

A staff member from DTBE commented that during the TBTC Scientific Retreat, considerable discussion focused on the various trials that TBTC might undertake. The top priorities focused on Phase 3 trials for shortening treatment of LTBI and treatment of TB disease. Other areas included more Phase 2 work with combinations of drugs, but manufacturers have concerns about combining drugs; MDR-TB; and additional sub-studies of rifabutin pharmacokinetics in pediatrics and other special populations. These areas are at risk, given budget decreases.

ACET discussed the "TB 101" online course. DTBE clarified that data on non-completion of the course was available. "TB 101" serves as an introduction to TB. It takes about an hour to complete, and its target audience is entry-level health workers. The course has been marketed through the TB Education Training Network, an e-newsletter and via an article in *TB Notes*. Additionally, an online core curriculum is in development. This interactive course will target physicians, nurse practitioners, and any clinician working in diagnosis and treatment of TB. Correctional settings, particularly small, local jails that house a variety of inmates and detainees, could benefit from "TB 101." Local hospital emergency rooms that see the correctional population for initial evaluation for TB are also good audiences for the courses.

ACET commented on one of DTBE's published articles, which concluded that 1 in 4 TB cases may be attributed to recent transmission. Public health has a role in interrupting TB transmission, especially in the context of recent outbreaks and the reduction in the TB budget.

Dr. Castro provided updates on the outcome of forecasting model trends, which show that to arrive at TB elimination, defined as 1 case per million population incidence, it will be important to address latently-infected US-born individuals, most of whom have remote infection rather than recent infection. This updated report is consistent with *NEJM* papers from the 1990s in the setting of HIV-associated TB, which found that one-third were the result of recent transmissions. As HIV-associated TB has decreased over time in the US, probably due to improvements in TB control and the extensive use of antiretroviral therapy (ART), the proportion of recent transmissions has been reduced.

In response to an ACET liaison representative's encouragement that DTBE make information available to legislators to help them understand the history of the "roller-coaster effect" of TB, Dr. Castro agreed that TB is important, but he reminded ACET that they serve as time-limited federal employees. He assured ACET that part of his responsibility is to share with Congress what he knows about the current state of TB in the US. Their external partners can engage in advocacy. He concurred that the situation is paradoxical, with a loss of proficiency and expertise as cases decline, so there is a limited ability to respond to growing clusters and outbreaks, particularly as local health departments are facing reductions.

There was discussion of the problem of recent transmission in US-born cases. There are different approaches for TB control in the local, US-born population versus the foreign-born population. The phenomenon of a growing proportion of US-born cases resulting from recent transmission could be the inevitable result of having lower prevalence rates of LTBI in the population. Recent cases in schools or other settings that are not necessarily associated with hard-to-reach populations should be communicated.

Dr. Castro has struggled with the future of TB control in the US, because with diminishing resources, it is not possible to have a program in every jurisdiction. However, TB control is ultimately local, so local health partners must have capacity. Decision-makers need to be educated on this idea.

In response to a question from ACET regarding whether the largest percentage of TB patients are hard to reach in both US-born and foreign-born populations, Dr. Castro answered that outbreaks are almost exclusively in the US-born. Few clusters and growth are detected in the foreign-born. It is not unusual to find foreign-born persons in homeless environments. They will continue to monitor, and the "spillover effect" of TB rates in the foreign-born due to transmission from the US-born is possible, although genotyping efforts do not indicate that this is the case.

Division of Global Migration and Quarantine (DGMQ) Update

DGMQ Activities Update

Drew Posey, MD, MPH
Team Leader, Medical Assessment and Policy
Immigrant, Refugee, and Migrant Health Branch
Division of Global Migration and Quarantine
Centers for Disease Control and Prevention

Dr. Posey explained the current paper-based process for routing medical information on immigrants and refugees. First, a panel physician completes a medical examination overseas and submits paper Department of State (DoS) forms, which are known as DS forms. Next,

Consular Sections at embassies issue Immigrant Visas (IV). At the port of entry, the immigrant's or refugee's immigration packet includes the DS forms. Customs and Border Protection (CBP) admits the applicants into the US. CBP officials and CDC Quarantine Station (QS) personnel send the DS forms for all applicants who have a classification for disease of public health significance to the Electronic Disease Notification (EDN) Data Entry Center (DEC). Manual data entry occurs at the DEC, and the information is transmitted electronically to receiving health departments that conduct a post-arrival evaluation on the applicants. A large proportion of refugees have a single provider, and there is an electronic system in place to enter that information into EDN.

The EDN system has experienced "growing pains" and delays. DTBE has been helpful in providing assistance to overcome the challenges. During FY 2011, notifications were received for more than 91,000 arrivals. The average time between applicants' arrival to the US to transmission of the notification was 5 days for all groups. This time span is a significant improvement over FY 2010, when the time frame was 11-13 days.

The Department of State is developing the Consular Electronic Application Center (CEAC), an online system for IV application and issuance. The Nonimmigrant Visa (NIV) and Diversity Visa (DV) programs are already fully electronic, except for the medical examination. Applicants for the NIV are not required to have medical examinations, but applicants for DV must complete a medical examination. The medical examination module is one part of the larger CEAC system.

When CEAC is fully implemented, there will be no paper files for immigration. Ideally, the medical provider will enter medical examination information into CEAC. That information will be transmitted electronically to the Consular Section, which will issue the IV. Next, the medical examination information will be transmitted to EDN. When the applicant arrives, he will interact with CBP at the port of entry. CBP information about the arrival will be transmitted to EDN. When the EDN receives the medical information from the port of entry, it will be sent electronically to receiving health departments. If the process works properly and seamlessly, the health departments will receive information even more quickly than 5 days.

There are many benefits associated with using a fully electronic system. Modern technology will be more efficient. There are opportunities to increase data quality and for more timely transmission to health departments. The platform could also allow for future flexibility and scalability. The system could be cost-saving for CDC, DoS, and others.

The DoS plans a pilot of CEAC in Montreal in April 2012. It will be used at the Montreal panel physician site, which examines approximately 2000 applicants per year. CEAC will be live for electronic transfer between the panel physicians and the Consular Section. CBP officers will have access to the DoS database and will be able to see the electronic record at the port of entry. Unfortunately, CEAC will not be live for electronic transfers to EDN during this pilot.

Applicants bring chest x-rays to the US and to their follow-up examinations, but CEAC does not have a functionality for digital representation of that x-ray to be uploaded into the system. Further, CEAC does not include the capability to upload scanned documents into the medical record. In the pilot, paper versions of the DS forms will not be completed; instead, a CEAC online version of the form will be printed, and the applicant will carry hard copies of the online form to the port of entry.

Dr. Posey pointed out differences between the current DS form and the CEAC online form. He expressed concern that the forms look different and because information is entered in a different

order on the CEAC form than it is entered on the DS form. The CEAC printout will only include items that are answered. For instance, if an applicant does not need to answer questions, then they will not be printed. If an answer to a question is "no," that question will not be printed.

CDC has noted a number of challenges associated with CEAC. The development of an online system like CEAC is important and will be extremely helpful. CDC has been engaged with DoS on such a system since 2009, but that engagement has not resulted in collaboration on the development of CEAC. CDC regulatory mandates and responsibilities are not factored into the development and implementation of CEAC. Unfortunately, there has been limited contact between information technology (IT) staff at CDC and DoS. CDC was not informed about the Montreal pilot plans until less than 2 months before the pilot is scheduled to take place.

CDC is concerned about CEAC for a number of reasons. If the system were fully functional and had the capacity to transmit chest radiographs and scanned documents that are important for the medical record, then it would be a powerful tool. CDC is concerned that with a different printout and different order of information, there could be confusion among CBP officers, particularly as they share the information with QS personnel so that it can be transmitted to EDN. When someone is diagnosed with TB, health departments need and use more information than is included on the DS forms, such as their DOT record; any additional drug susceptibility testing results; screening and reports regarding mental health diseases and harmful behavior; and more. Without the ability to scan and upload this information, CDC is concerned that the information may not be transmitted to the health departments.

Without electronic linkages, the potential of EDN will not be fully realized. There is potential for adverse impact on the current process. Issues with confusion will likely result in declines in speed of data entry and quality of data entry; delays in notification of arrivals that will undo the improvements that have been made in notification times; and confusion and problems at receiving health departments that are facing new information on new forms and the potential loss of ancillary information.

With that, Dr. Posey sought ACET's input and advice regarding challenges that CDC and the US tuberculosis community will face as a result of the current plans for CEAC. Further, he hoped for advice and input regarding how to broaden stakeholder input to DoS. Despite multiple on-going efforts on the part of CDC, DoS does not seem to understand the ramifications of their decisions.

Discussion Points

ACET commented on a number of issues associated with CEAC:

- There are high rates of active TB among immigrants and refugees. The larger the radiographic abnormalities, the higher incidence of progression to TB disease.
- Uploading documents is a challenge, but it is critical to include x-ray pictures in the EDN system so that receiving health departments can prioritize the immigrants and refugees, especially when they do not come to the health department.
- Any move to electronically-transmitted radiographs should incorporate a standardized format. Many local health departments may not have view boxes and may have trouble viewing the x-rays thoroughly.
- The CEAC pilot process should include other ports of entry that are more likely to receive refugees. State and local health departments that actually see refugees at their

clinics and sites should be actively involved in the pilots so there is ample opportunity for feedback and comment.

- ACET expressed concerns that the CEAC forms do not print questions that are not answered, or that are answered "no." Clinical personnel can find "no" answers to be very helpful. Further, information about drug sensitivities is important to include.
- TB, particularly MDR-TB and XDR-TB, in immigration settings presents a potentially disastrous national security issue.
- If the CEAC pilot includes feedback from TB controllers, it may be possible to report to high levels of HHS and DoS that the system will not work, is not acceptable, and should be rebuilt. For the last 10 years, CDC has worked very hard to create standards for communication within the public health community, and these standards should be communicated to DoS through high levels at HHS.
- The CEAC process, as currently outlined, could not only create gaps in communication, but could set back the mission of TB elimination as refugees "fall through the cracks" in local communities.
- There was discussion regarding whether a cost evaluation would be conducted as part of the CEAC pilot. With the inability to retrieve pertinent information through CEAC, it is possible that redundancies will be created and it will become more expensive to care for refugee patients.

In response to a question from ACET regarding the levels at which communication with DoS had occurred, and the perceived barriers, Dr. Posey explained that DGMQ has been very aggressive at reaching out to programs at DoS. One of their biggest challenges has been determining who within DoS has responsibility for which aspect of CEAC. DGMQ has established a rapport with contacts at DoS on a number of issues over the years, but this project has been expansive across multiple divisions within DoS. The program resides at the high level of the Assistant Secretary of State. DoS has a mandate and mission regarding immigration. They are moving toward electronic systems, but CDC has been unsuccessful in being able to convey public health considerations at an adequate level to be integrated into the development and implementation of CEAC.

Dr. Robert Benjamin, a liaison representative to ACET from the National Association of County and City Health Officials (NACCHO), observed that CEAC is immigration-focused as opposed to health-focused. He further noted that overseas chest x-rays are needed so that local health departments can compare them to current x-rays. He hoped that ACET would formulate a resolution pertaining to these concerns.

Dr. Castro said that within its mandate, ACET could communicate to the Secretary of HHS. The Office of Global Health Affairs could be an appropriate group to engage with DoS at an interagency level.

ACET can reach out to the Science Advisor to the Secretary of State. Another communication avenue could be the American Association for the Advancement of Science (AAAS) fellows. The US-México Border Health Commission has added an Office of Global Affairs in the office of HHS. They have a liaison with DoS, who could present an avenue for communication.

Special Populations

African American Workgroup Update

Awal Khan, PhD
Health Scientist
Division of Tuberculosis Elimination/NCHHSTP
Centers for Disease Control and Prevention

Dr. Khan presented ACET with an update on the activities of the Health Equity Workgroup (HEW) at DTBE. In 2008, DTBE identified 5 priority areas in the TB prevention and control effort. One of these priorities was to reduce TB in racial and ethnic populations. In 2010, a total of 11,182 TB cases were reported in the US. The national average of reported TB rates was 3.6 cases per 100,000. Thirteen states and the District of Columbia reported case rates higher than 3.6 per 100,000. Those high-burden areas account for 67% of TB cases.

Except for Native Hawaiian and Other Pacific Islanders, racial and ethnic groups show declining trends of TB case rates over the last 8 years. TB case rates among African Americans declined almost 40%, from 11.7 in 2003 to 7.0 in 2010. In 2010, 84% of all reported TB cases were in racial/ethnic minority groups: 30% in Hispanic or Latino groups; 28% in Asians; and 24% in African Americans. When the reported cases are examined by birth of origin and race/ethnicity, 40% of the cases are reported among Black/African Americans among the US-born persons. Thirteen percent of foreign-born TB cases are reported among Black/African Americans.

To address the problem of TB in African Americans, the Working Together to Stop TB (WTST) initiative was undertaken in 2009. WTST educational toolkit is designed to address issues of TB disparities in local African American communities by convening community stakeholders to discuss the issue and together initiate a plan of action. WTST is a collaboration between DTBE and the Southeastern National TB Center (SNTC) and stems from a recommendation in the Tuberculosis Epidemiologic Studies Consortium (TBESC) Task Order 11 – "Identifying and Overcoming Barriers to Treatment Adherence for Latent TB Infection and Active TB Disease among High Priority Populations in the Southeastern United States".

In collaboration with SNTC, DTBE conducted a pilot-test of the WTST toolkits in 2011. Twenty individuals from nine sites participated in a 2-days training program in Atlanta, Georgia. Two webinars for site facilitators were conducted prior to the onsite training, and three additional webinars followed the sessions in Atlanta. The goal of the pilot project was to train site facilitators to plan, implement, and evaluate TB educational forums within high-burden African American communities. The participants were trained to use WTST materials and epidemiologic data to plan and conduct forums in high-burden African American communities; engage key partners; utilize local resources; and evaluate the forum and the process.

The main focus of the 2011 training in Atlanta was to review the toolkit content. The training also addressed community mobilization and developing plans for conducting forums. Comments from participants were very positive. Each of the 9 sites that participated in the training has made progress, using WTST tools to reach out to their target community. DTBE has funded a TB Lead project for 2012 to continue and extend the pilot project activities.

DTBE has engaged in a number of activities related to health equity. In 2005, the division added health disparity language to in the cooperative agreement announcement. The division has aligned with the center's Health Equity Work plan. A representative from the division attended the 2011 Health Equity Conference in South Carolina. DTBE also was represented at the 2011 CDC/NCHHSTP Symposium on Health Disparities. The DTBE participates in the monthly NCHHSTP "Lunch and Learn" meetings. All TB projects and activities related to health equity and social determinants of health are cataloged. DTBE has created the *TB in African Americans* newsletter and also provides direct assistance to states with TB outbreaks in the African American community. DBTE reorganized the Health Equity Workgroup (HEW) and developed a fact sheet focused on TB in Blacks. The website will be updated to include new materials on social determinants of health and health equity issues. HEW is eliciting project areas in a call for papers on social determinants of health.

