

Centers for Disease Control and Prevention (CDC) Atlanta GA 30333 TB Notes No. 2, 2014

Dear Colleague:

This spring, CDC Division of Tuberculosis Elimination (DTBE) staff members were involved in a variety of events, several held in conjunction with 2014 World TB Day, both here in Atlanta as well as in Washington, DC.

The CDC Public Health Grand Rounds session for March focused on multidrug-resistant (MDR) TB and was presented by an internationally known MDR TB patient / spokesperson, as well as several TB experts from CDC and the World Health Organization. DTBE also hosted a Twitter chat, an event that engaged over 700 Twitter users. In addition, the annual World TB Day issue of the Morbidity and Mortality Weekly Report came out on March 20. In this issue, DTBE published World TB Day — March 24, 2014 and Trends in Tuberculosis — United States, 2013, indicating that for 2013, a provisional total of 9,588 new TB cases were reported in the United States. There was also an article by staff of the Division of Global Migration and Quarantine, entitled Implementation of New TB Screening Requirements for U.S.-Bound Immigrants and Refugees —2007–2014.

Every spring, CDC holds its Epidemic Intelligence Service (EIS) conference in Atlanta. This is an opportunity for current EIS officers to gain experience in reporting and presenting the results of their CDC work, for current and prior EIS officers to meet and network with others at CDC, and for incoming EIS officers to match up with a CDC program for their 2-year EIS assignment. Our Division successfully participates in this conference every year. This year the conference was held from April 28 to May 2 and, as usual, included a session on tuberculosis. Please see the report on the 2014 EIS conference in this issue.

CDC's National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention (NCHHSTP) recognizes its employees for their accomplishments in an annual honor awards ceremony. A number of DTBE employees will be recognized at this year's event: Julia Ershova, Sundari Mase, Kathryn Koski, and Brittany Moore, and several groups: DTBE's TB Trials Consortium (TBTC) Study 33 Implementation Team, DTBE's International Operations Research Training Course Coordinators, DTBE's "Think Tank," and several DTBE staff who were part of the Antibiotic Resistance Threat Report Team.

These individuals and group members honored at the NCHHSTP awards ceremony then go on to be nominees for CDC honor awards. At this year's annual CDC honor awards ceremony on May 13, the Antibiotic Resistance Threat Report Team received

the Excellence in Communications award. Congratulations to the DTBE members of the team for this high honor!

The Advisory Council for the Elimination of Tuberculosis met in Atlanta June 9–10, 2014. That meeting was followed by the 2014 National TB Conference, "Sharing the Vision of TB Elimination," held June 11–13, 2014, with pre-meetings on June 10 and post-meetings on June 13 in the afternoon. The meeting was located this year at the Grand Hyatt Atlanta in Buckhead. Invited participants for the conference included State and Big City TB Controllers, TB Medical Consultants, TB Nurse Consultants, TB Program Managers, TB epidemiologists, other front-line TB program staff, Regional Training and Medical Consultation Centers (RTMCC) leadership, and other partners engaged in TB control. The National Tuberculosis Controllers Association (NTCA) website (www.tbcontrollers.org) provided conference-related information, including the agenda and conference registration. I hope many of you were able to attend and benefit from the 2014 National TB Conference. We will have reports from the meeting in the next issue of TB Notes.

Philip LoBue, MD, FACP, FCCP Acting Director Division of Tuberculosis Elimination National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention

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TB Notes

Centers for Disease Control and Prevention
Atlanta, Georgia 30333
Division of Tuberculosis Elimination ◆
National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention

HIGHLIGHTS FROM STATE AND LOCAL PROGRAMS

News from the National TB Controllers Association

Change and growth in an organization can be exhilarating and it is easy to get caught up in the excitement of all that is new, especially when examining the possibilities! However, despite the exciting evolution that the National TB Controllers Association (NTCA) is undergoing, we still experience the sadness and loss when one of our own decides to change paths, and that path leads them away. NTCA has experienced this continuum of responses during these last few months.

Launch of the NTCA Epidemiology Section

One of those exhilarating changes occurring within the NTCA is the establishment of a new Epidemiology Section. This section will be devoted to developing a professional "home" for those with graduate education, those with practical and professional experience, and those who share an interest in the epidemiology of tuberculosis and seek to become more educated consumers of the science. As we are increasingly aware, knowledge and expertise in TB epidemiology is essential to the work we do in local, state, and territorial TB programs. This new Section will likely become a vibrant and active one, and will contribute significantly to the work of NTCA in the same way that the two existing sections, the National TB Nurse Coalition (NTNC) and the National Society of TB Clinicians (NSTC), have done and continue to do.

Dr. Shama Desai Ahuja was recently appointed as the first President of the Epidemiology Section. Shama has been instrumental in the work to establish this Section and authored the petition presented to the NTCA Board. Shama also was centrally involved in the planning of the session at the 2014 NTC devoted to the topic, Using Epidemiology to Inform Public Health Intervention in Key Populations, and presented on the successful approach taken by the New York City TB Program to integrate epidemiology into program decision-making.

An inaugural meeting of this new Section was held Tuesday, June 10. This meeting was held in conjunction with the 2014 National TB Conference and was open to anyone interested in joining this section. For additional suggestions about the section, please feel free to contact Shama at sahuja@health.nyc.gov.

On the loss side, significant leadership changes have occurred over the last few months in several state and big city TB programs. Although we look forward to a close working relationship with those individuals named to carry on the work of their predecessors, we mourn the recent departures of two very active members of the NTCA organization: Deb Sodt and Cristie Chessler.

Minnesota's Deb Sodt Retires

Deb Sodt decided 2014 was the year to retire! A perfect role model for today's public health nurse, Deb has spent her professional life doing what she loves. Deb was hired 20 years ago to be the first "Screening Coordinator" for the breast and cervical cancer control program, later known as SAGE, within the Minnesota Department of Public Health. From Deb's supervisor, "Deb was

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Visit DTBE's Internet home page, http://www.cdc.gov/tb, for other publications, information, and resources available from DTBE.

instrumental in getting the program off the ground, recruiting and training clinics to provide services to underserved women throughout the state." Deb's legacy still lives on as the program continues to provide healthcare services to low-income women who are under- and uninsured. One estimate puts the number of women served at between 120,000 and 140,000!

The legacy Deb leaves in TB control is no less significant, and can be measured in services to those within her own state who experience TB as well as in contributions to the national efforts at TB control. Over the years, Deb has contributed significantly to the efforts in domestic TB control by providing leadership to DTBE on the National TB indicators Project (NTIP), the Electronic Disease Notification (EDN) System, the Genotyping and Tuberculosis Genotyping information Management System (TB GIMS), and the TB Education and Training Network (TB ETN).

As an NTCA Board member, Deb provided leadership to an organization composed of her colleagues and friends. Her quiet demeanor masks a quick wit, along with OCD-like organizational qualities that are the envy of those around her. Much of the credit for the establishment of the current Technical

Instructions (TIs) introduced by CDC's Division of **Global Migration** and Quarantine (DGMQ) can be attributed to Deb's leadership and facilitation skills. She recognized a growing concern at the state level and worked with federal leaders to implement mechanisms to address the concern — just one of the many legacies she leaves on the domestic TB control front.



We recognize that, despite her retirement, Deb can't stay away from an organization she dearly loves. We fully anticipate her continued active involvement with the NTCA and will be waiting with an extensive "to do" list for her upon her return.

Utah's Cristie Chesler Moves Up

Another loss significantly affecting the NTCA is the recent promotion of Cristie Chesler, Utah's TB Controller. Although a huge loss to NTCA and to domestic TB control, we are thrilled for the State of Utah and those with whom Cristie will work. Recognized for her success in running the state's TB control program, Cristie has been

promoted to the position of Director of the Bureau of Epidemiology within the Utah Department of Health. In accepting this new position, Cristie vacated her position as both the Utah State TB Controller and the State Refugee Health Coordinator, positions she has held since 1999. During her tenure, the quality and availability of services for individuals diagnosed with TB disease increased significantly, and under her leadership, Utah became one of the first states to implement the Cohort Review Process. Cristie was instrumental in forming a statewide TB Advisory Committee; under her guidance, a contract for a secured tuberculosis unit for the isolation of homeless and/or court-ordered patients was negotiated and successfully executed.

Cristie joined the NTCA Board in 2012 and became active in the Membership Committee and the Organizational Development/Strategic Planning Workgroup. Cristie's commitment to the states with low-incidence rates of tuberculosis was evident.

We don't deny that we are thrilled for Deb and Cristie and support them in their new pursuits. However, we are saddened that they leave us as the organization is experiencing such transformative changes. We recognize their contributions to both the past and the future of NTCA, and wish them all the best.

