

TB NOTES



TB Notes 22017

Notes from the Director

Dear Colleague:

In March, the Division of Tuberculosis Elimination (DTBE) staff members were involved in a variety of events in conjunction with World TB Day, including the World TB Day Capitol Hill briefing in Washington D.C., and the CDC World TB Day commemoration in Atlanta.

In recognition of World TB Day, DTBE released preliminary TB surveillance data for the United States. According to [2016 provisional data](#), a total of 9,287 TB cases were reported in the United States in 2016, and the overall annual TB incidence decreased slightly from 3.0 in 2015 to 2.9 cases per 100,000 in 2016. Epidemiologic modeling suggests if the rate of decline continues at this pace, it will be impossible to reach the goal of U.S. TB elimination in this century. Expanding targeted testing and treatment of latent TB infection is key to eliminating TB disease in the United States. It is also important to maintain current TB control activities, in order to find and treat people with TB disease.

The Advisory Council for the Elimination of Tuberculosis (ACET) held their meeting in Atlanta, GA on Tuesday, April 11, 2017. That meeting was followed by [the 2017 National TB Conference, sponsored by the National Tuberculosis Controllers Association \(NTCA\)](#) and the Association of Public Health Laboratories (APHL), held in Atlanta, GA, April 18-21. I hope that many of you were able to attend and benefit from the important information that was shared at the 2017 National TB Conference.

As you know, major new efforts are required to incorporate latent TB infection testing and treatment in public and private health systems. National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention Center Director Dr. Jonathan Mermin and I outlined steps towards TB elimination in "Latent tuberculosis infection: the final frontier of tuberculosis elimination in the USA," recently published in [The Lancet Infectious Diseases](#).

DTBE remains committed to supporting the important work that is being done to eliminate TB in communities around the United States.

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

2017 National TB Conference



The 2017 National TB Conference, sponsored by the National Tuberculosis Controllers Association in collaboration with the Association of Public Health Laboratories, was held in Atlanta, GA, April 18-21. The conference highlighted innovative work in TB prevention, management, and care across the country. It also paved a way forward as TB professionals came together to discuss their challenges and share best practices on how to achieve TB elimination in the United States.

Conference attendees heard from TB survivors, clinicians, nurses, epidemiologists, TB controllers, and many others. DTBE Director, Dr. Philip LoBue, presented the *State of TB Elimination in the U.S.*, noting all that has been accomplished, but also all the work we still need to do to achieve TB elimination. Dr. Kelly Holland inspired us with his story of surviving TB, and called us to action to understand TB through the eyes of our patients. We also heard about the work of our colleagues in CDC's Global Migration and Quarantine, public health laboratories, and the Regional Training and Medical Consultation Centers (RTMCC).

Innovative work being done with electronic directly observed therapy (eDOT) and the *Massachusetts Model of Community-Based TB Prevention* demonstration project were presented. The breakout sessions provided an opportunity to have informative presentations and discussions, including DTBE staff presenting *Should Latent TB Infection be reportable* and *How Can TB Elimination Models Inform Program Strategies Today*. Thank you to everyone who planned, presented, and attended the conference.

Submitted by Sloane Bowman, MPH, DTBE

Surveillance, Epidemiology, and Outbreak Investigations Branch Updates



Medical and Pharmacy Claims Data: A Window into TB Prevention Activity in the Private Sector

Private sector involvement in treatment for latent TB infection (LTBI) will be increasingly important in the drive toward TB elimination. To assess TB prevention activity in the private sector, a researcher affiliated with the Tuberculosis Epidemiologic Studies Consortium (TBESC) has examined a large sample of commercial insurance claims data to determine (1) the extent of LTBI testing and treatment, (2) whether it targets high-risk patients, and (3) how treatment completion compares with that in the public health sector.