The DTBE HEW includes representation from all branches of the division. Elvin Magee and Gail Grant are the co-chairs and they are DTBE representatives to the Center's HEW. Dr. Khan thanked the ACET Stop TB in African Americans Working Group for its assistance.

Dr. Castro confirmed that the majority of US-born TB cases are among racial and ethnic minorities. It is not unusual for homeless patients to be predominantly US-born African Americans.

In response to a question from ACET regarding relative declines in racial and ethnic groups, Dr. Khan said that the rate of TB cases among African Americans was 28.5 per 100,000 in 1993. In 2010, the rate was 7.0 per 100,000. Among whites, the rate in 1993 was 3.6 per 100,000, and was 0.9 per 100,000 in 2010. The relative decrease is similar in both groups, approximately 7.8.

ACET discussed sub-group epidemiology, which can be important when assessing the impact of community-based interventions. Several points emerged from the discussion:

- Participation in community outreach groups may be low among hard-to-reach populations such as drug addicts and alcoholics, so the efforts may not reach higher-risk populations.
- Dr. Khan replied that the division is conducting sub-group analysis, taking risk factors into consideration. For example, they are examining the aggregate or incremental increases of predicting TB with risk factors such as drug and alcohol use or incarceration.
- The African American population in the US is not uniform. Other factors, such as urban versus rural, are important to consider when developing strategies for TB, HIV, and other diseases.
- There are commonalities in this population with other diseases and risk factors, such as substance use. Strategies should be cross-cutting and take into consideration the multiple health needs and disparities in this diverse population.
- A number of strategies should be developed for a spectrum; for instance, African American lifestyles are changing, and the church may no longer be the best means for reaching out to the community.
- In addition to social determinants of health and socioeconomic factors, it is important to consider co-morbid conditions such as diabetes to determine their impact.
- There was discussion regarding the status of a study of drug abusers. In the drug-using population, it is important to understand the kind of drugs that are being used. For

instance, the injection-drug using population is shrinking, but the crack-using population presents a higher index of concern.

- Research should not just examine substance users, but also should assess populations that have mental illness and may self-medicate. This issue is not just about African Americans, but about the homeless population and the seriously mentally ill population as having profound TB risk. Epidemiological treatment of these populations will shed light on the range of co-occurrence in these populations.
- There is remarkable disparity in the reasons for, and rates at which, African American men are incarcerated. This social justice issue is a risk factor for getting TB and, unlike drug abuse and other risk factors, there is an opportunity to connect with the person at risk to try to intervene. The system of incarceration is complicated, but it presents an important place to focus.
- TB rates among HIV-infected African Americans are significant. Strategies are needed not just in TB, but across NCHHSTP.

Dr. Castro recalled that evidence from the 1999-2000 National Health and Nutrition Examination Survey (NHANES) found that the rate of positivity among African Americans was twice the rate in non-African Americans. However, the rate was about 10 times higher for Mexican Americans compared to US-born. Overall, the country's rate was 4.2%, and the estimate of latently infected individuals in the country was approximately 10 million. The NHANES is a representative sample of the non-institutionalized US population and misses many target audiences. More targeted surveys are needed to learn about layers of risk factors.

Dr. Mayleen Ekiek, a liaison representative from the Pacific Island Health Officers Association, asked for additional information about the peak in rates among Native Hawaiian and Other Pacific Islanders in 2007. She noted that Native Hawaiians are US-born, while Pacific Islanders are non-US-born. Dr. Khan answered that the slide included US-associated Pacific Island groups. The peak in 2007 comes from a very small sample size, as 95 cases were represented in this racial/ethnic category in 2007. The following year, 75 cases were reported.

The ACET African American Workgroup should reactivate its relationship to DTBE. Communication has not been strong with the workgroup. Information on outcomes is needed. Further, a partnership with the National Medical Association (NMA), the oldest African American association of healthcare providers, is important. There are multiple grant opportunities within NMA to reach to disease populations within African Americans.

There has been an overall decrease in manpower among TB workers and a reduction in the number of African Americans who are participating in the management of TB cases, whether they are working as physicians or in outreach. Race is a significant part of dealing with this population.

Dr. Khan referred to an in-depth analysis of TB beyond race and ethnicity. The HEW and Surveillance Branch at the division are working together to address how to address the incremental effect of TB case data using all other risk factors. The division included health disparity language in its cooperative agreement program announcement in 2005, and they are now looking at the analysis of reports to see how many programs are addressing these issues, and how. The pilot study of WTST will include an examination of that program's effectiveness in TB care and management in the African American community.

Task Order 23 Update: National Study of Determinants of Early Diagnosis, Prevention, and Treatment of TB in African Americans

Dolly Katz, PhD
Study Co-Principal Investigator
Tuberculosis Epidemiologic Studies Consortium

Dr. Katz provided ACET with an update on a national study of determinants of early diagnosis, prevention, and treatment of TB in African Americans, Task Order 23 of the TBESC. The study addresses the persistent disparity of rates of TB between US-born black and white residents. Rates among blacks have consistently been 7 to 8 times the rates among whites—the greatest TB racial disparity among US-born persons in the US.

It is important to determine whether the problem is related to delays in getting to care, resulting in more transmission among African Americans. This study was designed to explore this and other hypotheses to better understand the TB disparity in the African American community. Further, the study was designed to quantify time to reaching care and receiving a TB diagnosis and treatment among African Americans and whites; to understand factors associated with delays; and to investigate the impact of time to diagnosis and treatment on the spread of TB in African-Americans and whites.

Quantifying the time to diagnosis involves measuring the time from symptom onset to two main points: to the time the person reaches care with a clinician who has the capacity to diagnose TB; and to the time the person receives a TB diagnosis. For this study, TB diagnosis is defined as the date the person was put on TB medication.

Participating sites included counties, cities, states, and regions in the eastern US, from Texas to Philadelphia. In 2009, the 8 participating states reported 35.5% of all TB cases in US-born African Americans and 16.5% of cases in US-born whites. The study population was sampled from the 1118 reported verified cases of TB that were reported to their health departments between August 16, 2009, and December 31, 2010. Eligible cases were US-born, African American or white, non-Hispanic, and age 15 or older, with a reported verified case of TB. The final sample included 603 TB cases, including 126 persons who died before they could be interviewed.

Primary data collection included an interviewer-administered questionnaire that asked about demographics, risk factors, and all attempts to get care. “Care” includes self-treatment, asking relatives or friends for help, and seeking help from hospitals, doctors, or pharmacies. Information was abstracted from participants’ health department medical records. The research team also conducted a health department survey where cases were diagnosed to collect information on staffing, outreach programs, and quality control. Secondary data collection included all surveillance data that is normally reported on these cases; census data related to the census tract where the person lived at the time of diagnosis; and genotyping data related to the TB organism.

Dr. Katz presented preliminary results of the study. The study sample closely matches the catchment area of potential participants and the national population. The proportion of blacks in the study population was higher than in the US population of TB cases because the research team oversampled African Americans. The research team is comfortable that the study sample is representative.

A total of 477 people completed questionnaires: 368 black, and 109 white. More whites in the sample were male, and blacks tended to be younger. Blacks were more likely not to have completed high school, and more blacks reported an income of less than $20,000 per year in the year before their TB diagnosis. More blacks had a history of smoking and of incarceration. More blacks had HIV/AIDS, and the same proportion of blacks and whites had diabetes and some form of health insurance in the time before they were diagnosed with TB. Asking about health insurance before diagnosis helped to determine whether the person had the means to seek care. Overall, 61% of the population had some form of insurance.

There were no statistically significant differences between the symptoms reported by blacks and whites. Weight loss, cough, night sweats, fatigue, shortness of breath, and chest pain were the most common reported symptoms. All symptoms except chest pain were reported by at least half of the participants. The most common symptoms that participants reported happened first were weight loss, cough, and night sweats. When asked what they thought was causing the symptoms, the most common responses were influenza or colds, smoking, pneumonia, and asthma or chronic obstructive pulmonary disease (COPD). Blacks were more likely than whites to think that they had influenza or a cold, and whites were more likely than blacks to mention other possible reasons for their symptoms.

Participants were asked why they went to the doctor that diagnosed them. More than 70% sought care because of their symptoms. A small percentage went to the doctor for a non-TB medical condition, and about 6% went to the doctor for a required screening. A small percentage went as part of a regular checkup, and a smaller percent were diagnosed as a result of a contact investigation. Generally, there was no difference between blacks and whites in the reason they sought medical care.

More than half of the participants first went to a physician or nurse for help. A small percentage went to another healthcare provider, such as a chiropractor or a pharmacist, and a few went to friends, family, or clergy. A significant percentage initially treated themselves, such as with cough medicine, herbs, teas, exercise, or stopping smoking. Blacks were more likely to report treating themselves than whites, but it is not clear whether they were more likely to treat themselves, or more likely to feel comfortable reporting that they first treated themselves.

Not all participants were able to report data to specify the cumulative time from symptom onset to diagnosis. Overall, 15% were diagnosed within the first month after the symptoms began. A total of 38%, including that 15%, were diagnosed in 1 month. Within 2 months, 53% were diagnosed, and 61% were diagnosed within 3 months. Overall, 39% of participants were diagnosed more than 3 months after their symptoms began. Whites were less likely to be diagnosed within 1 month, compared to blacks. Overall, whites were more likely than blacks to be diagnosed more than 3 months after the onset of symptoms. The median time from first symptom onset to first medical care was similar in African Americans and whites. Similarly, the median time from first medical care to diagnosis is similar in both groups. In the spectrum from symptom onset to diagnosis, it took longer for whites to be diagnosed compared to blacks, primarily because a higher proportion of whites had a very long time to diagnosis.

The research team studied the effect of hospitalization on time to diagnosis by looking at persons who were hospitalized after symptom onset, but before their TB was severe enough for them to be hospitalized. Dr. Katz hypothesized that the time to diagnosis would be faster for the persons who were hospitalized after symptoms developed; however, based on an initial analysis, persons in the hospital had a median of 7 months to diagnosis, compared to 2 months for all participants. Being in a hospital environment does not necessarily lead to faster diagnosis.

There are an estimated 4 million cases of community-acquired pneumonia diagnosed annually in the US; there are 226,000 cases of lung cancer diagnosed annually in the US. Only 11,000 – 12,000 cases of TB are diagnosed annually in the US. Therefore, clinicians are being asked to "think TB" when the disease is rather rare in the US.

Dr. Katz turned to the preliminary data and described missed opportunities for prevention of TB. The 477 participants who were interviewed were asked if they were tested for TB before their diagnosis of TB. Sixty-six percent of blacks and seventy-three percent of whites reported being tested for TB more than one year before their first diagnosis. Among those who were tested, about 30% reported that they had previously tested positive for TB. Among those replied, some reported receiving some kind of TB treatment, whether they were adequately treated for 5 – 6 months, or inadequately treated. While there are problems with this self-reported data, the proportion of patients who report being inadequately treated is close to the proportion of people that other studies show are not adequately treated for LTBI.

Participants were asked about chronic diseases such as heart disease, diabetes, asthma, COPD, and others. At least one chronic illness was reported by 71% of the study participants: 83% of whites, and 68% of blacks. Of those who had at least one chronic illness, about two-thirds reported visiting a doctor at least once a year in the 2 years before diagnosis, and of those, more than 60% reported visiting a doctor more than 3 times a year. This population gets regular medical care, which could present an opportunity for testing for and treating LTBI.

A few conclusions come from this study. Among TB cases, African Americans differed from whites by some demographic and health factors. Compared to whites, African Americans were younger; less educated; had lower earnings; and had more risk factors for TB, such as cigarette smoking, a history of incarceration, and HIV/AIDS. Although symptoms of TB commonly precipitated care seeking, many had attributed these symptoms to other etiologies. More African Americans than whites reported trying to treat themselves before seeking medical care. There were no significant differences by race in the time from symptom onset to reaching medical care, or from the time from reaching medical care to receiving a TB diagnosis. Overall, however, whites had significantly longer times from symptom onset to TB diagnosis. Most participants visited doctors regularly in the 2 years before diagnosis.

This first look at the data suggests that timeliness of obtaining care or a diagnosis does not account for the TB disparity between blacks and whites. The next steps of the analysis will be to:

- ❑ Identify factors that are associated with time to diagnosis, such as use of fluoroquinolones, the proportion of those that were given a chest x-ray at the first presentation to medical care, and more;
- ❑ Identify factors associated with transmission, such as number of contacts per case and contacts who were positive for LTBI;
- ❑ Evaluate missed opportunities for prevention of TB;

- ❑ Assess TB knowledge, attitudes, and behaviors of participants and their treatment experiences;
- ❑ Assess the timing of diagnosis and adequacy of treatment of HIV; and
- ❑ Provide detailed demographic description of persons with TB.

The study has public health implications. While many TB cases were diagnosed within a month after onset of their symptoms, the majority were not. The public needs to be aware that symptoms of active TB call for a health care visit, regardless of whether the problem is ultimately TB or another disease or condition. The overall distributions of time to getting care and getting diagnosed do not appear to fuel the TB disparity between blacks and whites. Because of the rarity of TB as a diagnosis in the US, efforts focused on prevention may be more fruitful than attempts to reduce delays in diagnosis of TB disease.

Dr. Katz recognized the national advisory board that assisted in the design and implementation of the study and thanked members of the research team.

Discussion Points

ACET thanked Dr. Katz for the important contribution that this data will make to the field and offered several comments and suggestions:

- When the findings are published, it will be important to provide a long-term perspective, going back as far as possible to illustrate trends in disparities.
- This study could be put into perspective with data from NHANES. Many disparities may relate to prevalence of infection in the 2 groups.
- When the data are published, international data should be presented to give perspective to the TB incidence rates, which are low overall.
- There were questions about whether participants would be asked about their latitude of residence and dairy product ingestion.
- It is assumed that TB is the same in all ethnic groups, but it will be important to acquire data regarding whether the x-ray showed cavitary disease at the time of presentation.
- There was support for the idea of focusing on prevention rather than trying to convince clinicians to “think TB.”
- The study did not address the question of whether all African Americans with a positive tuberculin skin test or one of the IFN-g release assays should be recommended for treatment of LTBI, even if there is not another identified risk factor. For instance, Latinos and Asians with positive skin tests might be bacilli Calmette-Guerin (BCG)-vaccinated. Perhaps they should be more aggressive about treatment in the presence of an IFN-g release assay, recognizing that some may be treated that may have an old infection and may not require treatment. Only 1 out of 3 or 4 cases are due to new infection, and data are not available to show the percentage of the group that is at risk for progressing to active TB. These individuals face a number of co-morbidities and challenges, so their rates of progressing to active TB could be greater.

Dr. Susan Ray, a liaison representative to ACET from the Infectious Disease Society of America (ISDA), asked whether there were plans to look at the three groups previously found to be associated with disparities in TB among US-born African Americans: HIV infected, substance abuse, and incarceration. Dr. Katz answered that they do not have the data to look at drug use, but they have the ability to look at incarceration history and HIV infection.