Welcome to New TB Control Staff

With the losses of Deb and Cristie, there have been newly named TB Controllers in Minnesota and Utah. We welcome and look forward to working with-

- Sarah Gordon, TB Controller/TB Unit Manager for the Minnesota_Department of Health
- Allyn Nakashima, MD, TB Controller with the Utah Department of Health

In addition, we welcome the following new TB control staff and look forward to introducing them

to the work of the NTCA and to their new TB colleagues:

- Kimberly Fitzpatrick, Public Health Program Manager, Division of TB/STD with the <u>Pennsylvania</u> Department of Health
- Molly Harrar, Program Administrator with the Philadelphia Department of Public Health
- Janette Candido, TB program manager with the Illinois Department of Public Health

—Submitted by Donna Hope Wegener and Jennifer Kanouse NTCA Central Office

Round-up of 2014 World TB Day Activities

CDC's Public Health Grand Rounds

On March 18, CDC's Public Health Grand Rounds session focused on multidrug-resistant (MDR) TB. This session was presented by three of CDC's TB experts — Sarita Shah, MD, MPH, and Tom Shinnick, PhD, Division of Tuberculosis Elimination, and Tom Kenyon, MD, MPH, Center for Global Health — as well as Dalene von Delft, MBChB, founder of "TB Proof" and Christian Leinhardt, MD, DTM, MSc, PhD, a colleague from the World Health Organization.

Dr. von Delft's presentation began with a slideshow that told her personal story as a physician in South Africa who was diagnosed in 2010 with MDR TB. For 18 months, she had to take 30 pills a day; 10 of these were to counteract the side effects of the TB drugs. Although she suffered some hearing loss, she was cured one year after being granted compassionate use of bedaquiline.

Dr. Shah went on to discuss that MDR TB is particularly challenging in the low-resource settings where it is most often found. She and her fellow presenters shared that detection rates are low, and for those fortunate patients who are found and started on treatment, therapy completion rates are low as well. Fortunately,

there have been important advances recently in TB drugs and diagnostics. With the introduction of the MDR/RIF Xpert technology, health staff may now detect MDR TB in a matter of hours, and under field conditions where it is needed. In addition, clinicians now have limited access to the new drug bedaquiline which is effective against MDR TB. There are also a few other drugs for TB treatment in the pipeline.

The take-away message of the Grand Rounds was that, despite good news — the availability of revolutionary tests that allow for faster diagnosis and of new drugs and regimens that offer better and safer treatment — that's not the end of the story. Patients and providers must also be part of the solution. Patients must present when symptoms occur and complete treatment in a timely manner. Providers must diagnose and treat TB promptly and correctly, and use good infection control measures. Lastly, health systems must be strengthened, particularly in resource-limited settings, to improve access to quality diagnostics and treatment for all patients who may be at risk for MDR TB.

The presentation can be accessed at this link: http://www.cdc.gov/cdcgrandrounds/archives/2014/march2014.htm

—Reported by Ann Lanner Div of TB Elimination

CDC's World TB Day Twitter Chat

World TB Day is observed across the globe with diverse activities and events. It presents an opportunity for CDC, our partners in state and local TB control programs, and others to raise awareness about TB by educating the public about the disease, sharing TB control successes, and highlighting ongoing barriers to TB control efforts. To educate and raise awareness about TB, CDC's Division of Tuberculosis Elimination (DTBE) and others plan events each year for World TB Day, March 24.

This year CDC selected as its World TB Day theme, "Find TB. Treat TB. Working together to eliminate TB." CDC wanted to highlight the fact that TB is still a life-threatening problem in the United States, despite the declining number of TB cases. Anyone can get TB, and our current efforts to find and treat latent TB infection and TB disease are not sufficient. Misdiagnosis of TB still exists, and health care professionals often do not "think TB."

On March 24, CDC hosted a Twitter chat in recognition of World TB Day. The chat was moderated by CDC's Center for Global Health. Dr. Phil LoBue, DTBE Acting Director, and Dr. Jonathan Mermin, NCHHSTP Director, shared their knowledge and expertise. CDC was also joined by USAID Global Health. The chat served to raise awareness about the progress being made to control and eliminate TB, and participants highlighted the ongoing work of CDC and USAID to increase prevention and treatment around the world. Utilizing the hashtag #TBDayChat, the hour-long event engaged approximately 707 Twitter users, and the messages potentially reached close to 8,000,000 users.

There were 78 promotional tweets, including 61 retweets, containing #TBDayChat posted from March 17, 2014, through March 23, 2014. These promotional messages were posted by 61 participants resulting in a potential reach of 1,192,863 Twitter users. A summary of the Twitter chat is available at: https://storify.com/CDCNPIN/world-tb-day-twitter-chat-march-24-2014.

—Reported by Nicole Richardson-Smith, MA Div of TB Elimination

USAID Honors Dr. Ken Castro's Contributions to Global TB Control

During a whirlwind week of activities commemorating World TB Day 2014, the U.S. Agency for International Development (USAID) honored Rear Admiral Ken Castro, MD, with a Lifetime Achievement Award. The recognition ceremony was held at the Corcoran Gallery of Art in Washington, DC, on March 25, 2014.



Kojo Nnamdi, host of the "The Kojo Nnamdi Show" on the Washington, DC, radio station WAMU and someone who has experienced TB within his own family, was the Master of Ceremonies for the event attended by several hundred. USAID's Assistant Administrator for Global Health, Dr. Ariel Pablos-Méndez, and RESULTS' Executive Director, Joanne Carter, shared the privilege of introducing each of the individuals who received awards. Other Champions in the global fight against TB acknowledged by USAID included:

- Senator Sherrod Brown (OH);
- Representative Kay Granger (TX, 12th district);
- Representative Eliot Engel (NY, 16th district);
- His Excellency Mr. Heng Hem, Ambassador to the U.S. from the Royal Kingdom of Cambodia;

- The Consortium to Respond Effectively to the AIDS and TB Epidemic (CREATE)—Dr. Richard Chaisson accepted the award on behalf of CREATE;
- The British Academy of Film and Television Arts (BAFTA)—award winning producer Jezza Neumann, whose documentary TB: Silent Killer aired on PBS in March; and
- TB survivors who were in Washington to participate in various World TB Day events on Capitol Hill.

The last award of the evening, the Distinguished Lifetime Award, was reserved for Dr. Castro, and as Mr. Nnamdi called Dr. Castro on stage he called him a "TB Superstar." In his introductory comments, Dr. Pablos-Méndez identified Dr. Castro as a physician-scientist, known for his ability to work with people, his leadership skills, and his dedication to the fight against TB, spanning almost 30 years. Dr. Pablos-Méndez said Dr. Castro's was "a life story of success" and expressed the hope that, although Dr. Castro was retiring from the CDC Commissioned Corps, "his leadership, talent, and friendship could continue to be tapped," as the work to end TB was not finished.

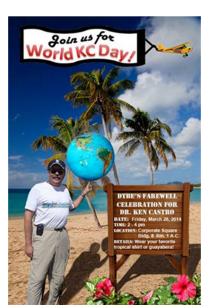
In accepting the award, Dr. Castro said that he was "deeply honored, humbled, and grateful," then added, with the irreverent humor for which he is known, that "since he was not dead...the lifetime achievement award was for what had been achieved during his lifetime in a uniform." Dr. Castro pledged his intent to continue fighting, with a full beard, not resting in retirement, as there was still work to be done. He dedicated the award to those we have been called on to serve—TB survivors—"who have lent their muchneeded voices to what has been a fairly faceless disease in this country." He accepted the award on behalf of all of those working to identify and locate people affected with TB so life-saving treatment could be provided. He concluded his remarks by acknowledging the work of his

colleagues at CDC who are united in the purpose of eliminating TB.

As Dr. Castro completes his remaining few months in a uniform, we recognize that USAID is just one of many organizations who will publicly acknowledge the contributions he has made to domestic and global TB control efforts. Although many awards have been and will be bestowed on our colleague and friend, perhaps the most meaningful gift he will receive is one that we can give him—continuing his legacy of dedicated work for those individuals and their families who are impacted by the disease. The promise of a truly TB-free world, and Dr. Castro's commitment to this end, should be our constant motivation.

—Submitted by Donna Hope Wegener National TB Controllers Association

DTBE Celebrates World KC Day!



