

# TELECONFERENCE OF THE BOARD OF SCIENTIFIC COUNSELORS, OFFICE OF INFECTIOUS DISEASES

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Centers for Disease Control and Prevention

March 28, 2016  
2:00–4:00 PM (EDT)

A 2-hour, open public teleconference of the Board of Scientific Counselors (BSC), Office of Infectious Diseases (OID), Centers for Disease Control and Prevention (CDC), was held on March 28, 2016, from 2:00–4:00 PM (EDT) to provide reports from recent CDC program meetings and to update the Board on current emerging infectious disease outbreak responses and on administrative/budget issues. Phone lines were open for BSC/OID members, CDC partners, CDC staff, and members of the public. A list of callers is included at the end of this report.

## Opening Remarks

BSC/OID Chair Ruth Berkelman, Rollins Professor, Emory University, called the meeting to order and was joined in welcoming participants by Rima Khabbaz, CDC Deputy Director for Infectious Diseases, and Robin Moseley, the BSC/OID Designated Federal Official. Participants included a new BSC member, Salmaan Keshavjee, Associate Professor of Global Health and Social Medicine, Harvard Medical School, and two new BSC/OID liaison representatives: Deborah Yokoe, Healthcare Infection Control Practices Advisory Committee (HICPAC), and Barbara Cole, Advisory Council for the Elimination of Tuberculosis (ACET). Brooke Courtney, Senior Regulatory Counsel in the Office of Counterterrorism and Emerging Threats, Office of the Chief Scientist, U.S. Food and Drug Administration (FDA), attended on behalf of BSC/OID member Steve Ostroff.

## Report from the CDC Syphilis Summit

As described in [Sexually Transmitted Disease Surveillance 2014](#), for the first time since 2006, increases were reported in the following nationally notifiable sexually transmitted diseases (STDs): chlamydia, gonorrhea, and syphilis and congenital syphilis. Gail Bolan, Director, Division of STD Prevention, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention (NCHHSTP), reported that the number of cases of syphilis is continuing to rise, especially among men who have sex with men (MSM) and among women of reproductive age. While the 2015 STD surveillance data are still being verified, more than 500 cases of congenital syphilis were reported in 2015, which is a 10% increase from 2014, and cases of ocular syphilis were reported predominantly among MSM with HIV, with some cases leading to blindness. An Epi-Aid analysis of medical and public health case investigation records in North Carolina (a state where rates of syphilis are ranked ninth nationally) identified 20 cases in 2014 and 43 in 2015. The ocular syphilis cases were sporadic throughout the state, with no cases among sex partners of persons with ocular syphilis (suggesting that ocular syphilis is not likely due to a particular strain of syphilis). Most cases of ocular syphilis (as compared with cases of non-ocular syphilis) were reported among older white males with HIV, a group that has above-average access to medical care.

CDC hosted a Syphilis Summit on January 26–28 to develop recommendations on syphilis control in the United States. The participants suggested that separate syphilis action plans be developed to address (1) the rates of syphilis among MSM and (2) the emerging epidemic of congenital syphilis. It was also

suggested that CDC revisit case definitions for congenital syphilis; prioritize and evaluate program strategies; identify transmission dynamics; develop resource allocation models and improve policies, guidelines, and structural interventions (e.g., screening frequency, new digital technologic approaches, electronic health record [EHR] data opportunities, and messaging on condom use); and employ a comprehensive sexual health approach for men to diagnose and treat STDs in high-risk MSM populations and a sense of public health and health care urgency when a pregnant women is diagnosed with syphilis. A meeting report will be issued in June, and syphilis action plans will be presented at a conference in September.

Mike Loeffelholz, BSC/OID member, attended the Summit and described the laboratory issues presented, which included interpretation of reverse algorithm<sup>1</sup> testing results; development of improved diagnostics for syphilis (e.g., point-of-care tests to support early treatment) and neurosyphilis; and the need for guidance on clinical management of serofast patients (patients with unchanged serologic test titers after treatment). BSC/OID member Ruth Lynfield, who also attended the Summit, emphasized the need to stem the “alarming” epidemic of congenital syphilis.

## DISCUSSION

In response to questions, Dr. Bolan noted that

- PCR testing on the primary lesion can confirm infection before a patient becomes seropositive.
- Correlations have not been found between rising rates of STDs and use of HIV pre-exposure prophylaxis (PrEP) or long-acting contraceptives. CDC continues to evaluate these and other factors.