Dr. Frances Downes, a liaison representative to ACET from the Association of Public Health Laboratories (APHL), asked how genotyping was included in the survey. Dr. Katz answered that the genotyping information was currently being collected. They hope that at least one sample from each TB case will be genotyped.

Program Collaboration Service Integration (PCSI)

PCSI Update

Gustavo Aquino, MPH
Associate Director for Program Integration, NCHHSTP
Centers for Disease Control and Prevention

Mr. Aquino provided ACET with an update on the accomplishments and plans of Program Collaboration Service Integration (PCSI). PCSI has been operationalized through a number of objectives related to expanding program flexibility; aligning surveillance systems; integrating training; implementing systems, policies, and structures that support PCSI; and research and evaluation about PCSI.

Since the last ACET meeting, the Data Security and Confidentiality Standards for HIV, STD, TB, and viral hepatitis have been published. A number of jurisdictions are already matching registries and sharing data across programs, but many still struggle with this work. The published standards establish the importance of security and confidentiality, and employing similar security and confidentiality guidelines should make programs feel safe in sharing programs. For many years, HIV had formal guidelines while other disease areas did not. One of their challenges is learning the extent to which data is being shared across programs in their jurisdictions.

Mr. Aquino described a few differences between the new guidelines and the HIV guidelines. The new guidelines clarify the standards, particularly concerning best practices for physical security and faxing. For instance, the number of people that enter areas where public health information is stored should be limited. Locked cabinets are important as well. Faxing is an area of contention, and the consensus was that faxing is allowed, with guidance from best practices in the guidelines. Further, the guidelines support the use of surveillance data for public health action. TB programs have been doing this work for a long time, but this recommendation represents a major change for HIV.

The guidelines require programs to have written security and confidentiality policies. The guidelines also provide an outline of a data-sharing agreement that could serve as a starting point for sharing data. Guidance is provided on conducting an initial assessment of data security across different disease areas. The guidelines address the use of new technologies and how to secure information in the field in teleworking situations. An overall responsible party, be it an individual, panel, or group, should be designated within each program. A self-certification process is described for programs, and this process may be included as a requirement in funding announcements. The intent of the guidelines is to remove the barriers that arise when different programs have different rules so that programs can work together.

An implementation plan is being developed and will be rolled out by the divisions soon. A webinar will be provided on the guidelines to help jurisdictions understand them and to share best practices.

Thanks to work in data harmonization, a new atlas was published. This atlas was introduced to ACET by Dr. Dean in her presentation. It is user-friendly and currently includes data on HIV, gonorrhea, Chlamydia, and syphilis. The center hopes that the atlas will aid in public health planning. Different programs have different terminology, which has brought challenges. The atlas will include county-level data to further help public health planning.

Specific language regarding PCSI is included in the center's core funding announcements. By 2013, all funding announcements will be aligned with PCSI and will include concrete deliverables. A funding announcement that is managed by the STD program supports the implementation of an endemic approach to the prevention of STD, HIV, TB, and viral hepatitis. The announcement provides for 3 awarded jurisdictions, and the STD program is ensuring that TB will be integrated into the work.

Last year, a PCSI literature review was completed. The review identified published best practices for integrating HIV and TB screening, and the levels of co-morbidity. The review will be available on the NCHHSTP website in April 2012. The center also has a Pacific Islands funding announcement that will reduce the burden of reporting to CDC by integrating all of the activities required by each of the center's divisions into one funding announcement. DTBE will manage this effort. A call for papers has been shared for public health reports, seeking manuscripts about scientific knowledge and reports of findings of public health research and policy.

Advancing PCSI includes evidence on the impact of PCSI on program effectiveness of public health outcomes. PCSI should be focused on outcomes, such as the operational research or studies that impact integrated services, analysis of health service data that document missed opportunities, and efficiencies gained through integrated services delivery. NCHHSTP has undergone PCSI work for 6 years. The center's leadership feels that it is important to evaluate the impact of PCSI, looking at what has been done so far, what else should be done, and whether there are better ways to help jurisdictions collaborate and integrate services across programs.

<u>Discussion Points</u>

ACET recognized the importance of PCSI and emphasized many population variations at the local level. Populations of interest may not be the same for different programs, such as TB and STD: "one size doesn't fit all."

Mr. Aquino responded to ACET's specific questions:

- Given the fiscal crises facing state and local health departments, some programs feel that budget problems are a reason to embrace PCSI more, finding ways to collaborate and integrate across programs and systems. Duties of staff can even be integrated. The center has not experienced "pushback" regarding PCSI.
- PCSI strategies could be used to enhance synergy and to find economies of scale and economies of efficiency. For instance, the work with the Pacific Islands, involves using a single funding announcement. Local health departments could similarly offer integrated funding to grantees to find economies of scale. For instance, funding for HIV testing could provide opportunities to screen for syphilis in that setting. Working together in a way that makes sense for the local area makes sense.

Dr. Castro recalled an earlier effort at NCHHSTP to promote economies of scale. Efforts work differently in different areas, and in geographic areas with relatively low morbidity of these diseases, the economies of scale were welcome and beneficial. In higher-morbidity areas, the synergies did not work as well. Programs focused on specific diseases are still needed. It is crucial that any effort contributes to reducing morbidity.

ACET Workgroup Updates

National TB Program Workgroup

Gail Cassell, PhD
Visiting Professor
Harvard University Department of Global and Social Medicine
ACET member and National TB Program Workgroup Chair

Dr. Cassell thanked ACET for their patience with this working group thus far. They have held 2 meetings via conference call and 1 meeting in person. In addition, they met with some present in person and some via phone the day before the ACET meeting. Those meetings focused on the workgroup's charge from Dr. Castro, ensuring that the group took advantage of work that had gone on before.

The charge to the National TB Program Workgroup is to propose strategies to reconfigure the National TB Program (NTP) to accomplish its goals, given financial constraints today and in the future. A diverse group of members participates on the workgroup. The group also has focused on the process that they will use to make recommendations.

The workgroup needed to understand the existing NTP and how it differs at the state level. Their meeting the previous day with CDC staff first examined the budget and its allocations. Additionally, the workgroup learned about the TB research portfolio of the National Institute of Allergies and Infectious Diseases (NIAID) and where synergies could be discovered. NIAID has expanded work and added emphasis to drug-resistant TB. A representative from NIAID provided the workgroup with an overview of NIAID's work in basic research in diagnostics and new drugs and a new emphasis on the AIDS Clinical Trials Group (ACTG) and the possibility of performing TB clinical trials within ACTGs. It was established that there is not overlap between CDC and the National Institutes of Health (NIH), but there are opportunities for synergies, especially at the levels of diagnostics and genome sequencing.

A global project will be launched to acquire full genome sequences of totally drug-resistant TB (TDR-TB), XDR-TB, and MDR-TB strains. In the public domain, well over 60 strains of TB have been sequenced fully, but less than a handful of those have been drug resistant. NIAID is contributing to this global effort. There is good interaction between the CDC genome sequencing efforts and NIAID. A group at NTP is working on drug-resistant mechanisms, so there could be even more synergy. Another NTP contract includes a requirement for partnering with an academic health center.

Representatives from DTBE helped the workgroup design a questionnaire for all TB programs to get input, utilizing WHO's tools and processes. At the last ACET meeting, the workgroup was cautioned to take full advantage of the training and medical consultation centers at TB control programs, especially at the regional level. The workgroup was also asked to avail themselves of external expertise, which they will do when they reach a stage at which external expertise is

warranted. In addition to receiving input from the states via the questionnaire, the workgroup plans site visits at a few states. Based on case density, the following states have been identified as likely for the visits: California, Texas, New Jersey/New York, Florida, and Illinois. The workgroup estimates that a summary of findings can be presented in mid-summer.

The workgroup also discussed how to inform the public and policymakers about current outbreaks and about the likelihood that those outbreaks will be magnified and increased if there are additional cuts or reductions in the TB budget.

NIAID is focusing mostly in basic and pre-clinical activities. The addition of the 8th clinical trials group and the global infrastructure, as well as access to domestic and international populations, brings strength to allow for clinical trials that require large subjects. The global sites will be important for Effect-Directed Analysis (EDA) studies on newer compounds that are ready for concept studies.

Discussion Points

Dr. Castro commented that the workgroup needs to set a timetable to accomplish its work.

The outcomes from the site visits will depend on what is learned from the survey of all programs.

Regarding the proposed site visits, Dr. Castro added that the goal is for the workgroup to conduct limited site visits for "reality-based testing" rather than a review of the programs based on responses to the survey. They are considering the core components of WHO's monitoring visits. Given a limited number of areas for visits, the natural tendency is to visit more high-burden areas. This working group would benefit from supplementation by others within ACET, as it may not be realistic to expect the small group top conduct 4 or 5 site visits.

The US-México Border Health Commission office in El Paso has a Maternal and Child Health assignee from the Chronic Disease Center at CDC. She has been working on the issue of prenatal care for mothers, TB, and other issues with the DGMQ in El Paso.

Dr. Jon Warkentin is an alternate liaison member to ACET, representing the National Tuberculosis Controllers Association (NTCA). He commented on on-going discussions about restructuring the NTP. The focus has been on the financial aspects of that restructuring. At the local and state level, restructuring the TB program is well underway, forced by local and state dynamics. Time is of the essence, and they cannot afford to have a yearlong study process, given that significant changes are happening all over the country right now.

There was discussion regarding the issue of funding patients who are managed in the US, but who do not belong to a jurisdiction. Situations arise when patients are ordered removed from the US, but there are no options for them to be treated for their MDR-TB in their country of nationality. These issues are significant for the jurisdictions where the patients are apprehended or detained. Patients cannot be released without a case management plan, but there is no legal authority to detain them for the purpose of treatment. The border states are inundated with persons with TB who come across the border. States with decreasing funding should not be burdened by federal requirements that they do not have the resources to satisfy. They need to create good working relationships with other states and to find solutions together.

ACET offered the following suggestions to the workgroup:

- The contributions and efforts of state TB programs are significant. The workgroup should conduct a review of ground-level TB control activities, especially in cities. This approach will address the diversity of challenges in the US.
- The workgroup should examine core laboratory services. Data is collected by the APHL through a survey.
- An absence of representation from the American Society of Microbiology (ASM) on ACET was noted.

Dr. Cassell heard the sense of urgency on this issue and said that the workgroup would share information as soon as they have it. The information from the surveys would be available in a few weeks, and the first site visits could take place quickly.

ACET Meeting Workgroup

E. Jane Carter, MD
Associate Professor (Teaching Scholar)
Alpert School of Medicine at Brown University
ACET Member and Chair, ACET Meeting Workgroup

Dr. Carter reminded ACET that the Meeting Workgroup was charged with proposing strategies to improve the organizational structure of ACET meetings and to improve productivity and efficiency, particularly regarding the ACET business meeting. The current ACET meeting format includes 3 meetings per year, 2 of which are in person. Each in-person meeting is 2 days long, with the first day scheduled from 8:30 a.m. until 5:00 p.m., and the second day scheduled from 8:30 a.m. until 2:00 p.m. The ACET meetings include a combination of business and reports, and currently, the business meeting takes place at the end of the second day of the meeting.

The workgroup considered the virtues of the present ACET meeting format. The group agreed that 3 is an optimal number of meetings to hold per year. The length of the meeting represents the best compromise, as challenges for longer meetings impact travel times, time away from the office, and overall cost of the meeting. The room layout, with ACET members in the center and liaison members in the outer "U," is conducive to discussion. Strict timekeeping is well done, but remains challenging. Much of the meeting information is sent ahead of time, but the timeline could be improved.

The workgroup also discussed challenges of the present ACET meeting format. The business meeting is held at the end of the second day, and there are concerns about losing a quorum as well as a rushed feeling when there is insufficient discussion time for resolutions. Many informational reports are presented in the ACET meeting, but not all of the presentations highlight clear action points. There is no clear time period for voting members to caucus. Additionally, there is no clear time period in which resolutions are crafted. As a result, recommendations appear to be chaotic as opposed to strategic in design. The mission of ACET is to provide strategic advice to DTBE and the Secretary of HHS.

The workgroup offered the following recommendations to improve ACET meetings:

- The present number of meetings and the length of the in-person meetings should remain.
- The business meeting should not be limited to the second day; rather, both meeting days could have business meeting elements.
- The ACET meeting agenda should include time for the ACET voting members to get together to converse.
- The ACET meeting agenda could be restructured to include action items from the previous ACET meeting, which would allow for better planning of the business meeting.
- The ACET meeting agenda could include notes for potential action items and resolutions, as well as specific requests of ACET.
- The informational updates could be sent in advance of the meeting, and a brief time period could be scheduled at the ACET meeting for questions and clarifications.
- Some items that are requested updates from ACET, but that will not lead to resolutions, could be assigned to the second part of the second day.
- Presentations should continue to be made by invitation and should be crafted to highlight resolutions.

The workgroup also suggested "going green" by implementing paperless copies for ACET members and providing paper copies only for public attendees of the meeting. The workgroup also discussed the possibility of a secure shared drive that ACET members could access. The shared drive could house information for ACET members to use as they are crafting resolutions; presentations for upcoming meetings; and a resolution forum to allow for advance discussion.

The suggested changes in the ACET meeting format underscore the mission of the committee. All expertise at the table should be utilized to the fullest. As ACET provides advice to the CDC Director and HHS Secretary about TB elimination, it is important that they concentrate on messages of import.

ACET expressed concern regarding the effectiveness of the webinar meeting format, which the workgroup did not discuss in its deliberations:

- The shift to holding 2 in-person ACET meetings and 1 webinar each year was driven by budgetary constraints, but in-person meetings have great value. A "hybrid" approach could still allow for 3 in-person meetings per year.
- Dr. Carter added that the workgroup discussed the possibility of structuring the third meeting to include non-action updates. She noted that the proposed changes would place a stronger pre-meeting burden on ACET members and the chair.
- There was concern about keeping all of the webinar participants engaged.
- The webinar should be shorter than the in-person meetings.

Dr. Castro said that CDC's capacity to hold virtual meetings has evolved. The format allows for exchange of information in a number of ways. The webinar approach will be new for ACET, and they will utilize it to see if it meets their needs. Travel costs must be reduced by 15%. If ACET meetings are limited to 2 in-person meetings per year, then there is too much time lost between meetings and momentum is lost.

ACET and the liaison representatives discussed the possibility of holding an ACET meeting in Washington, DC. This approach could bring notoriety within HHS to ACET's existence and purpose. The Healthcare Infection Control Practices Advisory Committee (HICPAC) meets twice per year in Atlanta, and once per year in Washington. This structure could serve as a model for ACET. The ACET members and liaisons who live in the Washington, DC area could meet in person, and Dr. Dean or Dr. Castro could join them. Other participants could meet virtually. There would then be an opportunity for the Secretary of HHS or Assistant Secretary of HHS to visit the meeting and address the entire group.

Dr. Dean said that such a meeting had been considered in the past, but cost was prohibitive. The Secretary of HHS and Assistant Secretary of HHS have been invited to come to Atlanta for an ACET meeting.