On March 28, 2014. the staff of DTBE gathered at CDC's Corporate Square campus to bid farewell to Dr. Ken Castro. Dr. Castro served as the Director of DTBE for 20 years. In August 2013 he began serving a detail as Acting Director of the Division of HIV/AIDS Prevention. At the end of 2013, he vacated the position

of DTBE Director to allow the Division to begin the process of filling the position, rather than waiting for his detail to end. To say farewell, the Division pitched in to create an appreciation event and to celebrate all things Ken Castro. All aspects of the event were made, bought, or contributed by CDC volunteers; no CDC funds were used. The planning committee arranged a stellar line-up of speakers for the event. Dr. Jim Curran served as the Master of Ceremonies. The guest speakers included Dr. Phil LoBue; Dr. Lee Reichman (he was unable to attend; Dr. Wanda Walton presented his remarks instead); Dr. Mario Raviglione (via prerecorded video); and Dr. Jono Mermin. Dr. Wanda Walton presented a slide show that she and Cheryl Tryon had developed from photos that current and former colleagues had sent in. Much like at a celebrity "roast," Dr. Castro was gently ribbed and reminded about numerous events and issues he'd had the privilege of dealing with over the years in his time as DTBE Director.

Dr. Mario Raviglione's presentation consisted of a mock interview he conducted with Dr. Castro, videotaped at WHO headquarters in Geneva. It was actually Dr. Raviglione speaking in a warm and friendly manner to a large doll propped up in a chair and wearing a Ken Castro face mask. With a twinkle in his eyes, Dr. Raviglione spoke to Dr. Castro's *doppelgänger* about their experiences together in international TB control over the years.



Since the theme was World KC Day, the event planners were able to highlight multiple facets of Dr. Castro's character, such as his Puerto Rican heritage; his international travels and friendships; and last but not least, his on-again, off-again relationship with facial hair, owing to a particular Commissioned Corps change in regulation about

grooming standards (i.e., beards were out). The decorations featured globe-like lanterns and grass-skirted tables, the food was island-themed, and guests were encouraged to wear tropical shirts. As a nod to the facial hair motif, there was a tray of chocolate mustaches to wear, or eat, or both.



At one point in the festivities, in the midst of the planned agenda, a small group of people burst into the room and charged to the front, where they proceeded to serenade Dr. Castro. The group sang parodies of traditional Puerto Rican songs that they rewrote for Ken. For the last one, the whole gathered crowd was invited to sing along.

Dr. Eugene McCray presided over the official presentation of gifts to Dr. Castro. These included an engraved plaque and a handsome crystal globe trophy that represented his influence in global TB control.

There were other gifts as well. Dr. Andy Vernon presented him with a Ken Castro bobble-head doll, which came complete with Commissioned Corps uniform, eye glasses, and of course, facial hair. On behalf of the Field Services and Evaluation Branch (FSEB), Dr. Terry Chorba presented him with a medal originally made for the International Congress on Tuberculosis held in 1908 in Washington, DC. The medal, one of only a few that were made, had been commissioned by President Theodore Roosevelt

as president of the International Congress. It was designed by Victor D. Brenner, who later sculpted the Lincoln penny. The medal depicts the allegorical female figure Lumen (Light), symbolic of science, standing with both arms raised. In one hand she is holding a winged hourglass of time, and she is trampling underfoot the dragon of the white death. (It will appear as the featured artwork on the cover of *Emerging Infectious Diseases* next March to coincide with World TB Day.)

The event was well-attended. We were happy to see Dr. Castro's wife Irene, daughters Ivonne, Laura, and Sara, son-in-law Sergio, and three grandchildren at the event. Many current and former DTBE staff showed up to wish Dr. Castro farewell and good luck. And arrangements were made so that field staff could participate remotely.

We think Dr. Castro enjoyed the World KC Day event and appreciated the planning, the effort, and the high esteem that were reflected in it.

—Reported by Ann Lanner Div of TB Elimination

2014 EIS Conference

The 2014 Epidemic Intelligence Service (EIS) Conference was held April 28 to May 1, 2014, in Atlanta. We are pleased that this year's conference again contained a session dedicated to TB.

Three EIS officers from DTBE's International Research and Programs Branch (IRPB) were featured during the session, which was held on Tuesday, April 29. First year officers Dr. Tyson Volkmann presented "Tuberculosis and Excess Alcohol Use in the United States, 1997–2012" and Dr. Aditya Sharma presented "Characterization of Tuberculosis due to *Mycobacterium africanum* — United States, 2004–2012"; second year officer Dr. Niki Alami

presented "Childhood Tuberculosis — Botswana, 2008–2012."

Additional presentations were given by state-based officers from the Division of Scientific Education and Professional Development (DSEPD), including "Opportunities for Improved Detection and Treatment of Latent Tuberculosis Infection Among Veterans — Western United States, January 2010–July 2013," presented by Dr. Tara Perti, and "Contact Investigation of Healthcare Personnel Exposed to Maternal and Neonatal Tuberculosis — Clark County, Nevada, 2013" given by Kaci Hickox.

In addition, first year officer Dr. Erik Reaves from DTBE's Surveillance, Epidemiology, and Outbreak Investigation Branch presented "Strategies for Maximizing Preventive Treatment of Latent Tuberculosis Infection — Mississippi. 2008–2012" in the newly updated poster symposium session held on Monday, April 28. Dr. Reaves provided a 2-minute synopsis of his work to accompany the poster that he presented. Dr. Jessica Adam, a state-based officer from the DSEPD, also presented on "Mexican-Born Legal Immigrants with Tuberculosis Classifications Using Electronic Disease Notification Database, 2009–2012." During the poster symposium session held on Tuesday, Dr. Abbey Canon, also from DSEPD, presented "Delayed Diagnosis of Multidrug-Resistant Tuberculosis and the Resulting Outbreak — Sheboygan, Wisconsin, 2012–2013." All presentations were well-received and generated enthusiastic responses and discussions. Congratulations to everyone on a iob well done!

DTBE also had very successful matches this year. Two new EIS officers are coming into IRPB: Hannah Kirking and Colleen Scott. One new officer is coming into SEOIB: Godwin Mindra. We are looking forward to working with these new officers.

—Reported by Tracie Gardner, PhD Div of TB Elimination

TB EDUCATION AND TRAINING NETWORK AND TB PROGRAM EVALUATION NETWORK UPDATES

2014 TB ETN and TB PEN Conference

The 13th Tuberculosis Education and Training Network (TB ETN) Conference, "The Changing Landscape of TB," will be held in Atlanta, Georgia, September 16–18, 2014, at the CDC Global Communication Center (GCC). For the fifth year, TB ETN and the Tuberculosis Program Evaluation Network (TB PEN) will join forces to explore the common aspects of TB education, training, and evaluation.

The purpose of this year's conference is to highlight recent changes in TB control and prevention and discuss the implications for TB education, training, and program evaluation. Conference activities will include skills-based workshops, informational presentations, and networking opportunities. Included in the conference agenda will be the Education and Training Focal Point Meeting and the Program Evaluation Focal Point Meeting.

The conference and meetings are an important gathering of designated education and training and program evaluation focal points where they receive updates and guidance from CDC. There's no registration fee for this conference. All interested persons are welcome to attend. For details, please visit the conference website: http://www.cdc.gov/tb/education/tbetn/conference.htm

—Reported by Peri Hopkins, MPH Div of TB Elimination

CLINICAL RESEARCH BRANCH UPDATES

Summary of March TBTC Meeting

The Tuberculosis Trials Consortium (TBTC), a CDC-sponsored collaboration in TB clinical trials, is composed of clinical investigators from academic medical centers, health departments, and U.S. Department of Veterans Affairs medical centers located in the United States, Hong Kong, Kenya, Peru, South Africa (2 centers), Spain, Uganda, and Vietnam. The TBTC mission is to conduct programmatically relevant research concerning the diagnosis, clinical management, and prevention of tuberculosis infection and disease. These centers work in collaboration with Division of Tuberculosis Elimination (DTBE) staff to perform Phase II and Phase III clinical trials and pharmacokinetic studies in TB treatment and prevention. The consortium normally meets 1–2 times a year to provide study updates to Consortium members, to perform needed training for ongoing or upcoming studies, to review new developments in TB therapeutics and in clinical trials, and to allow a large number of TBTC work groups to meet in person.

During March 17–19, 2014, TBTC members gathered in Decatur, Georgia, for the 34th semi-annual meeting. Over 125 participants representing clinical research sites, academia, pharma, WHO, other TB clinical trials groups, and other federal agencies attended this year's meeting.

On March 17, the consortium's Community Research Advisory Group (CRAG) met to review directions for TB therapeutic research, provide an update on these community representatives, and develop their work plan. That same day, there were 6 hours of protocol training for coordinators involved in the new Study 36 Platform study. The group's Executive Affairs Group also met.