Erica L. Stockbridge, PhD., is a researcher at TBESC member site University of North Texas Health Science Center, and a senior health analyst at Magellan Health, Inc. Dr. Stockbridge used de-identified medical and pharmacy claims data for individuals randomly sampled from a database that includes health services use of 4 million commercially insured people aged less than 65. All sampled individuals had at least 36 months of continuous coverage from April 2010 through March 2013 for both medical and pharmacy services. Basic epidemiologic information included sex, 5 year age group, type of commercial insurance, and Census division.

Among sampled individuals, 4.3% were tested at least once with the tuberculin skin test (TST) or a blood-based interferon-gamma release assay (IGRA). The probability of testing was highest among individuals at greatest risk of LTBI or progression to TB disease (contact with a TB case, 71.6%; receipt of immunosuppressive medications, 34.4%; HIV positive, 26.7%). LTBI testing was most common among age groups associated with school and college entry. Among 1,074 individuals who started LTBI treatment with isoniazid, 46.3% completed at least six months and 22.6% completed at least nine months of treatment.

Treatment completion was lower among insurance plans that restricted patient choice of physician. Prescription size also influenced treatment completion. Individuals who received initial medication supplies of 60 days or greater were more likely to complete a nine-month regimen compared to those who received 30 day supplies.

This valuable research shows that LTBI testing and treatment is occurring in the private sector. This knowledge provides public health stakeholders insight into private sector TB prevention testing and treatment. The findings will help public health professionals in their work with private providers to increase TB targeted testing and treatment.

Upcoming TBESC Studies

TBESC is partnering with the Tuberculosis Trials Consortium (TBTC) for Part D/Study 37, a clinical trial to assess the safety, tolerability, and effectiveness of rifapentine given daily for latent TB Infection. This study is expected to begin in the fall of 2017. A one day training for TBESC and TBTC site staff will be held May 17, 2017 in Atlanta, GA in conjunction with the annual TBESC meeting May 18-19, 2017.

Submitted by Kiana Woods, MBA, MEd, DTBE

Communications, Education, and Behavioral Studies Branch Updates

World TB Day 2017

A Recipe for a “Sweet” World TB Day!



What do you get when you mix creativity, hard work, and fifteen pounds of sugar? The Communications, Education, and Behavioral Studies Branch (CEBSB) found out as they baked, decorated, bagged, and delivered over 200 cookies to TB colleagues on World TB Day.

Using over 90 hours of their own personal time and resources, CEBSB staff created works of edible art in the familiar rod-shape of *Mycobacterium tuberculosis*, which they iced and decorated with menacing, threatening, and even a few goofy faces. Other cookies were painstakingly iced using a custom-made stencil of the “End TB” logo, reflecting the 2017 World TB Day theme, “Unite to End TB.” The delectable desserts were then placed into gift bags with a card expressing appreciation for the recipient’s work in eliminating TB, and hand-delivered to the delight of colleagues around CDC.



The treats have become an annual tradition for World TB Day, serving as a delicious way to recognize the progress towards TB elimination. Keep reading TB Notes to find out what CEBSB will cook up next year!

Submitted by Leeanna Allen, MPH, DTBE

Laboratory Branch Updates + -

CDC/DTBE Announcement of Plans for Universal Whole Genome Sequencing

The CDC Division of Tuberculosis Elimination, in collaboration with colleagues in the CDC Antimicrobial Resistance Coordination and Strategy Unit, will be supporting the use of Whole Genome Sequencing (WGS) for all new isolates of *Mycobacterium tuberculosis* referred for genotyping beginning in spring 2018. The use of WGS is an exciting advancement that enhances the discriminatory power for cluster identification and investigation, which should allow for a more focused investment of public health interventions. All isolates will undergo both conventional genotyping as well as WGS for a period of 3 years. After this transition period, prospective WGS will become the standard method performed to identify TB clusters. Currently, plans are being made for capture of this information in TB GIMS; additional details regarding the timeframe and mechanism for access to these and other data (e.g., retrospective WGS analysis for clusters of concern) will be provided in the future.