Dr. Castro said that if is the will of ACET, it would be possible to hold one meeting on a biannual basis in the Washington, DC area, and to ensure that the meeting includes invitations to the HHS Secretary or Assistant Secretary. If ACET followed the process utilized by WHO, then the Secretary or a representative could come to the end of the meeting to hear a summary of the deliberations and to offer immediate reaction. He appreciated ACET's efforts to improve its efficiency and impact.

General comments regarding ACET meetings included the following:

- The issue may not be time spent face-to-face, but how the time is spent. There can be a lack of focus at ACET meetings as well as a need to specify problems and challenges, prioritize them, and face them. Reorganizing the agenda may provide more focus.
- Mr. Jones said that the recommendations from the workgroup provide a good foundation for improving focus, timeliness, and efficiency.
- There is a need to carry action items forward from previous meetings and to show a consistent "thread" for the action items.
- Resolutions should be limited based on priorities set by previous meetings, allowing for more discussion and focus.
- The connection between the presentations at ACET meetings and the mission of ACET to eliminate TB should be more strongly articulated.

Budget Updates

2012 Formula Update

Terence Chorba, MD, DSc
Chief, Field Services and Evaluation Branch
Division of Tuberculosis Elimination/NCHHSTP
Centers for Disease Control and Prevention

Dr. Chorba presented to ACET the formulas for the distribution of funds through DTBE's Cooperative Agreements for FY 2013, 2014, and 2015. The division is changing its model for funds distribution to its 68 jurisdictions, which include all 50 states, 10 large cities, and 8 territories. The new model focuses on an equitable distribution of funds based on the current distribution of TB cases and their risk factors. Performance-based components are also being introduced into the funding formula.

Dr. Chorba provided background on the TB funding formula. In 2004, CDC/DTBE, ACET and NTCA saw a need to modify how TB resources were distributed. Epidemiology has changed since the 1985-1992 resurgence associated with HIV in New York City and urban areas, and there are wide variations in the cost per case awarded to treat TB that resulted from legacy funding levels since the resurgence. Resources for TB elimination are limited and shrinking.

The TB funding formula needs to be updated in order to maintain support for TB basics, including DOT; completion of therapy; laboratory capacity; training; contact investigations; drug susceptibility testing; and for early warning/genotyping. Further, it is important to maintain a "safety net" for persons who will remain uninsured under the Affordable Care Act (ACA). These populations include the foreign-born with limited documentation, the homeless, and marginalized persons, who contribute disproportionately to TB case numbers. The funding formula needs to be updated in order to allow for funding flexibility for response to outbreaks and to continue the realignment of domestic and global activities to reduce importation of TB, especially given that 60% of TB cases are foreign-born. It is important to continue research for innovation and program improvements and to provide incentives for improving performance.

The meeting of NTCA partners was first convened for implementation in FY 2005. Laboratory partners were added in FY 2010. The committee included TB controllers from high, medium, and low incidence areas; laboratories from cities or states with low, medium, and high testing volumes; NTCA; APHL, and DTBE, particularly the Field Services and Evaluation Branch and the Laboratory Branch.

Implementation will be accelerated to change the funding formula for equitable distribution beginning in FY 2013, when 60% of funds will be governed by the new formula. By 2014, 80% of funds will be formula, and 100% of TB funds will be based on the new formula by 2015. Legacy fund distributions of 40% in 2013 and 20% in 2014 will give jurisdictions time to make necessary adjustments to their reliance on the federal funding stream to meet their programmatic needs.

There will be a "carve-out" to address the unique features of TB in the 6 jurisdictions of the Pacific Islands, aiming for a similar cost per case to the rest of the United States. The Federated States of Micronesia and the Republic of the Marshall Islands have high TB incidence rates and have been under-funded relative to other jurisdictions. The rest of the jurisdictions, including the United States, the Virgin Islands, Puerto Rico, and 10 large cities, will be subjected to a formula with minimum funding of $100,000 per year for prevention and control, $35,000 for laboratory needs, and $18,000 for human resources development. The laboratory's funding formula is geared toward strengthening system capacity.

In 2004, all TB funding was based on legacy. This approach was somewhat needs-based, but it was based on the average number of TB cases over a number of years. Beginning in 2013, 50% of the funding will be distributed on a needs-based basis, and 10% will be on a performance-based basis. By 2015, all funding will be on an 80/20 split: 80% of funding will be needs-based, and 20% will be based on 2 performance variables.

The 2005 funding formula was comprised of 40% incident cases, 15% US-born racial and ethnic minorities, 15% foreign-born, and 10% Class A B1 and B2 persons coming into the country. HIV co-infection, MDR-TB, substance abuse, and homelessness each constituted 5% of the formula. Smear-positive pulmonary TB was not in the formula. The new formula created by the funding formula workgroup distributes based on 30% incident cases, 30% US-born and foreign-born, 5% Class A B1 and B2, 15% smear-positive pulmonary, and 5% each for HIV co-infection,

MDR-TB, substance abuse, and homelessness. The formula elements include the total number of TB specimens, the number of patients for whom a TB culture is inoculated, the number of patients for whom an isolate is received for species identification, Nucleic Acid Amplification (NAA) testing of clinical specimens, the number of patients for whom a Drug Susceptibility Test (DST) for first-line drugs is completed, and the laboratory system-equal amount.

The total budget for 2015 is $83,629,388: $74,468,392 for prevention and control; $7,407,673 for laboratory; and $1,753,323 for training and education. In addition, approximately $5.6 million is distributed to the 4 Regional Training and Medical Consultation Centers (RTMCCs). Each RTMCC receives approximately $1.4 million. "Direct assistance" in the budget refers to the salaries of 39 people in DTBE who are imbedded in TB programs in the field serving as Public Health Advisors, 7 of whom are medical officers.

Previously, cities received more dollars per case than the state jurisdictions. Under the new formula, cities will tend to see a reduction in the amount of dollars that they would have received under the old schema. Other jurisdictions will benefit from the new funding distribution. The formula assumes level Congressional funding from 2011 to 2015, but if the funding stream decreases, the benefits will not be as large.

CDC's considerations for the new TB formula implementation include maintaining support for core TB program functions and adding performance-based components. "Hold harmless" areas have been eliminated, and $100,000 is the minimum "floor" for prevention and control to maintain a presence in 62 jurisdictions. The carve-out for the 6 Pacific Island jurisdictions addresses their unique features under PCSI. If federal dollars decrease, those jurisdictions will be affected by the same percentage. Funding for the RTMCCs should remain constant. The new formula allows for separate laboratory centers of excellence.

The new funding scheme was presented to Dr. Tom Frieden, CDC Director, on February 27, 2012. He expressed concern that the funding formula weights were potentially disadvantaging the cities that are currently independently funded. Dr. Frieden also addressed the urban complexity of cases. To respond to these concerns, DTBE staff reviewed the last 10 large TB outbreaks and concluded that none of them occurred in CDC's directly-funded urban jurisdictions. Dr. Frieden requested that TB seek guidance about potential recovery for costs associated with contact investigations under ACA, and whether a private insurer could be billed for a case that presents at a public health department.

Dr. Frieden also requested consideration of estimates of cost-per-case to justify the formula weights. DTBE has limited data on cost-per-case based on unique variables; however, a recalculation changing the emphases of individual risk factors did not appreciably change the general distributions between the 50 states and 10 directly-funded cities. Dr. Frieden asked for a timeline and additional details for laboratory capacity enhancement and consolidation of services, with an eye to regionalization of laboratory services as numbers decrease. He asked how high-quality services will be assured, especially in areas with no economy of scale in performing more complex tests. Dr. Frieden awaits actions being undertaken to improve billing for TB services, especially given that Medicaid services will henceforth be conducted through managed care contracts.

DTBE will produce a written response to Dr. Frieden's concerns and discussion points. DTBE will work with the Procurement and Grants Office (PGO) and the Office of Surveillance, Epidemiology, and Laboratory Services (OSELS), as well as the Office of State, Tribal, Local, and Territorial Support (OSTLTS) to prepare performance plan language for a required interim

progress report. DTBE will compose “Dear Colleague” letters and a set of Frequently Asked Questions (FAQ) to communicate the decisions to stakeholders. Congressional outreach and issues management will be planned through CDC Washington and the Financial Management Office (FMO). Information will also be provided through the APHL and NTCA websites.

Dr. Chorba acknowledged assistance from State and Local TB Controllers; NTCA; APHL; ACET; and DTBE.

Discussion Points

ACET thanked Dr. Chorba for his work on this important issue and expressed general approval of the new funding formula.

ACET asked for additional detail and conclusions regarding surveillance of the 10 most recent TB outbreaks, none of which occurred in CDC’s directly-funded large city jurisdictions.

Dr. Chorba clarified that an outbreak is presently occurring in an urban area that is not one of the 10 large cities that CDC directly funds. In their meeting, Dr. Frieden expressed concern that under the new scheme, cities would not receive sufficient funding to allow them to respond to a large TB outbreak. However, interpretation of the data does not support the notion that the cities that are directly funded are different from the urban areas that are not directly funded.

Dr. Castro noted that it is possible that outbreaks have not occurred in those jurisdictions because they have been funded. Dr. Frieden may be concerned that the new funding formula could re-create the scenario that led to resurgent TB. Further, Dr. Frieden challenged the weights given to MDR-TB and HIV, given the costs and complexity of care associated with them. In response, DTBE is conducting a scenario-based analysis to provide more information.

ACET suggested that the indicators proposed for the performance management evaluation should be verified, and it should be ensured that they reflect best practices.

ACET asked about an emergency fund for outbreak investigations and if it is possible to carry those funds over from year to year. Drs. Chorba and Castro responded that an emergency fund of approximately $500,000 per year is maintained by CDC. The fund is exhausted every year and is utilized in different places. TB outbreaks and clusters often reveal pre-existing, root problems that need to be addressed in a long-term effort. The emergency fund dollars are not multi-year.

Dr. Jon Warkentin, ACET liaison representative, commented that the budget is not the cost of conducting TB prevention and control; rather, the formula allocates federal funds as fairly as possible, based on epidemiology, with the expectation that states and local entities will contribute to meet the needs of the jurisdiction.

National HIV/AIDS Strategy Update

Division of HIV/AIDS Prevention Efforts to Implement and Monitor the National HIV/AIDS Strategy

Richard Wolitski, PhD
Senior Advisor for Strategic Indicators
Division of HIV/AIDS Prevention/NCHHSTP
Centers for Disease Control and Prevention

Dr. Wolitski presented ACET with an update on the efforts of Division of HIV/AIDS Prevention (DHAP) to implement and monitor the National HIV/AIDS Strategy (NHAS). Released by the White House in July 2010, NHAS is a comprehensive plan for addressing the HIV epidemic in the US. It covers the range of HIV prevention, care and research activities. NHAS sets specific and ambitious targets for 2015 and mandates coordination among government agencies. The targets hold agencies accountable, and efforts are refocused to have the greatest impact on the epidemic with available resources.

NHAS focuses on 3 primary goals: reducing HIV incidence; increasing access to and quality of care received by people living with HIV; and reducing HIV-related disparities. The targets to be reached by 2015 include lowering the number of annual new HIV infections in the US by 25%; reducing HIV transmission rates by 30%; and increasing from 79% to 90% the percentage of people living with HIV who know their HIV status. Another target regarding improving the health of people living with HIV is to increase to 85% the proportion of people who test positive for HIV who are linked to care within 3 months of diagnosis. A number of objectives pertain to HIV-related disparities. For instance, one target is to increase by 20% the proportion of HIV-diagnosed persons with undetectable viral load among African Americans, Hispanics/Latinos, and men who have sex with men (MSM).

Regarding reducing HIV incidence in the US, NHAS calls for an intensification of HIV prevention in communities where HIV is most heavily concentrated. Further, NHAS calls for preventing HIV infection by using a combination of effective, evidence-based approaches that include both biomedical and behavioral strategies. NHAS emphasizes the importance of educating Americans about the threat of HIV and how to prevent it.

Dr. David Holtgrave of the Johns Hopkins School of Public Health has completed an analysis of NHAS. His work suggests that if the NHAS goals are achieved by 2015, more than 75,000 new HIV infections will be prevented from occurring. The analysis also suggests that implementing the activities called for by NHAS would require an additional $15 billion investment by the federal government, but the efforts would save more than $18 billion in HIV-related medical costs. A number of documents and resources related to NHAS are available at www.aids.gov.

To support the implementation and success of NHAS, DHAP bases its work on a high-impact prevention (HIP) strategy that focuses on applying the science of HIV prevention and its implementation to achieve maximum impact on the epidemic. The HIP approach is explained in a report by DHAP, which is available at www.cdc.gov/hiv/strategy. Key components of this approach include an emphasis on using strategies that have been shown to have the greatest effectiveness and that have been shown to have the greatest cost-effectiveness. HIP also focuses on the feasibility of implementing interventions at scale in communities and on the

ability of interventions to achieve good coverage in targeted populations at greatest risk. HIP takes into account interactions among different types of interventions that may be available in a community as well as how those interventions can be targeted to specific sub-groups of individuals at greatest risk for acquiring or transmitting HIV infection. HIP emphasizes prioritizing intervention strategies that will lead to the greatest impact and reduction in new HIV infections.

HIP and the goals of NHAS have been integrated into DHAP's new HIV strategic plan for 2011-2015. The strategic plan identifies DHAP's key goals, objectives, and strategies for HIV prevention in the US. Like NHAS, the plan focuses on the three key areas of reducing incidence, improving prevention and care for people living with HIV, and improving health equity. An additional objective relates to improving the functioning of DHAP and its organizational excellence. The plan is available on the CDC website.

DHAP has a broad portfolio of activities that support the goals of NHAS. DHAP supports state, local, and community HIV prevention programs with direct funding and a range of technical assistance activities. DHAP monitors the epidemic and the success of service provision through HIV surveillance and program monitoring. The division conducts research and research synthesis activities to identify new behavioral, biomedical, and structural interventions and to improve the operation of HIV prevention programs. Via the Act Against AIDS campaign, DHAP supports a number of national media campaigns to raise awareness and promote testing. The division conducts epidemic and economic modeling to improve decision-making and the effectiveness of HIV prevention programs.

Several of DHAP's activities have changed in response to NHAS and the HIP approach. The flagship health department cooperative agreement was recently re-competed, and activities began in January 2012. This announcement emphasizes core prevention activities that are likely to have the greatest impact. The division also has a new funding formula for health departments. The formula is based on HIV prevalence at the end of 2008. The new formula is being phased in over 5 years. DHAP is improving planning and implementation of programs across funding streams. The Enhanced Comprehensive HIV Prevention Planning and Implementation Program (ECHPP) program is being conducted in the 12 cities with the highest burden of HIV infection. Each jurisdiction has developed plans in its first year, and each is maximizing the impact of its efforts at the local level.