On March 18, the TBTC met in plenary to review progress on Study 26 and the 3HP sub-studies, including updates on the hypersensitivity and post-marketing studies. Drs. Andrey Borisov and Bob Belknap summarized the status of Study 33/iAdhere, which is evaluating selfadministration of the 3HP regimen for LTBI. Diagnostic activities were reviewed as part of the Study 34 and Study 29X Gene Xpert updates. Dr. Anneke Hessling presented on treatment markers in children. That afternoon, eight work groups, committees, and protocol teams convened for working meetings (Adverse events, Pharmacokinetics, LTBI, Phase 2, Microbiology and Diagnostics, Study 33, and Core Science, Advocacy and External Relations), in addition to a meeting of site coordinators.

The March 19 plenary focused on active TB disease. Dr. Susan Dorman summarized outcomes for Hopkins's studies of moxifloxacin and rifapentine in Rio and Cape Town. Prof. Andrew Nunn from the UK Medical Research Council offered a perspective on phase 3 TB clinical trials. Dr. Christian Lienhardt provided an update on WHO's effort to assure rational introduction of new drugs. Dr. Dan Everitt shared the phase 3 perspective of the TB Alliance. A series of presentations reviewed activities involving rifapentine: Dr. Marilyn Maroni from Sanofi presented findings from their rifapentineefavirenz interaction study, Dr. Marc Weiner shared recent findings from TBTC work on pharmacokinetic and pharmacodynamic studies of rifapentine, and Dr. Payam Nahid presented and led a discussion on the planned phase 3 study of high-dose rifapentine-based 4-month therapy for TB disease (TBTC Study 31). Drs. Mike Viecha and Debra Benator discussed the platform diagnostic study and projects (Study 36 and 36A), and Drs. Jason Stout and Kelly Dooley summarized the state of the group's phase 2 plans. That afternoon, six work groups, teams. and committees convened (Biomarkers, Study 31 team, MDR, Study 35 [pediatric pharmacokinetics of rifapentine], Core Science, and EAG).

The following day, the protocol team for Study 32 had a day-long meeting and training session. Study 32 (Opti-Q) involves optimization of dosing of levofloxacin in MDR treatment.

One highlight of this year's meeting was the recognition of Dr. Fred Gordin for his more than 25 years of leadership and service to CDC and TBTC. An award was presented by Dr. Jonathan Mermin, Director of NCHHSTP. In addition, Alicia Wright, R.N., from Vanderbilt University was recognized with the Sandman-Tapy Award for outstanding performance by a Clinical Nurse Coordinator.

The TBTC meetings are open and public meetings. For more details, please contact Andy Vernon, Beverly Devoe Payton, Stefan Goldberg, Bill Mac Kenzie, or Lorna Bozeman in DTBE's Clinical Research Branch.

—Submitted by Beverly DeVoe Payton Div of TB Elimination

Updated Cost-Effectiveness Analysis for 12-Dose Regimen

Dylan Shepardson, former Prevention
Effectiveness Fellow in DTBE, published a letter
in the *International Journal of Tuberculosis and Lung Diseases* (IJTLD) that updates the costeffectiveness analysis for the 12-dose regimen
for LTBI treatment. This analysis is based upon
the lower price for rifapentine offered by Sanofi.
The letter includes reference to a website where
TB program staff can input local costs for various
elements to best inform local policy for the use of
the 12-dose regimen.

Though Dylan has returned to Mount Holyoke, we are fortunate that he continues to engage in DTBE modeling projects.

—Reported by William Mac Kenzie, MD Div of TB Elimination

Reference

Shepardson D, Mac Kenzie WR. Update on costeffectiveness of a 12-dose regimen for latent tuberculous infection at new rifapentine prices. Int J Tuberc Lung Dis 2014; 18(6): 751–753.

COMMUNICATIONS, EDUCATION, AND BEHAVIORAL STUDIES BRANCH UPDATES

DTBE Staff Assist WHO in Trainingof-Trainers Workshop



Wanda Walton, PhD, and Chervl Tryon, MS, of DTBE's Communications, Education, and Behavioral Studies Branch (CEBSB), assisted the World Health Organization (WHO) Global TB Programme in organizing and implementing a training-of-trainers workshop for the Programmatic Management of Drug-Resistant TB (PMDT). The workshop was held in conjunction with the WHO South East Asia Region Office (SEARO) in New Delhi, India, from March 18 to 27, 2014. Walton and Tryon also conducted this same training with WHO in the Philippines in May 2013. The overall goal of the workshop was to create a cadre of master trainers in the region who will be able to deliver high-quality training in their own countries for health-care workers responsible for implementing services to diagnose and treat multidrug-resistant (MDR) TB.

The training was based on MDR TB technical modules developed by WHO, using the CDC Teachback Methodology Curriculum to develop training skills for the participants. The 21 participants included representatives of national TB programs, WHO country offices, and nongovernment organizations from Bangladesh, Bhutan, India, Indonesia, Myanmar, Nepal, Sri Lanka, Thailand, and Timor-Leste who are active in providing TB-related training. Each participant developed a country-specific human resource development plan for PMDT requirements in their own country, and each is expected to follow up with implementation of the plan after the workshop.

—Reported by Wanda Walton, PhD, and Cheryl Tryon, MS Div of TB Elimination

Dr. Mase Provides Expert Commentary for Medscape on MDR TB and Bedaquiline

Medscape from WebMD provides medical news features, commentary, and reference content for physicians, nurses, pharmacists, and other health professionals. CDC and Medscape collaborate to produce a special series of CDC expert commentaries designed to deliver guidance directly to Medscape's physicians and other health-care professionals. In this series, experts from CDC offer video commentaries on current topics.

In March 2014, DTBE participated in the CDC Expert Commentary Series. Dr. Sundari Mase, Medical Team Lead in the Field Services and Evaluation Branch, DTBE, recorded the commentary, New Drug Available to Treat Multidrug-Resistant Tuberculosis, at CDC's broadcast studios in Atlanta. This commentary details the recently released CDC guidelines for the use and monitoring of the new TB drug bedaquiline. The commentary was posted on March 31, 2014, on Medscape's website where it can be viewed after a short registration process.

As an alternative, it can be viewed on the DTBE website on the Drug-Resistant TB webpage.

Other examples of *Medscape's* CDC Expert Commentary Series, including the 2011 commentary recorded by former DTBE Director Dr. Kenneth Castro titled, *What's New in Blood Testing for TB Infection?*, and the 2012 commentary he recorded titled, *New Regimen Makes Treating Latent Tuberculosis Infection Easier*. Both of these are available on *Medscape's* "CDC Expert Commentary" webpage.

—Reported by Nicole Richardson-Smith, MA Div of TB Elimination

The cookie elves are a little confused.



N-95 masks are not usually needed when cookies are on the menu. But these were no ordinary cookies; they were World TB Day 2014 cookies!



These lung-shaped sugar cookies with lemon flavored icing made a tasty treat for the staff in the Division of Tuberculosis Elimination. Each cookie carried a note thanking the DTBE staff for all they do to find, treat, and eliminate TB.

—Reported by Joan Mangan, PhD, MST Div of TB Elimination

Editor's note: Dr. Joan Mangan is the same mad(ly creative) scientist who made the chocolate mustaches for the World KC Day event.

INTERNATIONAL RESEARCH AND PROGRAMS BRANCH UPDATES

Improving the Quality and Usage of TB Surveillance Data — Uganda

Background: The development and maintenance of robust national-level TB surveillance systems is a priority in TB control. 1,2 Strong surveillance systems can be used to improve planning and monitoring of interventions and progress towards TB program targets, while weak surveillance systems can shroud or hinder programmatic successes. Nonetheless, maintaining quality TB surveillance data remains a challenge in many countries, with issues such as underreporting being widespread. 2 This makes it difficult to recognize the true burden of TB and thus plan and provide the programs necessary for optimal TB control.

In Uganda, one of the world's 22 high TB-burden countries,² an evaluation using the World Health Organization's Checklist of Surveillance Standards and Benchmarks identified gaps in national TB surveillance, namely high underreporting and lack of data use. To close these gaps and strengthen the national TB surveillance system, the Uganda National TB and Leprosy Programme (NTLP) collaborated with

DTBE/IRPB and the African Field Epidemiology Network to develop and implement an intervention for all NTLP staff called TB Data – Improving Quality and Usage (TB-IQu).

Intervention: The Performance of Routine Information System Management (PRISM) framework^{3,4} guided the development of TB-IQu. The PRISM framework proposes that data quality and information use are affected by technical, organizational, and behavioral factors, all of which this intervention was designed to address. In addition, key principles for building improved health information systems were followed (e.g., focus on empowerment, local ownership, using existing infrastructure),⁵ while lessons learned in other health sectors were built upon.^{6,7}

On the technical side, systems and tools were created to prioritize data quality and usage. The format for data presentation at subnational quarterly TB meetings was revised to promote critical peer-reviews of data. To do this, a new, automated template was created to enable subnational staff to easily create and present basic time-series analyses of key TB epidemiologic and programmatic variables. As this new system relies on analyzing trends over time, unexplained changes highlight where reporting errors are likely. This increases the usefulness of data for subnational staff and encourages the responsible TB staff to examine suspect data. As a result, the quality of data that reach the central level improves.