BSC members commented that

- CDC should continue to work with website owners to provide linkages to STD information (including information about testing services) to users of dating-focused social media sites.
- Addressing the resurgence of congenital syphilis requires improved communications with local policy makers to remove barriers to detection and treatment, including working with maternal and child health programs. Lack of access to care and mistrust of authorities may be significant issues in some communities.
- The number of cases of congenital syphilis in 2015 in the United States is unacceptable.

## Report from the External Program Review of the Division of HIV/AIDS Prevention (DHAP)

Jonathan Mermin, Director, NCHHSTP, and Chris Cagle, Associate Director for Policy, Planning, and Communications, DHAP, reported on an external program review held on March 2–3 to elicit feedback on three innovative approaches to HIV prevention:

- *Providing rapid feedback on HIV surveillance data to health departments and community-based organizations that reported the data.* The reviewers were supportive of this feedback on HIV

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<sup>1</sup> A reverse sequence screening algorithm for syphilis (adopted by many clinical laboratories) begins with a treponemal screening assay and then tests screen-positive samples by a non-treponemal test such as the rapid plasma reagin (RPR). Samples that are positive by the screening test but negative by RPR are tested by a second, confirmatory treponemal assay.

prevention efforts. It was recommended that CDC work with health departments to reduce the number of variables used for reporting.

- *The [Data to Care](#) approach*, which uses surveillance data from HIV-positive individuals (i.e., CD4 counts and viral loads) to identify persons who are no longer in care and may need to be relinked with healthcare services. The reviewers were supportive of the *Data to Care* approach, but emphasized that improving the HIV care continuum requires addressing not only linkage to care but also barriers to staying in care.
- *Using whole-genome sequencing (WGS) to create phylogenetic trees of viruses isolated from persons newly diagnosed with HIV that can be used to identify (and then control) clusters of HIV infections.* The reviewers recommended that CDC conduct pilot studies to confirm that this is an effective way to prevent HIV spread.

The recommendations of the DHAP external review will be finalized and posted in April.

## **Efforts by the National Center for Immunization and Respiratory Diseases (NCIRD) in the Flint, Michigan, Water Crisis Response**

Cynthia Whitney, Chief, Respiratory Diseases Branch, Division of Bacterial Diseases, NCIRD, reported that the summer (2014) after the Flint water supply was switched to the Flint River (from Detroit-supplied Lake Huron), the number of Legionnaires' disease (LD) cases rose from an average of 8–11 per year to more than 40, with the majority of cases associated with a single hospital. The Genesee County Health Department contacted CDC in February 2015, but the Michigan Department of Health and Human Services decided that a CDC field investigation was not warranted at the time. Despite remediation activities by the affected hospital, a similar increase in cases was reported again the following summer. This time, the hospital hired a private consultant and added a water disinfectant to its water system. Although no additional cases have been reported since October 2015, there is continuing concern about what may happen this summer.

CDC was approached again in January 2016, as part of the larger response to the lead contamination of the Flint water system. CDC was asked to help identify buildings that require water management programs (e.g., hospitals, buildings that house elderly persons, and tall buildings with complex water systems). As part of this effort, CDC developed an LD toolkit to help building managers implement water management programs based on the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) Standard 188-2015 (see also pages 10–13 of the [minutes of the December 2015 BSC/OID meeting](#)). Version 1.0 of the toolkit will be distributed in Genesee County this week by the Michigan health department. CDC is also working with the Michigan and Genesee County health departments to increase testing for LD and to encourage the isolation of bacterial isolates (from sputum) for use in the investigation.

Although the water supply has been switched back to the Detroit water source, the presence of abandoned buildings with stagnant water in their pipes may facilitate further growth of LD or other infectious agents; in addition, frequent water main breaks that introduce dirt into the water system can deplete the chlorine. Lower rates of chlorine may also be caused by higher temperatures during the summer months. The U.S. Environmental Protection Agency has expanded water testing (which can help localities adjust chlorine levels) from 10 to 34 sites.

CDC is also helping with public health communications, in coordination with state and county health departments, and taking into account other sources of information, including a Wayne State University communications group hired by the governor and a Virginia Tech laboratory group that is conducting independent water testing. CDC has developed LD fact sheets for the general public and for healthcare providers, and has answered questions from the Genesee County Medical Society.