DHAP has also provided surveillance programs with supplemental resources to support the collection of CD4 and viral load data to better monitor and track community viral load. The division will continue to study cost effectiveness and most effective and impactful combination of biomedical and behavioral interventions. DHAP is conducting a number of studies related to cost per infection averted by implementing a strategy and how to achieve the greatest impact by combining strategies. In early 2012, DHAP published results of an evaluation of the expanded HIV testing initiative. In its first 3 years, the initiative conducted approximately 2.8 million HIV tests and diagnosed approximately 18,000 new HIV infections. The analysis of the project shows that this project alone averted an estimated 3,381 HIV infections and was cost saving for the entire health care system, even when the cost of treating those persons diagnosed with HIV was taken into account. For every dollar invested in this project by CDC and the health departments, $1.97 was saved.

DHAP's prevention projects emphasize increasing access to care among people living with HIV. In the new cooperative agreements with health departments and community-based organizations, greater priority is placed on linking people to care after diagnosis within a CDC-

funded program. Also, the health department cooperative agreement provides funding for demonstration projects that support the development, monitoring, and evaluation of innovative models for using CD4, viral load, and other data to improve linkage and retention to care. $20 million of awards are being distributed to 30 jurisdictions has part of this announcement.

Regarding the reduction of HIV-related disparities, the health department cooperative agreement includes an emphasis on addressing disparities. A number of specific projects focus on groups that are disproportionately affected by HIV. The cooperative agreement with community-based organizations that serve young MSM and young transgender persons of color focuses on increasing the number of young MSM and transgender persons of color who are aware of their HIV status and who are linked to prevention and care services.

DHAP is implementing a number of national campaigns to raise HIV awareness and to promote testing. One campaign, "Testing Makes Us Stronger," focuses on African American MSM. Another campaign, "Take Charge, Take the Test," focuses on African American women.

DHAP is also strengthening efforts to monitor progress toward achieving the NHAS goals and the division's strategic plan. The division is actively monitoring 18 indicators that are part of the division's strategic plan, 10 related to the Congressional budget justification, and 18 HIV-related objectives that are associated with Healthy People 2020. A comprehensive system brings together information from HIV case surveillance systems, including information on CD4 and viral load results in local jurisdictions. The division is conducting HIV incidence surveillance and monitoring risk behaviors, HIV prevalence, and HIV testing in MSM, injection drug users, and high-risk heterosexuals. Another project monitors HIV-positive persons who are in medical care and provides national estimates for HIV treatment, risk behavior, and access to prevention services. DHAP conducts a national HIV monitoring and evaluation project, which provides information about the HIV prevention program activities and their effects.

Key issues for action are HIV testing and linkage and retention in care. Data show that many people with HIV are not getting appropriate medical care. Of the approximately 1.2 million people with HIV in the US, only about 80% of them know they are infected. Of those who are diagnosed, 77% have been linked to care, but only 51% of those diagnosed with HIV are retained in care. Of those diagnosed, 45% receive ART, and of those who receive ART, 77% have achieved viral suppression. However, that number represents only 35% of persons with HIV who have been diagnosed, and only 28% of the total population of people living with HIV in the US. HIV care is good for the health of people living with HIV and for HIV prevention.

These areas represent opportunities for synergy between HIV and TB activities. One of the goals of Healthy People 2020 relates to the proportion of persons who are diagnosed with TB who have been tested for HIV. The target for 2020 has been established as 71.5%. Dr. Wolitski asked ACET to reflect on how TB elimination programs can play a greater role in achieving the goals of NHAS, and how DHAP can work more effectively with TB elimination programs to achieve these goals.

Discussion Points

ACET appreciated the comprehensive presentation and was encouraged by the specific targets stipulated by NHAS, which make a statement and hold agencies accountable. It is unacceptable that only 28% of individuals with HIV in the US are receiving adequate treatment, and ACET applauded the focus on directing people to proper care.

ACET observed a need for on-going dialogue between HIV and TB, and it was suggested that an ACET HIV/TB Workgroup could focus on domestic control. Dr. Castro said that HIV and TB used to have interactions, but over time, the interactions have focused on global TB. Over time, the number of co-infected individuals has gone down. Unfortunately, rates of co-infection are higher in different groups, such as African Americans. There are opportunities for more targeted approaches.

In response to questions from ACET, Dr. Wolitski discussed the following topics:

- Adherence is a major problem with HIV as it is a problem with TB. Some of their challenges include providers not recommending and initiating ART at the earliest time that is it indicated. Further, patients can be resistant to beginning therapy when it is prescribed. Issues with adherence are on-going, but adherence has improved as the quality of the available regimens has improved. DHAP had not placed emphasis on adherence in the past, as linkage, maintenance, and adherence to care were not part of the division's core activities in HIV prevention. As the science has evolved, it has become clear that good medical care is an essential part of HIV prevention. Therefore, DHAP has strengthened its capacity and activities in those areas. The division is currently building on work from the Prevention Research Synthesis Project that conducted a review of HIV adherence interventions. The review identified the interventions with the strongest evidence, and DHAP is packaging them for dissemination.
- DHAP actively monitors for resistance in HIV, and Dr. Wolitski stated that there has not been a major increase in recent years. However, shortly after the meeting CDC released new data on drug resistant HIV showing that 1 in 6 of newly diagnosed persons with HIV had virus with a transmitted drug resistant mutation and that prevalence of transmitted drug resistance was 1.3 times as high among persons recently infected compared to those with long-standing infection. These data are available at: http://www.retroconference.org/2012b/Abstracts/42992.htm.
- NHAS calls for investing resources where they are needed the most, and working to achieve more equitable investment of resources and more equitable provision of services. DHAP works at different levels to address disparities. For instance, at the structural level, some activities address broader societal risks and social determinants that put people at greater risk for HIV infection. At the community level, structural interventions including improving access to interventions and services address disparities. Individual-level behavior change interventions not only reduce risk behaviors, but also get people into care and keep them in care. A great deal of energy and attention is being focused on navigators to help people move through the system and become better advocates for their own health.
- Dr. Wolitski was not sure how ECHPP identifies people who are co-infected with HIV and TB, and he offered to gather that information and share it with ACET.
- General population surveys show high levels of awareness of HIV among the American public. However, recent surveys show a decline in the level of importance that is ascribed to HIV infection. The highest rates of undiagnosed HIV infection are among

persons who have never been tested for HIV, which account for a relatively small proportion of persons who are members of risk groups. DHAP is considering recommendations regarding the frequency of HIV testing for persons who are at increased risk.

- In recent years, DHAP has worked to better support the integration of TB and sexually transmitted infection (STI) services within HIV prevention programs, trying to eliminate barriers and duplication of effort. This area is a work in progress. The health department cooperative agreement addresses the use of funds for screening for TB and for STIs. The appropriation allows for up to 10% of resources within NCHHSTP to address co-occurring issues. There are opportunities for HIV programs to include elements that will benefit the health of their clients, and there are opportunities for STI and TB programs to do the same. It is important to find opportunities for synergies that are in the best interests of the populations.
- Regarding partner services, DHAP is considering all strategies to determine how well they are working and whether they make sense for all settings and areas. In some situations and some areas, partner services is highly effective and makes a lot of sense. In other contexts, the yield is not as good. Overall, partner services is still a key part of HIV prevention activities, in part because those activities are important for identifying people early in their infection and linking them to care.

ACET made the following observations regarding HIV and TB:

- Many of the same patients who are screened for TB and HIV are also screened for syphilis, which requires collecting a serum specimen. There is potential for cost savings if the testing were coordinated. A new testing algorithm for HIV moves away from the Western blot, and it will be important to study the comparative costs of the available tests to choose the right test for a given situation. Dr. Castro recalled a TB cluster in a homeless community in Atlanta, GA. By using a blood draw to evaluate for TB infection, they simultaneously assessed for HIV and hepatitis, as well as syphilis. Over time, it may be possible to make stronger recommendations in outbreak response scenarios to use the blood draw to assess multiple diseases, if it is relevant to do so.
- TB clinics in the US are populated with more people with TB infection than TB disease; however, routine HIV testing is not offered to most of those patients because it is interpreted that only persons with TB disease should be tested for HIV. A large population of people lives with TB infection, and their HIV status makes a significant difference in their risk of developing TB disease. It can take a long time for TB clinics to access rapid HIV testing kits, and it can take a long time to train nurses in HIV counseling. The HIV community could reach out in those areas, and the TB community needs education that people with TB infection need HIV testing. One of the barriers in the TB clinic is the requirement to fill out a reporting form for every individual that is tested. Dr. Wolitski said that the health department cooperative agreement supports PCSI. Through the HIV cooperative agreement, jurisdictions can use resources to provide TB and STI screening as part of HIV testing. DHAP is working on reducing data burden, but a one-page data form is still required.

Dr. Castro said that the HIV community could better advocate for more routine TB skin testing. If patients are found to be positive, they must complete treatment for LTBI. Conversely, when a person is found to have LTBI, the TB community can test that person for HIV in order to provide optimal care. They could refine their policies based on new knowledge. He expressed caution regarding unnecessary tuberculin skin testing. TB is in a different situation from HIV, as

the TB community advocates for screening targeted to high-risk populations to avoid false positives.

There was discussion regarding federal funding levels for HIV/AIDS at CDC and nationwide. HIV has higher funding levels than TB, but the two groups can learn from each other. DHAP's target population appears to be about 1 million people with HIV infection who should be on therapy. Dr. Wolitski reminded ACET that DHAP does not support HIV treatment. Those funds are administered elsewhere. DHAP's annual budget is about $786 million. Ryan White resources are administered by the Health Resources and Services Administration (HRSA). Prevention represents about 4% of the total HIV budget.

ACET liaison representative Dr. Ray said that HIV testing is sensitive and specific, unlike options for determining whether people have TB infection. Because there is so much uncertainty regarding who has TB infection, HIV testing should be offered to anyone who seeks care or evaluation, rather than to someone who is found to have TB infection. Some TB programs can only afford to test certain groups. Dr. Wolitski answered that the suggested approach would be consistent with DHAP's guidelines. Resources in the US are eroding for HIV prevention and other public health activities. DHAP's new health department cooperative agreement includes a new formula, which has led to a concentration of resources in areas with the greatest burden of HIV.

NCHHSTP includes different diseases and a range of effective medications. The common denominator for all of the diseases is a patient population of drug users and those with serious mental illness. Coordination, collaboration, and outcomes could be improved if the center improved its approach to adherence. People who know their serostatus may not change their behaviors. More compelling strategies are needed so that individuals will be more compliant with their drug treatment and psychotropic medications, otherwise they will not be adherent to any regimen.

Liaison representative Dr. Warkentin said that in his state, resources were available for use of the rapid HIV screening tools. There was an effort to test as many people as possible and to screen people going into the state prison system using that technology, which is costly. He asked why that test was being used in that setting, where people will be in prison for an extended length of time, while the TB program is not given access to many kits to use in that setting. He wondered whether HIV prevention programs could make a stronger requirement for partnering and sharing resources. Dr. Wolitski said that the HIP approach to HIV prevention includes emphasis on the relative costs of different types of testing technologies and interventions. The history of the response to the epidemic includes individual-level, intensive interventions. The prevention response was built upon those strategies because they were the best at the time. Those programs cannot be brought to scale, given their intensity and expense relative to other strategies. DHAP is now looking at how to put tools together to have the largest impact for the least cost.

There is a need for more connectivity between TB and HIV within communities:

- The language of TB and HIV may not be understood by the populations at risk for those conditions. It is important to work together language that is understandable and usable.
- The social perceptions of TB and HIV are different, which results in different funding levels.
- The two areas should officially explore areas for synergy and "win-win" situations.

- HIV and TB work together within NIAID. CDC could potentially learn from their experiences.

Dr. Castro encouraged them to refrain from "pitting one disease against another." He suggested that they work to make better use of mutually-beneficial opportunities as both divisions are changing their funding formulas. Their work must be epidemiologically driven. TB and HIV converge more in some states than in others, and those areas might be good starting places. At NIH, the ACTG infrastructure is carrying out clinical trials for TB. DTBE is working with them. ACTG and TBTC, funded by CDC, are jointly collecting data.

Call to Order, Welcome, and Roll Call: March 7, 2012

Hazel Dean, ScD, MPH
Deputy Director, NCHHSTP
Centers for Disease Control and Prevention
ACET Designated Federal Official

At 8:36 a.m. on March 7, 2012, Dr. Dean conducted a roll call of the ACET voting members, *ex officio* members, and liaison representatives who were in attendance in person or via teleconference. She verified a quorum of ACET voting and *ex officio* members.

Dr. Dean greeted the group and reminded them that ACET meetings are open to the public, and all comments made during the proceedings are a matter of public record. Members should be mindful of potential conflicts of interest identified by the CDC Committee Management Office and recuse themselves from voting or participating in these discussions.

Shannon Jones III
Acting Director of Public Health and Community Services
City of Austin / Travis County
Texas Health and Human Services Department
ACET Chair

Mr. Jones added his greeting and reminded ACET members with resolutions to present during the business meeting should forward those resolutions to CDC staff so that the resolutions would be available for presentation. He reiterated the importance of maintaining a quorum throughout the meeting. The next ACET meeting would be via a webinar on June 5-6, 2012.

Correctional Updates

TB Treatment Completion Among Persons Incarcerated at Diagnosis

Maryam Haddad, MPH
Surveillance, Epidemiology, and Outbreak Investigations Branch
Division of Tuberculosis Elimination/NCHHSTP
Centers for Disease Control and Prevention

On behalf of Kiren Mitruka, MD, MPH, Ms. Haddad presented ACET with data regarding TB treatment completion among persons incarcerated at diagnosis from the US TB Surveillance

System from 1999-2008. Treatment completion is a top priority for TB control, as interrupted or incomplete treatment increases the risk of relapse, further transmission, and drug resistance. Most forms of TB are treatable with 6-9 month regimens, so the national goal is for 93% of patients eligible for completion within 12 months to do so.

Since 1993, the National TB Surveillance System (NTSS) has collected the reason that therapy was stopped. Therapy could have stopped because treatment was completed, or for a number of other reasons, such as loss to follow-up. Also in 1993, NTSS began recording whether the patient was incarcerated at the time of diagnosis. In 2009, NTSS recorded whether the patient was in the custody of US Immigration and Customs Enforcement (ICE).

Among all TB cases, the overall proportion of cases completing treatment has increased from 87% to 92% from 1993 to 2008. This overall treatment completion is calculated for people who were alive at diagnosis, who began treatment, and who did not die during treatment. Completion within 12 months also improved from 63% to 85%, but the number falls short of the national goal. Patients are not included in this category if they do not have a condition that would prolong treatment, such as drug-resistant TB.

Ms. Haddad presented a table of the overall number of TB cases reported since 1993 and the proportion of those patients who were incarcerated at diagnosis. The number of these patients peaked at over 1000 in 1994 and has since stabilized, but the number is not substantially declining. The rate is approximately 500 cases per year. The proportion of cases is steady: about 4% of TB cases are in persons who were incarcerated at diagnosis. These figures do not capture patients who were recently incarcerated or patients who became incarcerated after diagnosis.

Treatment outcomes among incarcerated patents were compared to patients who were not incarcerated from 1999-2008. Data regarding why therapy was stopped was collected. Additionally, among persons eligible for completion within 12 months, the study assessed how many people completed treatment within 12 months, how many delayed completion, and how many did not complete treatment. The last group's facility at diagnosis was examined.