On the organizational side, a systematic approach to data audits and checks was developed along with standard operating procedures (SOPs) for all data-related tasks. To promote adherence, these SOPs are in the process of being organized in a desk guide for staff, with select SOPs to be displayed as posters for placement in relevant offices.

On the behavioral side, a training-of-trainers workshop curriculum was designed to enable staff to practice using new tools and procedures and guide subnational TB staff to value the importance of quality data. To foster sustainable change, the workshop consists of group discussions and hands-on practice.

Initial results: TB-IQu rollout is ongoing. To date, the tools and processes of this intervention have been reviewed by various stakeholders and piloted among approximately 20 national and zonal (i.e., provincial) TB staff at a 3-day workshop in December 2013. Based on group evaluations, participants viewed this workshop to be successful at raising awareness of the need to increase the quality and use of data, especially at the subnational level. In particular, staff members were enthusiastic about using the new quarterly analysis template to analyze and present timeseries analyses on subnational data. This was the first time they had used graphs to view their data and examine data over time. They were surprised to discover that this approach revealed inconsistent trends in their data, which were likely due to unrecognized problems with recording and reporting. These findings spawned lively group discussions on problems about and potential solutions for data quality.

Staff unanimously indicated that this training added meaning to the data they collected and enabled them to view and interpret data in new ways. In particular, they expressed strong interest in the quarterly analysis template because it allowed even those with minimal computer literacy to turn raw data into usable information. However, they said that additional training and simplification of the tool would be needed to ensure acceptance and use by all subnational staff.

Next steps: At this time, the Uganda NTLP is making plans to roll out TB-IQu to district-level staff. As this roll-out happens, IRPB will provide assistance in monitoring and improving the acceptance and viability of TB-IQu over time. Meanwhile, DTBE/IRPB is collaborating with programs in South Africa to adapt and implement TB-IQu, as it is anticipated that TB-IQu can be

easily adapted for use in other countries that are also hoping to strengthen national TB surveillance and improve estimates of TB incidence.

For more information, contact Deanna Tollefson (vtu3@cdc.gov).

—Reported by Deanna Tollefson, MPH Div of TB Elimination

References

- 1. World Health Organization. Definitions and reporting framework for tuberculosis 2013 revision. 2013. Accessed on Feb 6, 2014 at http://apps.who.int/iris/bitstream/10665/79199/1/9789241505345 eng.pdf.
- 2. World Health Organization. Global Tuberculosis Report 2012. Accessed on Jan 22, 2014 at http://www.who.int/tb/publications/global_report/e n/.
- 3. Aqil A, Lippeveld T, Hozumi D. PRISM framework: A paradigm shift for designing, strengthening, and evaluating routine health information systems. Health Policy Plann. 2009; 1-12.
- 4. Hotchkiss D, Aqil A, Lippeveld T, and E Mukooyo. Evaluation of the Performance of Routine Information System Management (PRISM) framework: evidence from Uganda. BMC Health Serv. Res. 2010; 10:188.
- 5. Health Metrics Network. Framework and Standards for Country Health Information Systems: Second Edition. World Health Organization 2008 June; pp. 42-44.
- 6. Braa J, Heywood A, Sahay S. Improving quality and use of data through data-use workshops: Zanzibar, United Republic of Tanzania. Bull. World Health Organ 2012; 90:379-384.

7. Mphatswe W, Mate K, Ngidi H, Reddy J, Barker P, Rollins N. Improving public health information: a data quality intervention in KawZulu-Natal, South Africa. Bull. World Health Organ 2012; 90:176-182.

The Tuberculin Skin Test and the Risk of Death Among Patients With Active TB

In 1890, Dr. Robert Koch announced he had found a cure for TB: the tuberculin protein. Despite falling short of that initial claim, over the last 120 years, the tuberculin skin test (TST) has been widely adopted to screen for infection with TB and to identify latently infected individuals who may benefit from TB preventive therapy. However, it is important to remember that the TST is not a perfect test. The induration that is measured as the "readout" of a TST is dependent upon not only the presence of the tuberculin protein, but also the host immune response to the tuberculin.

Approximately 10%–25% of patients with TB disease have a negative TST result.^{2,3} Patients with TB disease who have a negative TST result are unable to mount the host immune response necessary to generate induration. Young children and people with HIV infection who develop TB disease are more likely to have a negative TST and more likely to present with severe disease.1 Studies have also found that young children and people with HIV infection who have TB disease and a negative TST result have an increased risk of death.^{4,5} The association between a negative TST result and death has also been reported in smaller studies of immunocompetent adults, but the nature of this relationship remains poorly understood.6,7

We conducted a study to determine the association between TST result and the risk of death among persons with TB disease in the United States. For the period January 1, 1993, through December 31, 2008, we looked at all cases of TB reported through the National

Tuberculosis Surveillance System with a positive TB culture result at baseline and a documented TST result who had either completed TB therapy or died of any cause after initiating therapy. In order to account for many of the factors that are known to influence the host immune system or the TST result, we adjusted our analysis for HIV status, origin of birth (i.e., U.S. born or foreign born), age, sex, location of TB disease (e.g., pulmonary, extrapulmonary), and presence of cavities on chest x-ray. We also examined cases based on their baseline drug-susceptibility test results, using three categories: 1) susceptibility to all four first-line TB drugs (isoniazid, rifampin, pyrazinamide, and ethambutol), 2) resistance only to isoniazid, or 3) multidrug-resistant (MDR) TB with resistance to at least rifampin and isoniazid. We found that patients with TB disease and a negative TST result are two to three times more likely to die than patients with a positive TST result, despite adjusting for important covariates. These findings were consistent across the three drug-susceptibility categories.

Our results are consistent with prior studies suggesting that patients with a negative TST are at greater risk of death; based on this analysis, we recommend using the TST for both routine clinical practice and as a part of TB research activities. In addition to serving as an indicator of latent TB infection, a negative TST result appears to be a marker for risk of death among patients with active TB disease.

—Reported by Sara Auld, MD Div of TB Elimination

References

- 1. Huebner RE, Schein MF, Bass JB. The tuberculin skin test. Clin Infect Dis 1993 Dec;17(6):968-75.
- 2. Holden M, Dubin MR, Diamond PH. Frequency of negative intermediate-strength tuberculin sensitivity in patients with active tuberculosis. The New England Journal of Medicine 1971 Dec-30;285(27):1506-9.

- 3. Nash D, Douglass J. Anergy in active pulmonary tuberculosis. A comparison between positive and negative reactors and an evaluation of 5 TU and 250 TU skin test doses. Chest 1980;77(1):32-7.
- 4. Whalen CC, Nsubuga P, Okwera A, Johnson JL, Hom DL, Michael NL, et al. Impact of pulmonary tuberculosis on survival of HIV-infected adults: a prospective epidemiologic study in Uganda. AIDS 2000 June 16;14(9): 1219-1228.
- 5. Drobac PC, Shin SS, Huamani P, Atwood S, Furin J, Franke MF, et al. Risk factors for inhospital mortality among children with tuberculosis: the 25-year experience in Peru. Pediatrics 2012 Aug;130(2):E373-E9.
- 6. Delgado JC, Tsai EY, Thim S, Baena A, Boussiotis VA, Reynes JM, et al. Antigen-specific and persistent tuberculin anergy in a cohort of pulmonary tuberculosis patients from rural Cambodia. Proceedings of the National Academy of Sciences of the United States of America 2002 May 28;99(11):7576-81.
- 7. Sousa AO, Salem JI, Lee FK, Vercosa MC, Cruaud P, Bloom BR, et al. An epidemic of tuberculosis with a high rate of tuberculin anergy among a population previously unexposed to tuberculosis, the Yanomami Indians of the Brazilian Amazon. Proceedings of the National Academy of Sciences of the United States of America 1997 Nov 25;94(24):13227-32.

LABORATORY BRANCH UPDATES

Laboratory Webinar: Best Practices for Genotyping Submission

On April 10, 2014, DTBE's Laboratory Branch and the Michigan Department of Community Health (MDCH), Bureau of Laboratories, hosted

a webinar highlighting the proper shipping of specimens to MDCH for genotyping. The webinar also showcased the work that the Michigan public health laboratory performs under its contract with CDC to provide genotyping services to TB programs in the United States. TB programs may submit one isolate from each patient culture positive for TB within their jurisdictions to the Michigan laboratory as part of the CDC Tuberculosis Genotyping Program.