Since the most recent BSC meeting (December 2015), NCIRD and the National Center for Environmental Health, CDC, have received funding to evaluate two LD prevention efforts: 1) cooling-tower registration and monitoring, as piloted by New York City, and 2) enhanced water testing at hospitals, as specified in Veterans Health Administration (VHA) Directive 1061.<sup>2</sup> CDC is also strengthening the Environmental *Legionella* Isolation Techniques Evaluation (ELITE) Program, which certifies laboratories that perform environmental testing for *Legionella*; evaluating the use of PCR during LD investigations; and (as a long-term-project) developing rapid methods for monitoring water systems for *Legionella*. In addition, CDC is developing a *Vital Signs* report on *Legionella* prevention scheduled for June 6. The *Vital Signs* report will include a fact sheet that aims to engage clinicians and building managers in LD prevention, and an *MMWR* article that evaluates lessons learned from field investigations of LD outbreaks between 2000 and 2014.

## DISCUSSION

In response to questions, Dr. Whitney noted that

- The LD toolkit will be disseminated as a pilot stage to the Michigan Department of Health and Human Services for feedback, and a more final version will be posted in June, along with the *Vital Signs* materials.
- CDC is in talks with the Association of Public Health Laboratories and the Wisconsin State Laboratory of Hygiene about expanding the ELITE Program to make it accessible to a larger number of public health and commercial laboratories.
- It is important to work with all levels of government—county, state, and federal—to advance the public health response in Flint.

Dr. Berkelman noted that a national workshop on legionellosis sponsored by the Sloan Foundation will be held in May at Emory University.

## CDC's Response to the Zika Virus Disease Outbreak

Tracee Treadwell, Associate Director for Infectious Disease Preparedness, National Center for Emerging and Zoonotic Infectious Diseases (NCEZID), and former Deputy Incident Manager for the Zika response, reported that, as of March 18, 264 travel-related cases of Zika virus disease have been reported in the continental United States and Hawaii, including 19 in pregnant woman. For mosquito-borne transmissions, 249 have been reported in Puerto Rico, 14 in American Samoa, and 11 in the U.S. Virgin Islands.

Two diagnostic tests are FDA-approved under Emergency Use Authorizations: the Zika MAC-ELISA, which tests for a history of infection, and the Trioplex rRT-PCR, which tests for active infection. Thirteen

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<sup>2</sup> Department of Veterans Affairs. Prevention of healthcare-associated *Legionella* disease and scald injury from potable water distribution systems. VHA Directive 1061; 2014.

laboratories are accredited to use the MAC-ELISA, and 26 more are working towards accreditation. The Trioplex rRT-PCR has been distributed to 77 laboratories that are working towards accreditation.

## DISCUSSION

In response to questions, Dr. Treadwell noted that

- The ability of the MAC-ELISA to distinguish Zika from dengue depends on the seropositivity of the sample. A definitive diagnosis requires a third test, the plaque-reduction neutralization test (PRNT), which is labor intensive to conduct and may not be a reliable test for congenital infection. BARDA (the Biomedical Advanced Research and Development Authority) is considering how to facilitate the development of faster and more sensitive tests, and CDC is continuing to receive requests from test manufacturers for help in validating new tests. (Additional information on this point will be provided to the BSC/OID.) Courtney Brooke, FDA, added that FDA is working with several clinical laboratories to evaluate Zika tests developed for in-house use.
- CDC is prioritizing testing of pregnant women—and women who might be pregnant—who have traveled in Zika-infected areas. For now, a lesser priority is to test male travelers, who are advised to refrain from sexual activity for a period of time after their return. CDC has begun a study of the persistence of the Zika virus in bodily fluids, including semen.
- The turnaround time to receive test results when a physician orders a Zika test depends in part on whether the physician's state laboratory is able to do the testing and whether the laboratory has a backlog.
- CDC has issued 9 travel notices about Zika, as well as 15 *MMWRs* that provide interim guidance on Zika surveillance, prevention, and treatment. A [Zika Action Plan Summit](#) is planned for April 1 to bring together representatives from many U.S. states and territories, including Puerto Rico. It is hoped that the Summit will reinvigorate local efforts to address mosquito-borne threats, by providing opportunities to share best practices for vector control and mosquito field-testing. Information will be provided to the BSC/OID on whether a national contract to improve vector control is under consideration.
- Ongoing surveillance efforts include studies of microcephaly and Guillain-Barré syndrome in Brazil and a case-control study in Colombia that follows a cohort of women infected during the first or second trimester of pregnancy. The results of these studies will inform guidance updates. Information on Zika and microcephaly in Brazil, Colombia, and other countries is available on the [Pan American Health Organization \(PAHO\) website](#). CDC continues to coordinate closely with PAHO and the World Health Organization on strategic plans for responding to Zika.