Among all people who were alive at diagnosis and who began treatment, incarcerated persons were less likely to complete treatment by approximately 13%. Reasons that their treatment stopped include death during treatment, which is lower among incarcerated persons than non-incarcerated persons; moving; and loss to follow-up. Foreign-born incarcerated persons are less likely to complete treatment than US-born incarcerated persons. Approximately one-third of the foreign-born population has no documentation of completion due to moving or loss to follow-up.

Among all patients who began treatment and who were eligible to complete within 12 months, people who were not incarcerated consistently show more timely completion. Rates of timely completion among incarcerated persons appear to be worsening. This gap is not due to delays in completing treatment; incarcerated persons are much more likely never to complete treatment. That trend is worsening as well.

Among incarcerated persons, US-born patients are more likely to complete treatment in a timely fashion. The disparity between US-born and foreign-born is widening. This gap is also not due to delays, but because no completion is documented. About 10% of US-born TB patients who are diagnosed when incarcerated have no documented completion of treatment, where 50% of their foreign-born counterparts have no documented completion of treatment. In most cases of

incarcerated TB patients with no known treatment completion, the patients were in local jails at the time of diagnosis. Many foreign-born were also in federal custody or other facilities. Patients in state or local facilities at the time of diagnosis fare somewhat better in treatment completion than those who are in federal custody.

A few conclusions can be made from these results. Persons incarcerated at diagnosis are at high risk for not having timely treatment completion. Trends in timely completion seem to be worsening. This failure is largely attributed to no known completion rather than to delayed completion. Foreign-born are at particularly high risk for having no documented completion of treatment.

Discussion Points

ACET thanked Ms. Haddad for the presentation and offered several comments and questions:

- The differences associated with the country of origin of the foreign-born patients would be interesting to understand.
- The data for local jails probably includes patients who are in federal custody. USMS uses more than 1800 local jails to house their prisoners, and ICE uses approximately 240 local jails nationwide. One of the most significant issues for the foreign-born who are in ICE custody and housed in local jails is the lack of notification of the status of TB patients. There is no automatic reporting system between local facilities, public health, and ICE. A systematic plan is needed to ensure that patients have continuity of care.
- Treatment completion may be better than it is reported, so it is important to share information from TB Net and Care TB with the domestic surveillance system. Further, the criteria for treatment completion may differ among programs. Ms. Haddad said that the international notification form does not require reporting of treatment outcomes. Treatment is likely completed more often in state-to-state transfers.
- Concern was expressed about missed opportunities to make trans-national referrals for foreign-born patients who are housed in local jails, but whose status is unknown.
- Frequent transfers occur among all federal agencies, and the agencies should be prepared for them. People move in the system for a number of reasons, such as for court appearances, staging for transport, to break up gangs, and for bed availability. Electronic medical records could be feasible, but all local facilities across the country will not be on the same system.
- A comparison was made between public health's function in ensuring that patients complete TB therapy and public health's role in vaccination completion. States compare their vaccination case rates to each other based on information in the *MMWR* every year. If the data provided by Ms. Haddad were be presented by state, or by federal versus state facilities, yearly in the *MMWR* and through communication from the CDC Director to state corrections officers, the Federal Bureau of Prisons (FBOP), and other relevant entities, they could be encouraged to improve their results.
- The "TB Today" training course, which was created with support from the American Lung Association, reached out not just to public health professionals and infection control professionals, but also to the corrections community. This approach reinforced the notion of a "TB family," headed by the TB controller, and built a sense of duty, responsibility, and collaboration.
- The process may vary from state to state, but guidance is needed regarding whom to notify about a patient and who is responsible for transmitting the information to the surveillance system. Proper connections are not always in place, and a better framework is needed, especially as TB personnel in health departments are retiring and

being replaced by general public health practitioners. Specific education and outreach efforts are needed to show every state TB control program how to make these connections. Some jurisdictions have good systems, while other jurisdictions do not.

Dr. Castro clarified the recommendation to develop a list of points of contact in correctional health that could be shared with local TB controllers. The DBTE website identifies TB controllers and jurisdictions that have cooperative agreements with CDC, and they could work together to generate a list, knowing that it will be difficult to keep the list up to date. DTBE has developed a brochure that includes an overview of the notification process, from the corrections side and the public side. The two sides know little about each other, which creates a disconnect. The brochure describes the responsibilities of both sides. When the brochure is released, CDC can provide a link to it.

Ms. Haddad responded to specific questions from ACET:

- Race, ethnicity, and gender variables are part of the larger analysis. It is the responsibility of the health department that initially reports the case to follow up to document treatment completion. Discharge planning would ideally take place before the patient is released, but the system is complicated, and procedures vary from place to place.
- National-level data will not answer questions about whether formularies in prisons are the same, completion rates in HIV-infected persons with TB, or about differences between state-run versus contract-managed health services in prisons. It would be possible to examine those questions within states.
- Beginning in 2009, the system began capturing the visa status for foreign-born patients. Soon, it will be possible to determine whether there are differences between the two groups.

ACET liaison representative Dr. Ray noted that people who are incarcerated have many risk factors for not completing treatment. If it were possible to identify a group of people who were not incarcerated at diagnosis, but who share the same rate of substance abuse, mental illness, and homelessness, then this group could serve as a comparative population. Incarceration could be somewhat beneficial because of its structure. Additionally, it is important to understand the "handoff" process and transition points, especially if there is not a good plan for ensuring that patients complete their TB treatment. Ms. Haddad noted that incarceration may be protective for the US-born patients. Only 10% these patients do not complete treatment, and fewer of them die. The data for foreign-born patients is worrisome.

TB in Prisons and Jails: Public Health Challenges and Opportunities

Sarah Bur, RN, MPH
Infection Control Officer
Federal Bureau of Prisons
ACET *Ex Officio* Member

Ms. Bur said that the situation of TB prevention and control in prisons and jails in the US is like the fable of the six blindfolded men examining an elephant, who each described one aspect of the elephant, but who could not comprehend the entire elephant. It is public health's business to get to know the "elephant" of the corrections system. A set of guidelines that will prevent and

control TB was developed and published in 2006, and it is critical that those guidelines are followed.

There is an epidemic of incarceration in the US. From 1920-1980, the rise in prison populations was proportional to population growth. From 1980-2006, the prison population increased by 600% in a classic epidemic curve. In 2010, 2.3 million persons were incarcerated in the US, for a case rate of 962 per 100,000 adults. This rate is the highest in the world. In 2009 and 2010, there were slight declines in the incarcerated population for the first time.

This epidemic has many causes. Untreated mental illness is a significant contributor to increased incarceration. Untreated substance abuse is another major contributor. The biggest contributor to the epidemic may be the criminalization of drug use, including mandatory minimum sentencing. Further, there has been a large increase in the incarceration rates of undocumented immigrants.

It is important to understand the difference between jails and prisons. Jails or detention centers are usually administered by local law enforcement or local government, and they are as different as the local governments across the US. Jails generally incarcerate pre-trial inmates and those with sentences of less than 1 year. There is extremely high turnover in these facilities. State prisons house sentenced inmates convicted of state crimes, and federal prisons house both pre-trial and sentenced inmates related to federal crimes.

Privatization of corrections has become big business. Private companies contract with governments to commit prisoners, sometimes by assuming the management of existing facilities and sometimes by building and operating for-profit prisons. In 2010, 12.7% of federal inmates and 7.5% of state inmates were housed in privately-run facilities.

The Federal Bureau of Prisons (BOP) operates 132 facilities in the US, 16 of which are contract facilities. The average number of inmates in federal facilities in 2010 was 196,166, and 25% of them were foreign-born. The United State Marshalls Service (USMS) is responsible for a number of functions within the federal correctional system, including inmate transport, delivering inmates and legal documents to court, and the housing of inmates before they are moved to a federal facility. The United States Marshalls Service contracts with ~1800 local jails to house USMS inmates. In 2010, USMS detained 225,329 prisoners. USMS does not collect data on country of origin, but because these are the same inmates that come to FBOP, it is a good estimate that 25% of the USMS prisoners are foreign-born. Immigration and Customs Enforcement (ICE) operates 11 detention facilities in the US, 5 of which are contract facilities. ICE contracts with 240 local jails. Almost 400,000 removals occurred in 2010, either via deportation or voluntary removal, and 100% of them were foreign-born. People in ICE custody are not housed for criminal charges, but are held while immigration proceedings are on-going. The ICE population is different from the USMS population, which has been convicted of a crime, but there are many intersections between the populations.

The epidemic of incarceration has led to overcrowding in jails and prisons. In California, the Supreme Court ruled in May 2011 that the crowding had to be reduced from 200% of capacity to 137.5% percent of capacity. This move has created to overcrowding in local detention centers. The solution to overcrowding has been the “triple bunk,” allowing cells that previously held 2 inmates to hold 3 inmates.

TB incidence in the correctional population among inmates is about 20 per 100,000: it is 5 times greater than in the general population of the US. Inmates are at a high risk for TB for a number

of reasons, including foreign birth, substance abuse, low socioeconomic status, and HIV infection. The HIV infection rate in the prison population is estimated to be about 1.5%, but the rates vary widely by state, to as high as 10-15%. Numerous TB outbreaks in correctional facilities have been reported in the literature, with evidence of transmission to nearby communities. Outbreaks are almost always associated with a delay in active TB diagnosis. Further, crowding has been associated with a higher incidence of Tuberculin Skin Test (TST) conversion.

Ms. Bur described an investigation of MDR-TB in a federal pretrial facility in San Diego, California. This high-rise detention center houses mostly foreign-born inmates. In this case, a 57-year-old Tijuana taxi driver crossed the Mexican border into the US and was detained by Customs and Border Protection (CBP). He was immediately hospitalized with alcoholic hepatitis, and he had a long history of Type 2 diabetes with insulin dependence. He was moved to a federal pretrial facility, which administers routine x-rays on every inmate, but the portable x-ray obtained was read as negative x-ray. Three months later, the inmate was diagnosed with pulmonary TB, and two months later, resistance to several drugs was identified. The inmate had mixed organisms of drug resistant TB. A re-read of the initial x-ray showed subtle evidence of upper lobe disease.

The index case was housed on a 120-bed unit in the high-rise facility during the infectious period. The unit is divided into four quarters of 30 beds each, and inmates never leave the unit. There is very high turnover in the facility. The index case was housed there for a total of 131 days, including 41 days after returning from hospitalization on standard 4-drug therapy. There was no assessment for improvement on treatment. The investigation included a meeting with the inmates in a town hall-style meeting.

The initial contact investigation showed an infection rate of approximately 20%. On that basis, all 388 inmate contacts were considered contacts that needed investigation. A very high rate of prior positive TST of almost 50% in the foreign-born inmates was found. The inmate TST conversion was 18%, slightly lower in the US-born and higher in the foreign-born. This difference could be due to boosting rather than to a higher rate of infection, as there were no differences in exposure. The staff TST conversion rate was 4.6%, which is higher than is usually seen in correctional contact investigations. One explanation is that staff in this facility has more exposure to inmates than is typical. HIV testing was conducted on all inmate contacts, and one HIV-infected inmate with a low CD4 count was identified who developed lymphatic TB. Infected contacts were treated with Moxyfloxacin and Ethambutol. Those with a prior positive TST who shared the same quarter with the index case were treated. Completion of treatment was not tracked in this cohort.

Four weeks after the MDR-TB was identified, and twelve weeks into the investigation, the three hundred eighty-eight inmate contacts were widespread. Eighty-four remained incarcerated at the federal pretrial facility. Thirty inmates had been released, mostly to the California community, and very few of them were found. One hundred two inmates had been deported, mostly to Mexico. The Mexican government was not interested in following up unless there was TB disease or an HIV-infected contact. Sixty-three inmates were in USMS custody, going to five different contract facilities, and one hundred one had gone to forty-three different FBOP facilities. CDC supported the investigation with 6 weeks of Public Health Advisor support.

The MDR-TB problems in prisons in the former Soviet Union serves as a cautionary tale for the US.

Correctional facilities are high-incidence TB settings with a high risk for TB transmission. Further, correctional facilities are high-TB incidence settings often located in low-incidence communities that lack TB expertise. Most of the country has a TB rate below the US average, which is 3.6 per 100,000. High-risk inmates are transported all over the country, often into local jails where providers are not familiar with TB. Often, local community physicians and health providers are also not familiar with the disease.

Public health and corrections collaboration is critical to TB prevention and control in correctional facilities. The deliverables are significant. Public health can deliver consultation; TB diagnosis and treatment; laboratory support; release planning; contact investigation support; policies and procedures; and TB education. Correctional facilities are expected to deliver case detection; case reporting; active TB treatment; release planning; contact investigation; and treatment of LTBI. Correctional facilities are critically under-staffed. A barrier to collaboration is that the culture of corrections is unfamiliar to many people. Public health professionals often do not see TB in correctional facilities as their problem. Public health must become familiar and comfortable with the culture of corrections and understand that security always comes first in this very challenging environment.

On-going TB education of correctional healthcare workers and custody staff, as well as inmates, poses major challenges. Good systems are not in place to ensure that new staff is oriented to TB. Further, release planning for inmates with active TB is a critical aspect of TB control in correctional facilities. Correctional facilities provide opportunities for TB prevention and control, particularly in TB case detection and in treatment of LTBI. There is potential for TB case detection in local jails, if providers are equipped to diagnose the disease. Treatment of LTBI with Isoniazid (INH)/Rifapentine is an extraordinary opportunity. INH alone requires 72 twice-weekly doses, where INH/Rifapentine requires 12 once-weekly doses.

Allocation of limited public health resources should reflect the fact that correctional facilities are high-priority settings for TB prevention and control. Public health funding is decreasing, and state and local funding for corrections are also decreasing. This situation is alarming for a vulnerable population, creating a very serious time for TB control.

Ms. Bur offered a series of recommendations for ACET to consider. A national strategy is needed for TB prevention and control in correctional settings. Work is on-going in various sectors, but collaboration on a plan is needed. More collaboration is needed at the local level, and there is also untapped potential with national organizations that work on corrections. It would be beneficial to partner with large correctional healthcare corporations, who could mandate orientation education for all correctional healthcare workers on TB. There are opportunities in surveillance and research, including conducting analysis of the Report of Verified Case of TB (RVCT) corrections data. Additional incarceration data should be added when changes are made to the RVCT. It is critical for the correctional workforce to understand TB. Finally, federal correctional partners need support for their TB prevention and control efforts. ICE, USMS, and FBOP are responsible for over 750,000 federal detainees, and the healthcare workers are responsible for all diseases, conditions, and infection control for those detainees. More collaboration will assist them in their efforts.

<u>Discussion Points</u>

ACET and the liaison representatives thanked Ms. Bur and made a number of observations:

- This issue is “low-hanging fruit” with the potential for high impact. The corrections population should be emphasized in US TB prevention and control efforts. Focusing on

the US correctional population could yield information about latency and spread and could also address outbreaks in communities near the facilities.