MDCH has a long history with the TB genotyping program, beginning in 1996 as a participant in the National Genotyping and Surveillance Network. At that time, MDCH performed IS6110based restriction fragment length polymorphism (RFLP) analysis and spoligotyping. In 2003, Michigan was one of two states awarded a contract with CDC to perform spoligotyping, mycobacterial interspersed repetitive unit variable number of tandem repeat analysis (MIRU-VNTR), and RFLP testing for TB programs in all states east of the Mississippi. In October of 2013, Michigan was awarded the sole contract to perform MIRU-VNTR for all TB programs in the United States. The new model requires Michigan to receive approximately 9,000 isolates per year, extract DNA, perform MIRU-VNTR, and send a portion of the DNA to CDC for spoligotyping. The goal of MDCH is to provide MIRU-VNTR results within 5 days of receipt in the laboratory.

The genotyping webinar served as a refresher for public health laboratories to highlight the best practices for shipping isolates of *M. tuberculosis* complex (MTBC) to MDCH for genotyping. Sending isolates that are correctly prepared, identified, packaged, and shipped serves to facilitate the prompt testing of these isolates and also ensures the safety of testing personnel. Isolates of MTBC are considered Category A Infectious Substances, and as such, their transport is governed by rules set forth by both the Department of Transportation and International Air Transport Association.

Some of the information provided in the webinar included:

- Types of cultures to send for best results, including proper media, growth requirements, and age of isolates;
- Proper use of Category A shipping containers;
- Paperwork needed prior to testing, including shipping forms and TB GIMS sheets;
- Appropriate use of the CDC Fed-Ex account for no-cost shipping;
- Conditions for return of shipping containers; and
- Explanation of MIRU protocol and turnaround time.

Personnel from MDCH presented an informative and interesting webinar that was well attended by state and local public health laboratories across the county. If you missed the webinar, and would like the handouts associated with the presentation, please contact: Frances Tyrrell, ftyrrell@cdc.gov

—Submitted by Angie Schooley, MT (ASCP) and James Rudrik, Ph.D. Michigan Department of Community Health, and Frances Tyrrell, MT, MPH, CDC/DTBE

SURVEILLANCE, EPIDEMIOLOGY, AND OUTBREAK INVESTIGATIONS BRANCH UPDATES

Update from the Molecular Epidemiology Activity: New Tools to Improve Data Quality in the TB GIMS System

Do you use genotyping information routinely in TB control activities?

If so, you know that the Tuberculosis Genotyping Information Management System (TB GIMS) is a secure web-based system that is used to manage genotyping data for persons with

culture-positive TB in the United States. And you also understand the importance of linking genotype results to surveillance records in TB GIMS. This linkage is necessary for genotype results to be available in TB GIMS reports, maps, and searches.

In the new release of TB GIMS version 1.10 (March 2014), two additional reports were included to facilitate TB GIMS Super Users in linking genotype results to surveillance records. Local and state TB programs can increase their genotyping surveillance coverage and improve data quality with the 1) 'Unlinked Isolates' and 2) 'Not Culture-Positive' reports.

The 'Unlinked Isolates' report identifies isolate records that have text entered into the State Case Number field, but are not linked to a surveillance record. These isolate records might not be linked due to an error in the State Case Number, or because the surveillance record hasn't been transmitted to CDC, or because the isolate record does not have a corresponding surveillance record.

- When the State Case Number is corrected and the surveillance record is transmitted to CDC, the isolate record will be linked.
- If the isolate record is not expected to be linked to a surveillance record (e.g., if the isolate is from an out-of-state case or not related to a TB case), users can manage this information by changing the status to 'Not linkable.'

The 'Not Culture-Positive' report identifies surveillance records that were not reported as having a positive culture result, but were linked to an isolate record with a genotype result.

 Because genotyping can only be performed on isolates with culture-positive results, either the culture status for the case or the linking information should be corrected.

By reviewing these reports and coordinating with surveillance partners to resolve these issues on a

quarterly basis, state and local TB control partners can ensure that accurate and timely genotyping data are available in TB GIMS.

Good quality genotype and surveillance data will not only augment TB surveillance, but also support and encourage use of genotyping data for TB outbreak detection and response activities in the United States.

—Reported by Smita Ghosh, MS Division of TB Elimination

NEW CDC PUBLICATIONS

Baker BJ, Jeffries CD, Moonan PK. <u>Decline in Tuberculosis among Mexico-Born Persons in the United States</u>, 2000-2010. Ann Am Thorac Soc 2014 Apr 7. [Epub ahead of print.]

Bansal AK, Kulshrestha N, Nagaraja SB, Rade K, Choudhary A, Parmar M, Nair SA, Dewan PK, Yadav R, Moonan PK. Composite indicator: new tool for monitoring RNTCP performance in India. Int J Tuberc Lung Dis 2014 Jul;18(7):840-2. http://www.ncbi.nlm.nih.gov/pubmed/24902562

Berzkalns A, Bates J, Ye W, Mukasa L, France AM, et al. The road to tuberculosis (*Mycobacterium tuberculosis*) elimination in Arkansas; a re-examination of risk groups. PLoS ONE 2014; 9(3): e90664. doi:10.1371/journal.pone.0090664.

Bharaswadkar S, Kanchar A, Thakur N, Shah S, Patnaik B, Click ES, Kumar AM, Dewan PK. Tuberculosis Management Practices of Private Practitioners in Pune Municipal Corporation, India. PLoS ONE 2014; 9(6): e97993. doi:10.1371/journal.pone.0097993.

Blaya JA, Shin SS, Yagui M, Contreras C, Cegielski P, Yale G, Suarez C, Asencios L, Bayona J, Kim J, Fraser HS. Reducing communication delays and improving quality of care with a tuberculosis laboratory information system in resource poor environments: a cluster

randomized controlled trial. PLoS One 2014 Apr 10;9(4):e90110. doi: 10.1371/journal.pone.0090110.

Chuke SO, Yen NT, Laserson KF, Phuoc NH, Trinh NA, Nhung DT, Mai VT, Qui AD, Hai HH, Loan le TH, Jones WG, Whitworth WC, Shah JJ, Painter JA, Mazurek GH, Maloney SA.

<u>Tuberculin Skin Tests versus Interferon-Gamma Release Assays in Tuberculosis Screening among Immigrant Visa Applicants.</u> Tuberc Res Treat. 2014;2014:217969. doi: 10.1155/2014/217969. Epub 2014 Mar 6.

Coleman MS, Marienau KJ, Marano N, Marks SM, Cetron MS. <u>Economics of United States</u> tuberculosis airline contact investigation policies: a return on investment analysis. Travel Med Infect Dis 2014 Jan-Feb;12(1):63-71.

De Beer JL, Kodmon C, Van Ingen J, Jamieson FB, Bidovec-Stojkovic U, Brown T, Cirillo DM, Cruz L, Miranda A, Dou HY, Fauville-Dufaux M, Fitzgibbon MM, Garcia De Viedma D, Groenheit R, Haanpera-Heikkinen M, Indra A, Kam KM, Kramer R, Jiang GL, Niemann S, Obrovac M, Rasmussen EM, Refregier G, Realpe T, Samper S, Sharma MK, Sougakoff W, Stakenas P, Stavrum R, Trenkler J, Wada T, Siame KK, Tafai S, Cowan L, Sng LH, Seagar AL, Basu I, Rastogi N, Ferro BE, De Matos F, Kipnis A, Van Soolingen D, Supply P. Second worldwide proficiency study on variable number of tandem repeats typing of Mycobacterium tuberculosis complex. Int J Tuberc Lung Dis. 2014 01 May;18(5):594-600+i.

Egelund EF, Weiner M, Singh RP, Prihoda TJ, Gelfond JA, Derendorf H, Mac Kenzie WR, Peloquin CA. Protein Binding of Rifapentine and the 25-Desacetyl Metabolite in Patients with Pulmonary Tuberculosis. Antimicrob Agents Chemother. 2014 May 19. pii: AAC.01730-13. [Epub ahead of print]

Elmore K, Nelson R, Gant Z, Jeffries C, Broeker L, Mirabito M, Roberts H. <u>Data harmonization</u>

process for creating the National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention Atlas. Public Health Rep 2014 Jan-Feb;129 Suppl 1:63-9.

Ershova JV, Kurbatova EV, Moonan PK, Cegielski JP, et al. Mortality among tuberculosis patients with acquired resistance to second-line anti-tuberculosis drugs - United States, 1993-2008. Clin Infect Dis 2014.