Also during the discussion, BSC members from state health departments expressed concerns about preparedness funding. CDC is continuing to pursue supplemental resources to support the US response to Zika. In the meantime, CDC has had to use existing resources to support the agency's most critical needs. These efforts have included redirecting other preparedness funding from state grants and the Strategic National Stockpile, as well as using other balances previously available for other activities, to increase on-going response activities. BSC members raised concerns about potential effects of these redirections. CDC recognizes that these resources are critical to support short-term activities while the agency continues to work with the Congress to fund CDC's Zika efforts and replenish resources directed from other sources.

## Update on CDC's Infectious Disease Budget

Rima Khabbaz reported that the fiscal year (FY) 2016 budget—which passed as part of an omnibus funding measure in December 2015—provides \$7.178 billion, which includes CDC Budget Authority of \$6.27 billion (an increase of \$273 million from FY 2015); \$892 million in Prevention and Public Health Fund (an increase of \$5 million); and \$15 million in the Public Health and Social Services Emergency Fund (the same as in FY 2015). The FY 2016 budget includes funding for the Antibiotic Resistance (AR) Solutions Initiative and for prescription drug overdose prevention. It also includes a provision that prohibits purchase of needles but allows support for other elements needed to implement syringe services programs in communities determined to be at risk for significant increases in hepatitis infections or an HIV outbreak due to injection drug use.

The FY 2016 budget includes level funding overall for Immunization and Respiratory Diseases (including \$8 million to support billing by health departments for immunization services); increased funding for HIV, Viral Hepatitis, STD, and TB Prevention (increases of \$2 million for school health and \$2.67 million for viral hepatitis); and increased funding for Emerging and Zoonotic Infectious Diseases (\$160 million for the AR Solutions Initiative; an increase of \$4 million for food safety; an increase of \$3 million for the National Healthcare Safety Network; and \$8 million [new] for laboratory safety and quality, with an additional \$5 million for laboratory safety and training in the Public Health Scientific Services budget line).

The FY 2017 President's Budget Request includes \$7 billion for CDC, which is a decrease of \$164,199 from FY 2016. The request includes

- Four agency initiatives: Combating Antibiotic-Resistant Bacteria, Good Health and Wellness in Indian Country, Prescription Drug Overdose, and mental health/evaluation of suicide prevention programs
- Increases for the Vaccines for Children Program, for viral hepatitis prevention, for the antimicrobial resistance and Advanced Molecular Detection (AMD) initiatives, for quarantine and migration to support refugee resettlement, and for laboratory science and safety enhancement
- Additional funding for global public health capacity-building activities, including the Global Health Security Agenda (GHSA), and for polio eradication
- Elimination of funding for chronic fatigue syndrome

## DISCUSSION

In response to questions, Dr. Khabbaz noted that

- The budget request for NCIRD includes a reduction in support for immunization services, which reflects an expectation of increased financial coverage through expanded health insurance. This reduction was also proposed in previous years.
- Responses to outbreaks of Legionnaires' disease and other non-vaccine-preventable respiratory diseases are supported in the emerging infections budget line.

BSC members commented that a major underlying, ongoing challenge is to build public health capacity to address infectious threats as they emerge. When CDC focuses on a serious issue such as Ebola or Zika, it is important that other public health issues are not neglected.

## Priorities for CDC's Antibiotic Resistance Solutions Initiative

Michael Craig, Senior Adviser for AR Coordination and Strategy, Division of Healthcare Quality Promotion, NCEZID, noted that the CDC report [Antibiotic Resistance Threats in the United States, 2013](#) was the impetus for the [National Action Plan for Countering Antibiotic-Resistant Bacteria](#) (CARB).

The CDC AR Initiative will support implementation of CDC's component of the CARB plan, which specifies goals, activities, and targets for U.S. Government agencies. The largest portion of extramural funding will be distributed to the 50 states and to 6 large cities, via the Epidemiology and Laboratory Capacity for Infectious Diseases (ELC) program, to improve AR detection and outbreak response in healthcare settings. Up to 25 jurisdictions will also receive support to build sustainable, comprehensive programs for AR prevention.