- A gene expert could screen in every facility, which would show information about the real burden.
- Innumerable systems issues must be resolved to address TB in corrections. State health departments, state corrections systems, and local jails should be at the forefront of this work. On-going relationships between public health and corrections are needed. Ultimately, public health performs functions of assessment, assurance, and policy development, all of which come in to play with the issue of TB in corrections. Public health has an opportunity and an obligation to show leadership in this area with corrections partners, whose number-one priority is security. Staff turnover in corrections is extremely high, and to approach this problem, his state has created a training piece that all new workers see.
- ICE detention standards require that any detainee housed at a facility that houses people for 72 hours or longer is screened within 12 hour of admission. The evaluation following the screening is often lacking, especially jails that are located in low-incidence settings.
- Corrections staff and law enforcement agency staff are two different groups of people. The legal authority for keeping a person in a facility is in accordance with federal immigration laws, not for the provision of healthcare. People are usually not able to be held beyond the completion of their sentence, and there are legal restrictions on how long people can be detained after the issuance of a final order of removal. A toolkit is needed for everyone involved in the process, from law enforcement to corrections to transportation. Local health departments can participate proactively.
- Over the last decade, a number of contracts with state prisons have been litigated for failure to treat and for other reasons. The contracts are risk-based, but risk changes when there is an influx of TB cases and TB cases that are complicated with other conditions. Formularies are challenged to provide drugs to treat the patients. The system could be ineffectual in the face of demands to treat patients at a standard of care. Ms. Bur said that relationships are critical so that partners support each other. In her experience, contractors were appreciative of help from public health.
- ACET could devote an entire meeting to this issue, as it cuts across every aspect of the TB community.

ACET discussed whether it would be possible for a state to employ a person both in public health and in corrections, or whether a federal employee could serve both CDC and FBOP to help bring the worlds together. Public health and corrections have different priorities, but the worlds have mutual interests. Examples of similar arrangements were offered. Dr. Castro said that CDC had expressed interest in assigning a person to FBOP, but they were not able to do so. It is important that CDC is available on an as-needed basis. Currently, in order for CDC to assign someone to FBOP, those resources would be shifted from elsewhere.

The US-México Border TB Consortium in May 2012 will be a crucial opportunity to discuss these issues. Continuity of care is a problem because security concerns overrule medical concerns. Many variables come into play in managing the corrections patient population. Most local jurisdictions and states do not have the resources to manage a patient's care; some institutions will not admit a patient who is an ICE detainee. The 2011 TB Consortium was dedicated to issues of continuity of care for people who are deported, regardless of whether they are in ICE custody immediately prior to removal. Specific action steps and workgroups were identified. It is critical that public health agencies and officials understand the nature of

corrections, detention, and local, state, and federal law enforcement. Conversely, the law enforcement and corrections communities need to understand public health. Each operates within the constraints of its legal authority, and understanding each other's complex systems will allow them to build relationships and move forward.

Ms. Bur responded to specific questions from ACET and the liaison representatives:

- The FBOP established an MDR-TB exposure problem code in their records in hopes that they will be able to locate more of the contacts from the San Diego outbreak.
- Regarding competing medical priorities in these facilities, diabetes is a large concern. Suicide is another priority, as is ensuring that schizophrenics take their medication. Sickness is a problem, as are outbreaks of varicella and Methicillin-resistant Staphylococcus aureus (MRSA). The corrections healthcare providers are primary care providers, so the same providers that manage TB also manage cancer, hypertension, diabetes, mental health, and more.
- Regarding barriers to case detection at these facilities, intake screening is not necessarily the issue. Chest x-rays are administered at facilities that receive a large number of foreign-born inmates. The intake screening always includes a symptom screen, which may or may not be done well. Intake screening also includes a TST. Knowing to "think TB" when an inmate has a chronic cough is the most important element of preventing widespread transmission.
- Privately contracted facilities could present an opportunity for educating workers on TB, but they are not a panacea. The USMS and ICE contracts with local jails are often 15-20 years old and many do not have expiration dates, so it is difficult to update them. The same contract is used for the entirety of detention management, and the language is often general, for instance referring to acting "in accordance with CDC guidelines."
- It is in the correctional healthcare workers' self-interest to identify TB. Engaging the private correctional healthcare companies and the private correctional companies and providing them with the tools to conduct mandatory employee orientation could be beneficial.
- In response to a question regarding systems and processes that are in place to contact family members of those who are incarcerated and whether those systems function well to identify others who may be exposed, Ms. Bur answered that FBOP has clear policies about contact investigations, particularly pertaining to infants and HIV infection.

Dr. Castro asked about the denominator used in the calculation of TB incidence among inmates. If the denominator includes persons who have been temporarily jailed, then it could be inflated. It is possible that the case rate is higher for people who are incarcerated or jailed for longer periods than the volume of persons that are jailed for brief times. Refining that information may unveil a more profound problem. He commented that correctional workers are unionized, and they reacted strongly when a worker died of MDR-TB in New York in the 1990s. He said that as the perception that TB is "not a problem" has grown, he has noted a resistance to noting TB. Information about TB among correctional workers and how those rates compare to other populations, could help address the problem. Workers in correctional health are natural allies, but other correctional workers may need to be reminded that TB deserves attention.

Ms. Bur said that the incidence rate was calculated crudely, and the rate of TB in incarcerated inmates could be higher. RVCT includes inmates so it will be possible to calculate rates. Public health departments need to understand the correctional facilities in their jurisdiction.

Assistant Secretary's Meeting Report

Shannon Jones III
Acting Director of Public Health and Community Services
City of Austin / Travis County
Texas Health and Human Services Department
ACET Chair

Mr. Jones directed ACET's attention to the letter outlining the nature of their discussions with Assistant Secretary for Health, Dr. Howard Koh. He felt that the meeting had been productive. The letter stood as his report, and he offered to entertain questions during the business portion of the ACET meeting.

Business Session

Hazel Dean, ScD, MPH
Deputy Director, NCHHSTP
Centers for Disease Control and Prevention
ACET Designated Federal Official

At 10:53 a.m. on March 7, 2012, Mr. Jones called to order the Business Session of the ACET meeting. Dr. Dean called roll of ACET voting members and *ex officio* members to establish a quorum.

Motion to Accept Minutes of December 6-7, 2011 Meeting

A motion was properly placed on the floor by Dr. Jane Carter and seconded by Dr. Eric Brenner to approve the minutes from the December 6-7, 2011, with the following change: on page 47, under Topic 4, the wording should be amended as follows, with the change italicized: "ACET extensively discussed the pros and cons of retaining the 3-meeting schedule versus shifting to a new 2-meeting schedule. *All ACET members understood the shift* to a 2-meeting schedule with a combination of face-to-face and webinar/teleconference meetings to reduce the burden on DTBE's budget." ACET unanimously approved the motion.

Roles and Expectations of Federal Advisory Committee Members

Gladys Lewellen
Federal Advisory Committee Management Branch
Management Analysis and Services Office
Centers for Disease Control and Prevention

Ms. Lewellen highlighted roles, responsibilities, and expectations for special government employees who serve on Federal Advisory Committees. She indicated that she and her colleagues are always available to answer questions.

Over the past several months, the Federal Advisory Committee Management Branch of the Management Analysis and Services Office (MASO) has conducted an evaluation of all CDC Federal Advisory Committee Act (FACA) committees and all regulatory and compliance areas to identify the top 5 high-risk areas: performance measures for FACA committees; independent advice and recommendations; financial disclosure; membership balance; and human resources, including the role and accountability of the DFO.

Additionally, an internal program evaluation is taking place across CDC. This evaluation is considering all statutory and regulatory provisions that undergird FACA committees. Members of ACET may be contacted for interviews to assist with this project and to provide input on their experiences with CDC's FACA committees.

Ms. Lewellen reminded ACET that any outcomes from the committee must come from within the provisions of the committee's charter. The objectives, scope of activities, and description of duties outline the legislative mandate that oversees ACET. If documents from ACET venture beyond the committee's charter, they will not be forwarded. Of particular note are issues concerning funding or budgeting. FACA committee members are prohibited from engaging in any activity which would directly or indirectly encourage or direct any person or organization to lobby one or more members of Congress.

A new CDC subcommittee and workgroup policy is under development to address the participation and roles of CDC staff in advisory committee activity. ACET is an independent body, and any outcomes from ACET should be the result of ACET members' independent judgment, without undue influence from CDC. CDC subject matter experts provide important data and input to help guide the committee's deliberation, but any work that goes forward is the product of the committee.

Financial disclosure forms should be filed annually. Every ACET meeting also begins with a reminder from the DFO that voting members and *ex officio* members should recuse themselves if they are in conflict with an issue. Forms filed by *ex officio* members with their agencies are sufficient. As private citizens, members of FACA committees may express their personal views, but cannot express the opinions of the committee or of CDC and HHS as a whole.

The public record is the official minutes of the ACET meeting. At this time, there is no requirement to post the transcript publicly. If a request is made by the public for any and all documents from the meeting, then all materials will be released. Clarifying corrections to the record are permitted.

The new policy will clearly define who can be a member of a workgroup or subcommittee, and who can be an ad hoc subject matter expert. In order to function, workgroups need input and information from different sources. When the parent committee charges the workgroup, the charge should include deliverables and a timeline. They should only be formed for a specific period of time: one year or less. At least two SGE members of the parent committee must sit on a workgroup. One or both of those members must chair the workgroup. The workgroup cannot meet unless both members of the parent committee are present. One federal staff member must oversee the workgroup activities. *Ex officio* members or liaison representatives should not be members of subcommittees or workgroups, but they can participate on an ad hoc basis. Any other subject matter experts, such as CDC staff, can be added to the workgroup as ad hoc consultants. When the workgroup completes the deliverable, then it should be disbanded.

Discussion Points

There was extensive discussion of the conflicts associated with publication of the BCG document:

- The issue focuses on how FACA committees are intended to operate and how the *MMWR* scientific publication process works. Because CDC staff are heavily involved in the activities of FACA committees and their workgroups, it is not clear whether the product in *MMWR* is a product of the committee or of CDC.
- Some FACA committees produce guidelines or recommendations that are the result of back-and-forth writing and editing with CDC. The scientific publication process must be separated from the FACA committee process. It is possible to find "middle ground" that will allow committees to continue their good work and provide their independent opinions while preserving the requirements for publishing in the *MMWR*.
- This document relates to healthcare workers overseas and the BCG vaccine. It was primarily written by ACET with input from CDC in certain sections, such as infection control and personal protective measures. Many ACET members worked long hours on the document and expressed some frustration that the document has been stalled.
- FACA committee recommendations are accepted at the agency's discretion. CDC compiles resolutions and outcomes from ACET. FACA rules require CDC to provide feedback on if or how the advice and recommendations of the committee have been operationalized. That information is also used to determine whether the committee has fulfilled its charter.
- ACET's input would be helpful as MASO determines the mitigation strategies that will be implemented to address the risks identified as part of the assessment and program evaluation.
- CDC sent the document for external review, and the workgroup chair responded to all comments. The document was then subjected to internal review at CDC, which was favorable. The document then went into the clearance process. When it was written, it was very up-to-date with major BCG experts in the US signing off on it.
- ACET requested a timeline for publication of the BCG document, as the topic is timely, and no guidance on the topic is currently available in the literature.
- When FACA committees and CDC collaborate on products, such as documents, the topic and content will determine whether the products should be authored by the FACA committee, by CDC, or both. For instance, ACET could contribute to a CDC product, such as technical guidelines. In this "middle ground," the guidelines would be a CDC product that reflect ACET's contributions.

Dr. Castro proposed that Ms. Lewellen join them in a consultation with *MMWR* to help resolve the impasse and move forward. The BCG document is predominantly an ACET document, but it is being subjected to clearance as if it were a CDC document. Ms. Lewellen said that she would contact Dr. Dean regarding next steps for the product.

There was discussion regarding the roles and responsibilities of FACA committee members and liaisons:

- The membership designation section of the ACET charter describes each category of committee member. ACET *ex officio* members do not vote, but count toward achieving a quorum; however, the statute indicates that *ex officio* members should vote unless prohibited by law, so changes could be imminent. Currently, ACET voting members are Special Government Employees (SGEs). Liaison representatives are a category of special interest. It is expected that they will bring their platforms, opinions, and special

interests of their constituents to the meetings. They serve as resources to provide information. The deliberations of the meeting are guided by the chair and the DFO. Only members of the committee should participate in meetings. Subject matter experts and liaison representatives should be called on to participate as needed.

- Several meeting participants also participate at different levels on the National Vaccine Advisory Committee (NVAC). On both ACET and NVAC, liaison members participate freely and are not dependent on being called on by the chair. Clarification across all FACA committees is needed. Additionally, the NVAC seating arrangement puts the members together, and the liaisons are seated in a manner such that interaction is possible. It is not clear whether an ACET member serves in a capacity as a state public health official. It is also not clear whether members have designees, and whom to contact with questions. It can be confusing at ACET to understand who is a member, who is a liaison, and who is a designee, since they all serve on a number of different committees.
- Ms. Lewellen agreed that more understanding is needed. Liaisons are part of the committee to provide input, and the chair is charged with managing the dynamics of the actual committee. NVAC is an HHS committee and Ms. Lewellen could not comment on how HHS committees are operated.
- Dr. Castro believed in learning from how others operate. On the WHO Scientific and Technical Advisory Group, the chair first recognizes the committee members, then liaisons and others are recognized during the discussion. The conversation is free-flowing, with the understanding that committee members are heard from first and the liaisons then supplement the discussion. He then turned to the example of an MMWR set of recommendations that was published in 2006 by CDC but endorsed by ACET. It was subject to CDC clearance because it was a CDC document, and they have historically been able to work in this "middle ground."
- Dr. Dean said that as the DFO, she is the committee's contact person. ACET members were reminded to not make any direct contact with the TB Division. The ACET Committee Management Specialist works with Dr. Dean regarding ACET matters.

Potential Business Items: Future Agenda Items / Other Business

Shannon Jones III
Acting Director of Public Health and Community Services
City of Austin / Travis County
Texas Health and Human Services Department
ACET Chair

Mr. Jones asked ACET for comments on strategies for how to proceed with its future agendas, given the information shared by Ms. Lewellen.

Concern was expressed regarding how a report from the workgroup on restructuring the National TB Control Program might be received, given the composition of the workgroup and perceived conflicts. One solution could be to consult with NIH and other agencies regarding their processes for appointment. Dr. Gail Cassell, ACET member, indicated her willingness to work with Mr. Jones and Dr. Dean on these issues.

The ACET Meeting Workgroup could take on some of these questions as part of its charge. Mr. Jones agreed, suggesting that he and Dr. Dean work directly with that workgroup. Conference calls would be held before the next meeting.

In order to use their time optimally, Mr. Jones asked that ACET members suggest future agenda items via email. Given the format of their next meeting, they would determine which topics lend themselves to a webinar format. Further, they would determine the length of the webinar.

Topic 1
Dr. Seaworth said that at the last ACET meeting, ACET voted to ask CDC to take the lead in working on issues related to the lack of drugs for treatment of MDR-TB. This important issue will impact patient care. Ms. Ann Cronin, Associate Director for Policy and Issues Management, DTBE, reported on CDC's progress on this front.