Ershova JV, Podewils LJ, Bronner E, Stockwell HG, Dlamini S, Mametja LD. <u>Evaluation of adherence to national treatment guidelines among tuberculosis patients in three provinces of South Africa</u>. S Afr Med J. 2014;104(5):362-368.

Fiske CT, Yan F-X, Hirsch-Moverman Y, Sterling TR, Reichler MR, for the Tuberculosis Epidemiologic Studies Consortium Task Order 2 Team. Risk factors for treatment default in close contacts with latent tuberculous infection. The International Journal of Tuberculosis and Lung Disease 2014 Apr 1; 18 (4): 421-427.

Goodwin DJ, Mazurek GH, Campbell BH, Bohanon J, West KB, Bell JJ, Powell R, Toney S, Morris JA, Yamane GK, Sjoberg PA. Automation of an Interferon-γ release assay and comparison to the tuberculin skin test for screening basic military trainees for *Mycobacterium tuberculosis* infection. Military Medicine 2014 March; 179 (3): 333-341. doi: http://dx.doi.org/10.7205/MILMED-D-13-00364.

Graham SM, Sismanidis C, Menzies HJ, Marais BJ, Detjen AK, Black RE. <u>Importance of tuberculosis control to address child survival.</u>
Lancet 2014 Mar 21. pii: S0140-6736(14) 60420-7. doi: 10.1016/S0140-6736(14)60420-7. [Epub ahead of print.]

Heilig CM, Feng PJ, Joloba ML, Johnson JL, Morgan K, Gitta P, Boom WH, Mayanja-Kizza H, Eisenach KD, Bozeman L, Goldberg SV. <u>How we</u> <u>determined the most reliable solid medium for</u> <u>studying treatment of tuberculosis</u>. <u>Tuberculosis</u> (Edinb) 2014 May. doi: 10.1016/j.tube.2014.02.006.

Joloba ML, Johnson JL, Feng PJ, Bozeman L, Goldberg SV, Morgan K, Gitta P, Boom HW, Heilig CM, Mayanja-Kizza H, Eisenach KD. What is the most reliable solid culture medium for tuberculosis treatment trials? Tuberculosis (Edinb). 2014 May. pii: S1472-9792(14)00029-8. doi: 10.1016/j.tube.2014.03.002.

Kong D, Watt JP, Marks SM, Flood JM. <u>Timely HIV Diagnosis and HIV/TB Comanagement Among California Patients in 2008.</u> Public Health Rep 2014 Mar; 129(2):170-7.

Lam E, Nateniyom S, Whitehead S, Anuwatnonthakate A, Monkongdee P, Kanphukiew A, Inyaphong J, Sitti W, Chiengsorn N, Moolphate S, Kavinum S, Suriyon N, Limsomboon P, Danyutapolchai J, Sinthuwattanawibool C, Podewils LJ. <u>Use of drug-susceptibility testing for management of drug-resistant tuberculosis</u>, Thailand, 2004-2008. Emerg Infect Dis 2014 Mar;20(3):408-16.

Marienau KJ, Cramer EH, Coleman MS, Marano N, Cetron MS. <u>Flight related tuberculosis contact investigations in the United States: Comparative risk and economic analysis of alternate protocols.</u> Travel Med Infect Dis 2014 Jan-Feb;12(1):54-62. doi: 10.1016/j.tmaid.2013.09.007.

Marks SM, Flood J, Seaworth B, Hirsch-Moverman Y, Armstrong L, Mase S, et al. Treatment practices, outcomes, and costs of multidrug-resistant and extensively drug-resistant tuberculosis, United States, 2005–2007. Emerg Infect Dis [Internet]. 2014 May; http://dx.doi.org/10.3201/eid2005.131037. DOI: 10.3201/eid2005.131037

Medrano BA, Salinas G, Sanchez C, Miramontes R, Restrepo BI, Haddad MB, Lambert LA. A missed tuberculosis diagnosis resulting in hospital transmission. Infect Control Hosp Epidemiol. 2014 May;35(5):534-7.

Nahid P, Bliven-Sizemore E, Jarlsberg LG, De Groote MA, Johnson JL, Muzanyi G, Engle M, Weiner M, Janjic N, Sterling DG, Ochsner UA. Aptamer-based proteomic signature of intensive phase treatment response in pulmonary tuberculosis. Tuberculosis (Edinb) 2014 Feb 7. pii: S1472-9792(14)00022-5. doi: 10.1016/j.tube.2014.01.006. [Epub ahead of print].

Oeltmann JE, Click ES, Moonan PK. <u>Using</u> tuberculosis patient characteristics to predict future cases with matching genotype results. <u>Public Health Action</u> 2014 March 1; 4 (1): 47-52.

Reilley B, Bloss E, Byrd KK, Iralu J, Neel L, and Cheek J. Death rates from human immunodeficiency virus and tuberculosis among American Indians/Alaska Natives in the United States, 1990–2009. American Journal of Public Health 2014; e-View ahead of print April 22, 2014; e1–e7. doi:10.2105/AJPH.2013.301746.

Reves R, Heilig CM, Tapy JM, Bozeman L, Kyle RP, Dukes Hamilton C, Bock N, Narita M, D. Wing, Hershfield E, Goldberg SV, for the Tuberculosis Trials Consortium. Intermittent tuberculosis treatment for patients with isoniazid intolerance or drug resistance. IJTLD 2014 May 1; 18 (5): 571-580.

Savic RM, Lu Y, Bliven-Sizemore E, Weiner M, Nuermberger E, Burman W, Dorman SE, Dooley KE. Population pharmacokinetics of rifapentine and desacetyl rifapentine in healthy volunteers: nonlinearities in clearance and bioavailability.

Antimicrob Agents Chemother. 2014

Jun;58(6):3035-3042. Epub 2014 Mar 10.

Weiner M, Savic RM, Mac Kenzie WR, Wing D, Peloquin CA, Engle M, Bliven E, Prihoda TJ, Gelfond JAL, Scott NA, Abdel-Rahman SM, Kearns GL, Burman WJ, Sterling TR, Villarino ME, for the Tuberculosis Trials Consortium PREVENT TB Pharmacokinetic Group.
Rifapentine pharmacokinetics and tolerability in

children and adults treated once weekly with rifapentine and isoniazid for latent tuberculosis infection. J Ped Infect Dis 2014 3: 132-145.

Yakrus MA, Driscoll J, Lentz AJ, Sikes D, Hartline D, Metchock B, Starks AM. Concordance between molecular and phenotypic testing of *Mycobacterium tuberculosis* complex isolates for resistance to rifampin and isoniazid in the United States. J Clin Microbiol 2014; doi:10.1128/JCM.00417-14.

PERSONNEL NOTES

The Antibiotic Resistance Threat Report Team received a CDC honor award in the category Excellence in Communications. The team has also been nominated for an HHS award. They were recognized for their important work at the 62nd annual CDC Honor Awards ceremony on May 13. DTBE staff members who are part of this team include Peter Cegielski, Suzanne Marks, Roque Miramontes, Robert Pratt, Wanda Walton, and Michael lademarco (formerly of DTBE).

Jose Becerra, MD, MPH, F.A.C.P.M., a retired captain of the USPHS Commissioned Corps, retires this summer from government service after 33 years of service with the U.S. Public Health Service (USPHS). He has served 29 years with CDC, of which 19 years were with DTBE in the National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention.

In 1975, Dr. Becerra received a National Health Service Corps (NHSC) scholarship to the University of Puerto Rico (UPR) School of Medicine. After graduating and completing 1 year of residency in Internal Medicine at the VA Hospital in San Juan, Puerto Rico, he completed his NHSC commitment by serving 4 years (1979–1983) in the USPHS. He served as an NHSC Medical Officer, a Medical Director, and a Clinical Preceptor in two primary care clinics in Maunabo, Puerto Rico (1979–1980), and in Cidra, Puerto Rico (1980–1983).

From 1983 to 1985, he earned an MPH in epidemiology and biostatistics at San Diego State University and completed his California preventive medicine residency. By then he had found his career path: The Cidra Migrant Health Project, affiliated with the UPR School of Public Health, had opened up for him the field of preventive medicine and public health.

In 1985, Dr. Becerra entered the CDC Epidemic Intelligence Service (EIS) class of 1985 and joined the Division of Reproductive Health (DRH). In 1987, he was awarded a Public Health Service Citation for analytic proficiency in the study of childbearing, pregnancy risks, and infant mortality patterns, focusing on minority populations. After serving 1 year in the Division of Birth Defects and Developmental Disabilities, Dr. Becerra returned to DRH in 1988.