ELC support will also help states address drug-resistant gonorrhea and drug-resistant foodborne diseases. The AMD initiative has already improved state-level capacity to conduct WGS of drug-resistant *Salmonella*, building on the Listeria project, which validated the use of AMD techniques for outbreak detection.

In addition, the AR Initiative will support antibiotic stewardship programs, educational activities, and improved laboratory-based detection of carbapenem-resistant Enterobacteriaceae (CRE) and carbapenem-resistant pseudomonas. CDC will also establish an AR laboratory network of 7–8 state-based laboratories that serve as regional reference laboratories and conduct high-level research on resistant pathogens. Additional information is available in [an overview of the AR Solutions Initiative](#).

## DISCUSSION

In response to questions, Mr. Craig noted that

- CDC efforts to address drug-resistant TB (DR-TB) and multidrug-resistant TB (MDR-TB) include international activities to improve TB treatment and refugee health, as well as a clinical trial to evaluate the use of videoconferencing to implement DOTS (directly observed treatment, short course) therapy. CDC has also established a stockpile of TB drugs to address domestic shortages, as specified in the [National Action Plan for Combating Multidrug-Resistant Tuberculosis](#), which was developed as a follow-up to CARB.
- CDC is evaluating the use of WGS to investigate CRE outbreaks in hospitals. The goal is to use WGS to identify resistance patterns in healthcare-associated infection outbreaks, as is currently done during outbreaks of some enteric pathogens. Other aims include improving antibiotic stewardship and extending the Get Smart campaign to outpatient settings.
- CDC efforts to advance international efforts to combat AR (the last of the five CARB goals) include expanding the laboratory-based surveillance component of the [GHSA Antimicrobial Resistance Action Package](#) to non-GHSA countries.

## Phone Lines Open to Partners and the Public

Guillermo Ruiz-Palacios, BSC/OID liaison representative from the National Institutes of Health and Tertiary Referral Hospitals, Mexico City, reported that an increase in the number of cases of Guillain-Barré syndrome in southern Mexico may be associated with the ongoing outbreak of Zika virus disease. His organization may contact CDC to request assistance with diagnosis and serologic testing.

In response to a question from a Board member about an outbreak of bacterial infections in Wisconsin caused by *Elizabethkingia anophelis*, Dr. Khabbaz reported that the source and route of transmission of the bacteria are still under investigation.

## **Proposed July BSC/OID Meeting**

An in-person BSC/OID meeting may be held on July 27 and 28 or later in the summer or in early fall to continue discussion of the issues raised today, as well as other topics previously suggested by Board members (e.g., prevention and control of mosquito-borne and tickborne diseases). This proposal will be followed up by e-mail.



## BSC Member and CDC Staff Participants\*

### BSC Members

Ruth Berkelman  
Jack Bennett  
Nancy Bennett  
Kristy Bradley  
Mike Brady  
Harry Chen  
Frank Cockerill  
Barbara Cole  
Brooke Courtney  
(representing FDA)

Dawn Fukuda  
Carole Heilman  
(representing NIH/NIAID)  
Salmaan Keshavjee  
Beth Lautner  
Mike Loeffelholz  
Ruth Lynfield  
Beth Marlowe  
José Montero  
Andy Pavia

Lee Riley  
Guillermo Ruiz-Palacios  
Susan Sharp  
Jill Taylor  
Bob Weinstein  
Deb Yokoe

### CDC Staff

Gail Bolan  
Chris Cagle  
Michael Craig  
Kim Distel  
Rana Hajjeh  
Rima Khabbaz

Alexandra Levitt  
Gladys Lewellen  
Jonathan Mermin  
Nancy Messonnier  
Robin Moseley  
Sam Posner

Raul Romaguera  
Michael Shaw  
Tracee Treadwell  
Cynthia Whitney  
Sarah Wiley

\*Callers also included individuals from OID partner organizations and members of the public.

I hereby certify that to the best of my knowledge, the foregoing minutes of the proceedings of the meeting of the Board of Scientific Counselors, Office of Infectious Diseases, on March 28, 2016, are accurate and complete.

/s/  
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Ruth Berkelman, M.D.  
Chair, BSC, OID

05/31/16  
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Date