In order to address the shortages, each drug used for an MDR-TB regimen must be assessed separately. While a stockpile program may seem like a simple solution, CDC would need authorization and appropriation to create such a program. Drugs used in stockpiles are first identified approved by the Department of Homeland Security (DHS) for use in case of bioterrorism. The CDC Drug Service is responsible for purchasing drugs for use in rare instances, and there may be opportunities for CDC to hold a license for several drugs. They are making progress on clofazimine and are reviewing the state of California's protocol. They are also considering kanamycin. There is a need for a group approach to this problem. FDA has been given a Presidential order to work with drug companies to explain when drug shortages are imminent. CDC works closely with FDA and shares information about shortages in TB drugs with them. Legislation would require drug companies to report upcoming shortages to FDA; however, a better approach might be for the CDC Foundation to convene a meeting of drug companies to bring everyone together to approach the problem and solutions jointly.

Dr. Cassell, ACET member, confirmed that a workshop on second-line drugs would be held July 31-August 1, 2012. It may be possible to hold a discussion with drug suppliers in conjunction with the meeting. It may also be possible to convene a conference call between the drug companies and the ACET workgroup to share findings. Shortages may have to do with pricing and a lack of reliable demand forecasting, but the conversation would be a good place to start. The Institute of Medicine (IOM) could convene the conference call. In cases like the patient from Djibouti, suppliers get called for drugs when there is no alternative. A separate agenda item could be to discuss the process for communication when these situations arise. FDA has a process in place for drug-resistant malaria, for instance.

The resources to deal with MDR-TB cases are different in different parts of the country. They should emphasize the public health consequences associated with not having drugs to treat an MDR-TB patient.

The conversation with the companies might begin with the example of the MDR-TB case in the prison. That situation is a good example of what can happen when drugs are not readily accessible.

Topic 2
As the BCG document was discussed extensively in the previous session, Dr. Seaworth would provide an update to ACET regarding progress on the document at the next meeting.

Topic 3
The following motion was properly placed on the floor and seconded by Drs. Barbara Seaworth and Jane Carter, respectively: "ACET recommends to DTBE that it support the unanimously approved decision by the membership present at the North American Region of The Union's recent meeting to recommend to the STOP TB Partnership at WHO that the theme of World TB Day 2013 be 'TB Treatment is Prevention.'" **ACET unanimously approved the motion.**

It was emphasized that the resolution from The Union has an impact on the ACET ACA Workgroup. Dr. Castro recommended that the ACET chair communicate directly with the Stop TB Partnership, which is charged with developing the theme for World TB Day, to relay this unanimously-approved resolution to them.

Topic 4
The following motion was properly placed on the floor by Dr. Jane Carter and seconded by Dr. Marcos Burgos: "The DTBE will evaluate the possibility to host one ACET meeting in the DC area in FY 2013 in order to facilitate meetings with HHS leadership and other governmental stakeholders with an interest in TB." **ACET unanimously approved the motion.**

Topic 5
The ACET Meeting Workgroup, chaired by ACET member Dr. Jane Carter, will work with the ACET Chair and DFO to liaison with the Division in instituting the proposed meeting format changes as well as to draft "best practices" for the webinar meeting format. A conference call including the workgroup, ACET Chair, and DFO would be scheduled within the next 30 days to discuss the upcoming webinar.

Topic 6
The following motion was properly put forth on the floor by Dr. Masahiro Narita and seconded by Dr. Barbara Seaworth: "ACET recommends that the Secretary of HHS collaborate with the Secretary of the Department of State with CDC and health departments to make the CEAC (Consular Electronic Application Center) system fully functional for EDN and to enable the CEAC system to transmit electronic radiographic images and other TB-related health information." **ACET unanimously approved the motion.** ACET acknowledged that additional preamble language may need to be developed for this resolution to state why this issue is important and the potential consequences. ACET members Dr. Masahiro Narita and Dr. Gail Cassell agreed to collaborate on any needed clarifying language.

Topic 7
The following motion was properly put forth on the floor and seconded by Drs. Masahiro Narita and Gail Cassell, respectively: "ACET recommends that the DTBE Health Equity Workgroup collaborate with the ACET African American Workgroup to establish relationships with pertinent organizations including, but not limited to, the National Medical Association, National Black Nurses Association, and National Association of Black Social Workers to improve access to the African American population and enhance the quality and effectiveness of TB care and prevention using culturally sensitive methods." **ACET unanimously approved the motion.**

Topic 8
ACET recommended that the ACET Chair form a Corrections Workgroup. This Workgroup will be charged with providing a set of recommendations to the Secretary of HHS and CDC regarding development of a national strategy for improving prevention and control of TB in correctional facilities. Dr. Jane Carter will serve as chair of the Workgroup. ACET member Dr. Barbara Seaworth will participate on the Workgroup. Ex officio ACET members Ms. Sarah Bur

(Infection Control Consultant, Federal Bureau of Prisons), Dr. Diana Schneider (US Immigrations and Customs Enforcement), and Ms. Tiffany Moore (US Marshals Service) will serve as ad hoc subject matter experts on the Workgroup. In addition, ACET Liaison Representative Dr. Susan Ray (Infectious Disease Society of America) will serve as an ad hoc subject matter expert on the Workgroup.

Topic 9
It was noted that the TBESC semiannual meeting is scheduled for June 6-7, 2012, which overlaps with the next scheduled ACET meeting. Mr. Jones said that he will consult with the ACET Meeting Workgroup and Dr. Dean to discuss strategies for the Webinar, and he sensed that the Webinar would not be as lengthy as an in-person meeting.

Topic 10
Dr. Seaworth asked how to address ACET Workgroups with charges that may take a long time to resolve, or that may be on-going. Mr. Jones replied that while workgroups usually work for 1 year or less, if there is a need to continue, special dispensation can be given for the workgroup to proceed. He would consult MASO for clarity on this point.

Topic 11
The ACET Meeting Workgroup will be additionally charged with working with the ACET Chair, DFO, and DTBE to ensure that ACET operates under FACA guidelines. Mr. Jones will provide the official charge and timeline to Dr. Jane Carter, chair of the ACET Meeting Workgroup.

Topic 12
There was discussion regarding whether the ACA changes the strategy to eliminate TB.

Dr. Castro replied that the goal of TB elimination has not changed; however, the landscape is changing so that over time, local health departments may become less directly involved in the provision of care. He welcomed opinions from ACET regarding the absence of a “safety net” for the foreign-born who are undocumented and who will not be covered under the ACA, as well as for other disadvantaged populations that may not be appropriately covered. He hoped that clarity could be provided regarding the roles of local health departments.

The ACET ACA Workgroup began by looking at gaps with preventive care. The next step is to look at gaps in care for those with active TB disease. The workgroup also discussed how to address the formulary.

As the world is changing, ACET may need to change to accommodate the environmental scan that has changed their context.

Persons with active TB should be cared for by TB specialists and not treated at a primary care clinic, where there is unlikely to be TB expertise.

Mr. Jones said that the ACA Workgroup could address the gap in populations that will be served.

Public Comment / Meeting Adjournment

Shannon Jones III
Acting Director of Public Health and Community Services, City of Austin/Travis County
Texas Health and Human Services Department
ACET Chair

Mr. Jones opened the floor at 2:13 p.m. to invite public comment from those present in person or on the telephone. Hearing none, the meeting was adjourned at 2:14 p.m. on March 7, 2012.

Certification

I hereby certify that, to the best of my knowledge and ability, the foregoing minutes of the March 6-7, 2012, meeting of the Advisory Committee for the Elimination of Tuberculosis, CDC are accurate and complete.

_____ _____

Date

Shannon Jones III
Chair, Advisory Committee for the
Elimination of Tuberculosis, CDC

Attachment #1: Attendance

Note: Dr. Hazel Dean, ACET Designated Federal Official, conducted roll calls on March 6 and 7, 2012, at the beginning of each day's proceedings and when the group reconvened from breaks. She verified the presence of a quorum of ACET voting members and *ex officio* members sufficient for ACET to conduct its business on both days of the meeting.

ACET Members
Mr. Shannon Jones III, Chair
Dr. Eric Brenner
Dr. Marcos Burgos
Dr. Jane Carter
Dr. Gail Cassell
Dr. Christine Hahn (via telephone)
Dr. Masahiro Narita
Dr. Barbara Seaworth

ACET Designated Federal Official
Dr. Hazel Dean, NCHHSTP Deputy Director

ACET *ex officio* Members
Dr. Naomi Aronson (Department of Defense)
Dr. William B. Baine (Agency for Healthcare Research and Quality)
Ms. Sarah Bur (Federal Bureau of Prisons)
Ms. Linda Danko (alternate, Department of Veterans Affairs)
Ms. Julia Goldberg (alternate, US-México Border Health Commission)
Dr. John Halpin (alternate, National Institute for Occupational Safety and Health)
Dr. Warren W. Hewitt, Jr. (Substance Abuse and Mental Health Administration)
Dr. Mamodikoe Makhene (National Institute of Allergy and Infectious Diseases) (via telephone)
Dr. Diana Schneider (US Immigration and Customs Enforcement)
Dr. Theresa Watkins-Bryant (Health Resources and Services Administration)

ACET Liaison Members
Dr. Robert Benjamin (National Association of City and County Health Officials)
Dr. John Bernardo (Stop TB USA)
Dr. Frances P. Downes (Association of Public Health Laboratories)
Dr. Charles Daley ATS
Dr. Mayleen J. Ekiek (Pacific Island Health Officers Association)
Ms. Cornelia Jervis (Treatment Action Group)
Dr. Susan M. Ray (Infectious Disease Society of America)
Dr. Litjen Tan (American Medical Association)
Dr. Lornel Tompkins (National Medical Association)
Dr. Catherine D. Torres (Association of State and Territorial Health Officials)
Dr. Charles E. Wallace (National Tuberculosis Controllers Association) (via telephone)
Dr. Jon Warkentin (alternate, National Tuberculosis Controllers Association)
Dr. Maria Teresa Zorrilla (US-México Border Health Commission)

CDC Representatives

Dr. Kenneth Castro, Director, Division of Tuberculosis Elimination, NCHHSTP
Ms. Ijeoma Agaleto
Mr. Gustavo Aquino
Dr. Stewart Berman
Dr. Terence Chorba
Dr. Joanne Cono
Ms. Ann Cronin
Dr. John Douglas
Dr. Anne Marie France
Ms. Judy Gibson
Ms. Maryam Haddad
Dr. Christine Ho
Mr. Andy Heetderks
Dr. Michael Iademarco
Dr. John Jereb
Dr. Dolly Katz
Ms. Amera Khan
Dr. Awal Khan
Dr. Adam Langer
Ms. Ann Lanner
Ms. Gladys Lewellyn
Mr. David Montgomery
Dr. Drew Posey
Ms. Emma Reynolds-Middleton
Mr. Joe Scavotto
Ms. Margie Scott-Cseh
Ms. Crystal Spears-Jones
Mr. Philip Talboy
Dr. Andrew Vernon
Ms. Wanda Walton
Mr. David Wilson
Dr. Richard Wolitski

Members of the Public

Ms. Kendra Cox (Cambridge Communications)
Ms. Carol Pozsik (National Tuberculosis Controllers Association)

Attachment #1: Acronyms Used in This Document

Acronym	Expansion
AAAS	American Association for the Advancement of Science
ACA	Affordable Care Act
ACET	Advisory Council for the Elimination of Tuberculosis
ACTG	AIDS Clinical Trials Group
APHL	Association of Public Health Laboratories
APIC	Association of Professionals in Infectious Control and Epidemiology
ART	Antiretroviral therapy
ASM	American Society for Microbiology
ASTHO	Association of State and Territorial Health Officials
BCG	Bacille Calmette-Guerin (vaccination)
CBP	Customs and Border Protection
CDC	Centers for Disease Control and Prevention
CEAC	Consular Electronic Application Center
CMO	Committee Management Office
COPD	Chronic Obstructive Pulmonary Disease
DASH	Division of Adolescent and School Health
DEC	Data Entry Center
DGMQ	Division of Global Migration and Quarantine
DHAP	Division of HIV/AIDS Prevention
DHS	Department of Homeland Security
DoS	Department of State
DOT	directly observed therapy
DS forms	Department of State forms
DST	Drug Susceptibility Test
DTBE	Division of Tuberculosis Elimination
DV	Diversity Visa
ECHPP	Enhanced Comprehensive HIV Prevention Planning and Implementation Program
EDA	Effect-Directed Analysis
EDN	Electronic Disease Notification
FACA	Federal Advisory Committee Act
FAQ	Frequently Asked Questions
FBOP	Federal Bureau of Prisons
FMO	Financial Management Office
FY	Fiscal Year
HEW	Health Equity Workgroup
HHS	(Department of) Health and Human Services
HICPAC	Healthcare Infection Control Practices Advisory Committee
HIP	High-Impact Prevention
HRSA	Health Resources and Services Administration
ICE	Immigration and Customs Enforcement
IFN-a	Interferon-alpha
IFN-g	Interferon-gamma
IHS	Indian Health Service
INH	Isoniazid

IOM	Institute of Medicine
IRB	Institutional Review Board
IT	Information technology
IV	Immigrant Visa
LTBI	Latent Tuberculosis Infection
MASO	Management Analysis and Services Office
MDR-TB	multidrug-resistant tuberculosis
MMWR	*Morbidity and Mortality Weekly Report*
MRSA	Methicillin-resistant Staphylococcus aureus
MSM	Men who have sex with men
Mtb	Mycobacterium tuberculosis
NAA	Nucleic Acid Amplification
NEJM	*New England Journal of Medicine*
NHANES	National Health and Nutrition Examination Survey
NHAS	National HIV/AIDS Strategy
NIAID	National Institute of Allergies and Infectious Diseases
NIH	National Institutes of Health
NIV	Nonimmigrant Visa
NMA	National Medical Association
NTCA	National Tuberculosis Controllers Association
NTP	National Tuberculosis Program
NTSS	National Tuberculosis Surveillance System
NVAC	National Vaccine Advisory Committee
OMH	Office of Minority Health
OSELS	Office of Surveillance, Epidemiology, and Laboratory Services
OSTLTS	Office of State, Tribal, Local, and Territorial Support
PCSI	Program Collaboration Service Integration
PGO	Procurement and Grants Office
QS	Quarantine Station
RTMCC	Regional Training and Medical Consultation Centers
RVCT	Report of Verified Case of Tuberculosis
SAT	self-administered therapy
SNTC	Southeastern National TB Center
STD	Sexually Transmitted Disease
STI	Sexually transmitted infection
TB	Tuberculosis
TB GIMS	Tuberculosis Genotyping Information Management System
TB PEN	TB Program Effectiveness Network
TBESC	Tuberculosis Epidemiologic Studies Consortium
TBTC	Tuberculosis Trials Consortium
TDR-TB	Totally Drug-Resistant Tuberculosis
TST	Tuberculin Skin Test
USMS	United States Marshals Service
VA	Department of Veterans Affairs
WHO	World Health Organization
WTST	Working Together to Stop TB
XDR-TB	Extensively Drug-Resistant Tuberculosis