In 1991, he was assigned by DRH to the Commonwealth of Puerto Rico Department of Health (PRDH) to direct the Puerto Rico Maternal and Child Health Epidemiology Program (PR-MCHEP). In 1993, as part of this assignment, he was asked to direct the Division of **Epidemiological Surveillance and Statistics** (DESS). DESS had oversight responsibilities for three different disease registries (cancer, newborn screening, and premature thelarche) and for the PR-MCHEP. The new Division was created to apply the model successfully implemented by the PR-MCHEP to other areas within the PRDH. In 1993, Dr. Becerra received the PHS Surgeon General's Exemplary Service Medal for conducting studies related to the health status of mothers and children in Puerto Rico.

In 1994, his functions were expanded to include directing the PR-MCHEP. As Director of the PR-MCHEP, Dr. Becerra served as the Commonwealth Perinatal Epidemiologist. He also held an appointment as Associate Professor of Epidemiology in the UPR-GSPH. Dr. Becerra received the Public Health Service Achievement

Medal for building the surveillance and research capacity of public health workers in Puerto Rico.

From 1985 to 1995, Dr. Becerra participated in and coordinated international courses in reproductive health epidemiology and research methods in Latin America and Spain. He also conducted workshops at the UPR-GSPH and taught epidemiology to medical students.

In 1995 Dr. Becerra returned to Atlanta, and since then has served as a senior advisor to DTBE on public health informatics and biostatistics. He was a founding member of the CDC Information Resources Governance Council, representing NCHHSTP through 2012.

Dr. Becerra currently serves as Chief of DTBE's Data Management and Statistics Branch (originally the Computer and Statistical Services Activity). He provides leadership and oversight to mission-critical DTBE functions related to data, information management, and LAN support; statistical, methodological, and epidemiological analyses; and software development and maintenance of the Tuberculosis Information Management System and its transition to a standards-compliant electronic system supporting the National TB Surveillance System.

Since 1995, Dr. Becerra has participated in and coordinated the Operational Research and Epidemiological Methods training course for TB Program Managers in Vietnam, India, and Latin America. Most recently, Dr. Becerra has provided technical assistance to the National TB Program in the Dominican Republic to design, develop, test, and deploy a web-based TB surveillance system using the CDC Enterprise Performance Life Cycle model.

Dr. Becerra's undergraduate major in mathematics was put to the test as he led a team of statisticians to develop a mathematical model of TB transmission to guide policy decisions on TB elimination. The model was recently

published and has been widely cited domestically and internationally.

During his retirement, José plans to be a frequent "snowbird" to his native Puerto Rico while keeping his main residence in Atlanta, where he and his wife Dr. Rosa B. Licha-de-Becerra home schooled and raised three wonderful children.

DTBE celebrated Jose's career on May 29. We thanked him for his many contributions to public health and bid him a very fond farewell as he launches this new phase of life.

Emily Bloss, PhD, received the May 2014 NCHHSTP Director's Recognition Award. Over the past 2.5 years. Emily has worked with the WHO's Global Task Force on Impact Measurement, exemplifying outstanding international collaboration and leadership in strengthening national TB surveillance systems, leading and supporting the development of quidance documents and tools, and supporting prevalence surveys in multiple countries. She has demonstrated exceptional skill in gaining the confidence and cooperation of partners with the Global TB Program at the WHO and has exceeded expectations by successfully and efficiently responding to the needs of both DTBE and WHO and facilitated collaboration and communication between the two organizations. In her role with WHO, Emily has contributed to the development of international guidelines for national TB prevalence surveys and inventory studies for assessing under-reporting, in which she helped define methods used for conducting these large studies. She also helped lead the development of internationally applied standards and benchmarks for TB surveillance. For her outstanding work and ability to lead and work with other leaders in TB control from many different countries, WHO and other key technical partners, as well as other U.S. government agencies to continue to improve surveillance systems, she receives the NCHHSTP Director's Recognition Award.

Kawi Mailutha has left IRPB to join the Center for Global Health. She will be working as a Public Health Analyst providing support and working with stakeholders to implement the Global Health Security agenda. Her last day in the office was May 16, 2014.

Since joining IRPB in 2009 as a Public Health Analyst, Kawi has served in several key capacities. These included 1) serving as the project officer for cooperative agreements with the Civilian Research and Development Foundation, the Kenya Medical Research Institute for DTBE, and the World Health Organization (WHO), 2) serving as the country lead for Kenya and the administrative lead to IRPB's Drug-Resistant TB (DR-TB) team, 3) leading and coordinating communication and education materials for the Branch for various publications and 4) serving as the DTBE liaison with the WHO TB Technical Assistance Mechanism (TBTEAM).

Bonnie B. Plikaytis is retiring after 36 years of service for CDC. After reading about the work of CDC in solving the mysterious illness that killed 29 individuals that attended the American Legion conference in Philadelphia in the summer of 1976, it became her dream to work at CDC. In April of 1978 the dream came true as she began work in the special immunology laboratory working on the diagnosis of Legionnaires' disease. It was a tremendous experience for a 23-year-old from Arkansas just out of her Medical Technology internship. The work was fascinating, working with the epidemiologists to solve the mystery of several additional outbreaks of Legionnaires' disease. On one such outbreak in 1983, the work brought her in contact with a talented young statistician. The story goes that she not only got great statistical analytic service but found her husband to be, Brian.

After the work with Legionnaires' disease, she spent many years studying *Mycobacterium tuberculosis* and in particular understanding the molecular mechanisms of drug resistance in *M*.

tuberculosis and how to apply it to the diagnosis of drug-resistant TB. There were many publications and a few patents, but her greatest joy was in sharing the thrill of discovery with those working under her when they solved a difficult problem or found the answer to an elusive question. It did not matter if the issue or question was related to program, policy, or science, as she understood and appreciated the importance of all three and how they were intertwined in the complicated work of public health.

Her last 6 years were spent in management of the Laboratory Branch of the Division of Tuberculosis Elimination. Though it was hard for her to leave the research lab bench, she approached management with the same logic, dedication, and enthusiasm she applied to laboratory science. During her tenure as deputy and then acting branch chief, she provided the vision and laid the foundation for the current portfolio of branch activities, including the molecular detection of drug resistance service, applied research on mechanisms of drug resistance, and systems research to strengthen laboratory capacity. Importantly she also inspired hope and instilled confidence in the branch staff. After she left the lab bench, she lived vicariously through the staff entrusted to her and was always extremely proud of the groundbreaking work of the talented and dedicated individuals of the DTBE Laboratory Branch: work that continues to influence the field in a positive way.

As she completes her time at CDC and takes on a new life adventure in Big Canoe with her husband Brian and two dogs, Decker and Hailey, she will fill her time with activities including family, friends, dogs, woodland gardening, and the great outdoors. As a person who has spent her life recognizing opportunities and connecting dots to develop strategies and accomplish tasks, there will be no lack of things to keep her busy. A reception to celebrate Bonnie's extraordinary career will be held on Thursday, June 26 at CDC's Roybal Campus.

Chitvan Yadav, who is a front-end web designer and developer, has joined CEBSB and DTBE as a Web Master. Pursuing her lifelong interest in arts and creativity, she earned a bachelor's degree in Fine Arts. She also earned an associate degree in web design and interactive media. During her studies, she completed numerous freelance projects, and after graduation, she was fortunate to work with AT&T and YP (The Yellow Pages). In her free time, she loves spending time with her family, and she enjoys painting and gardening whenever she has time. Chitvan is really pleased and excited about working at CDC and is looking forward to being part of the quality work carried out here.

CALENDAR OF EVENTS

June 22-26, 2014

CSTE Annual Conference

Nashville, Tennessee

Council of State and Territorial Epidemiologists (CSTE)

July 20-25, 2014

AIDS 2014 - 20th International AIDS Conference

20th International AIDS Conference, AIDS and HIV Medical Congress Melbourne, Australia

Sept. 7–9, 2014 American College of Epidemiology (ACE) Meeting Silver Spring, MD American College of Epidemiology

September 9–11, 2014
Albuquerque, New Mexico
<u>Learn More »</u>
Association of State and Territorial Health
Officers (ASTHO)

Sept. 16–18, 2014 TB ETN and TB PEN Joint Conference Atlanta, GA Peri Hopkins/Awal Khan Oct. 15–18, 2014
The 51st Annual Denver TB Course
Denver, Colorado
The 51st Semi-Annual Denver TB Course National Jewish Health

Oct. 28–Nov. 1, 2014 45th UNION World Conference on Lung Health Barcelona, Spain IUATLD

Click here to download the Barcelona 2014

Brochure

Website: http://barcelona.worldlunghealth.org

Nov. 15–19, 2014 142nd APHA Annual Meeting New Orleans, LA American Public Health Association (APHA)