Additionally, WGS allows for the surveillance of molecular determinants associated with drug resistance. Data will be captured for the purposes of surveillance. Molecular surveillance of drug resistance does not replace the CDC Molecular Detection Drug Resistance (MDDR) service which will continue to be available for rapid analysis of isolates and sediments. To support the infrastructure required for universal WGS, up to two public health laboratories will be awarded funds for this activity through competitive selection as described in the Epidemiology and Laboratory Capacity funding opportunity announcement (K3- Antimicrobial Resistance Regional Laboratory Network) that was recently released. The selected laboratories will operate as part of the Antimicrobial Resistance Laboratory Network.

New Online Training Tool: [Landscape and Language of Molecular Diagnostics for TB Drug Resistance](#)

A new addition has been made to the publically available online training tool, [Essentials for the Mycobacteriology Laboratory: Promoting Quality Practices](#). This online training tool is a series of complimentary, interactive web-based training modules. The new module “[Landscape and Language of Molecular Diagnostics for TB Drug Resistance](#)” was specifically designed to provide TB control staff, clinicians, and nurses a brief overview of the basic principles of molecular biology and test platforms used for molecular testing of *Mycobacterium tuberculosis*. The module provides information for understanding how mutations are associated with drug resistance and what laboratory reporting language might be used to describe results. Access to all the modules and other valuable TB resources is available through the [Association of Public Health Laboratories \(APHL\) TB homepage](#).

Retirement of Frances Tyrrell, MPH, MT (ASCP), SM—Laboratory Consultant

Frances Tyrrell, CDC DTBE Laboratory Consultant retired on April 28, 2017. Frances joined the Laboratory Capacity Team (LCT) in 2009 after working for the Georgia Department of Health for over 19 years in the mycobacteriology laboratory and in clinical laboratory settings. Frances has been an integral member of the DTBE Laboratory Branch through contribution of her expertise in mycobacteriology and public health, as well as her passion for data analysis. She has served as a trusted partner for public health laboratories, and has worked closely with many colleagues to improve services and identify best practices. As a laboratory consultant, Frances has been enthusiastically engaged in site visits, cooperative agreement reviews, operational research projects, and educational training activities. Frances is an independent thinker and has strived over the years to build a legacy of integrity and

commitment. Her service and dedication to CDC, TB, and public health have been greatly appreciated. Frances plans to travel, do more bicycling, and spend more time with family after returning to her home state of Michigan.

Submitted by Stephanie Johnson, MS, DTBE

New CDC Publications

January 2017

Castro KG, Marks SM, Hill AN, Chen MP, Miramontes R, Winston CA, LoBue PA. In reply. *Int J Tuberc Lung Dis*. 2017 Jan 1;21(1):120-121. doi: 10.5588/ijtld.16.0708-2. No abstract available. PMID: 28157476.

Hannah HA, Miramontes R, Gandhi NR. [Sociodemographic and Clinical Risk Factors Associated With Tuberculosis Mortality in the United States, 2009-2013](#). *Public Health Rep*. 2017 Jan 1;33354917698117. doi: 10.1177/0033354917698117. [Epub ahead of print]. PMID: 28394707.

Tupasi T, Garfin AM, Mangan JM, Orillaza-Chi R, Naval LC, Balane GI, Basilio R, Golubkov A, Joson ES, Lew WJ, Lofranco V, Mantala M, Pancho S, Sarol JN, Blumberg A, Burt D, Kurbatova EV. Multidrug-resistant tuberculosis patients' views of interventions to reduce treatment loss to follow-up. *Int J Tuberc Lung Dis*. 2017 Jan 1;21(1):23-31. [https://doi: 10.5588/ijtld.16.0433](https://doi.org/10.5588/ijtld.16.0433). PMID: 28157461.

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February 2017

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March 2017

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Chorba T, Jereb J. [Keeping It in the Family: the Childhood Burden of Tuberculosis](#). Emerging Infectious Diseases. 2017 Mar;23(3):561–562. doi:10.3201/eid2303.AC2303.

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April 2017

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