

# DBD BULLETIN

regards from  
*Rana...*

Dear Colleagues,

This will be my last issue of the DBD Bulletin with you—my wonderful staff. After 23 amazing years at CDC, and 8 years as DBD director, I have accepted a position with the World Health Organization in Egypt (see details at right).

My career at CDC has been enjoyed tremendously—starting with my early days in emerging special pathogens and childhood and respiratory diseases, to mycotic diseases, NAMRU-3 (Egypt), the GAVI Hib Initiative, involvement in emergency responses, and in particular, my DBD years. As the division's first permanent director, I learned a lot from seasoned scientists and staff, and from mentoring the many bright young scientists and new public health staff. DBD staff commitment to public health and strong science is unparalleled and its accomplishments will forever be a source of great pride for me. DBD's work has high impact in the US and the rest of the world, helping to save millions of lives and contribute immensely to public health science. The division is in great shape, with more funding this year than ever, I am confident DBD will continue to shine and grow.

CDC and all my friends will be very much missed, but I am very excited about this new opportunity in a region currently facing many public health and other challenges. This is a region that I know well and one where I will be proud to pursue my passion in impactful global health. Being in Egypt will also allow me to be closer to my family in Lebanon.

The world is small and the need to protect the public's health is everywhere, so I will look forward to collaborating with many CDC colleagues in the future.

"If you drink from the Nile once, you will come back". (Egyptian Proverb)

With all my love and appreciation,  
Rana



**Photo:** Dr. Hajjeh accepts the 2014 Federal Employee of the Year medal from HHS Secretary Sylvia Burwell for leading a global vaccine campaign (the Hib Initiative) estimated to save the lives of millions of children by 2020. This award recognizes annually a federal employee whose professional contributions exemplify the highest attributes of public service.

## DBD Director Accepts WHO Position

DBD director, Rana Hajjeh, will be leaving CDC on July 2 to become the director of communicable diseases for the World Health Organization's Eastern Mediterranean Regional Office in Cairo, Egypt.

Rana has made incredible contributions to public health in her 23-year career with CDC. She was the first permanent director of DBD and has led the center's efforts on bacterial respiratory and vaccine-preventable disease surveillance and response efforts in the United States and globally for the last 8 years. She played an important role in the response and control of multiple domestic and global outbreaks, including epidemic meningitis, anthrax, SARS, cholera, MERS, and Ebola. Rana is probably best known for her leadership globally as director of the GAVI (Global Alliance for Vaccines and Immunization) Hib Initiative, a global campaign that convinced some of the world's poorest countries to use Hib vaccine to fight bacterial meningitis and pneumonia. Hib vaccine is estimated to save the lives of millions of children by 2020. For these accomplishments, she was awarded the 2014 Federal Employee of the Year medal.

## June 2016 *Vital Signs*: Legionnaires' Disease

DBD successfully launched its first CDC *Vital Signs* on June 7. The issue highlighted the latest findings on deficiencies in environmental control of *Legionella* that led to the building-associated Legionnaires' disease outbreaks CDC investigated from 2000 through 2014. These investigations show that about 9 in 10 outbreaks were caused by problems that could have been prevented with more effective water management. Environmental assessments conducted as part of CDC investigations show that outbreaks of this disease were due to common problems, such as human errors like not properly cleaning a hot tub filter, or changes in water quality caused by external factors like nearby construction. Learn more about this *Vital Signs* issue at [www.cdc.gov/vitalsigns/legionnaires](http://www.cdc.gov/vitalsigns/legionnaires).

In conjunction with *Vital Signs*, DBD, in collaboration with the National Center for Environmental Health, released a practical guide for **Developing a Water Management Program to Reduce *Legionella* Growth & Spread in Buildings**. This new toolkit, based on ASHRAE Standard 188, features a checklist to help identify if a water management program is needed, examples to help identify where *Legionella* could grow and spread in a building, and ways to reduce the risk of *Legionella* contamination. View the toolkit at [www.cdc.gov/legionella/WMPtoolkit](http://www.cdc.gov/legionella/WMPtoolkit).



**Photo:** DBD and NCEH participated in a CDC telebriefing, hosted by CDC Director Tom Frieden, M.D., M.P.H., to discuss with media the Legionnaires' disease *Vital Signs*. RDB chief, Cyndy Whitney (second from right), fielded questions from reporters, while the rest of the Legionella team (from left to right: Claressa Lucas, Jasen Kunz, Alison Albert, Laura Cooley) provided technical support.

## this issue

DBD Director Accepts WHO Position P.1

June 2016 *Vital Signs*: Legionnaires' Disease P.1

Global Health Security Agenda Updates P.2

DBD Welcomes New Fellows & Officers P.3

Michigan Water Crisis, Lab Assessment, & More. P.4

Awards P.5-6

Meetings & Presentations P.6-8

Epi-Aids & Investigations P.8

Communications P.9

Publication Highlights P.10

# Global Health Security Agenda Updates



*Photo: DBD medical epidemiologist, Matt Moore, presents at the Burkina RESPIRE project stakeholder meeting April 26 in Ouagadougou, Burkina Faso. The meeting brought together Ministry of Health, regional, and district health officials to introduce the project's protocol and training plans. Burkina RESPIRE and the Field Epidemiology Training Program–Frontline–co-hosted the meeting.*

CDC helped launch the five-year U.S. Global Health Security Agenda (GHSa) in 2014 that aims to make people around the world safer against the threat of infectious disease epidemics. The United States has made a commitment to assist at least 30 countries over five years to achieve the targets of GHSa, with more than half of this significant investment focused on Africa. The Global Health Security Branch in CDC's Center for Global Health coordinates with CDC subject matter experts, including in-country staff, to help address priority areas in select countries. DBD's longstanding relationships and significant experience working with global partners and in-country leadership are helping to fuel the success of CDC's GHSa commitments. Recent and upcoming DBD activities include:

**Burkina Faso:** In March, DBD's associate director for global health security agenda activities **Sara Mirza** and RDB epidemiologist **Matt Moore** were in Burkina Faso to continue collaborations for Burkina RESPIRE, the new GHSa project focused on strengthening surveillance and laboratory capacity to detect and respond to clusters of severe acute respiratory infections (SARI) in hospitals and communities. Burkina RESPIRE is designed to show measurable health impact within a short time period of support. DBD director **Rana Hajjeh**, **Sara Mirza**, **Matt Moore** and **Jennifer Milucky** joined the Burkina Faso Ministry of Health and the CDC Field Epidemiology Training Program (FETP)–Frontline–to host a Burkina RESPIRE stakeholders meeting in Ouagadougou, Burkina Faso in late April for participants from regions, districts, hospitals, universities, and other institutions across the country to learn about Burkina RESPIRE. In early June, Burkina RESPIRE trainings were integrated into the FETP-Frontline training curriculum. **Rola Doughan**, DBD's new GHSa health communications specialist, will develop and coordinate translation of relevant materials to French.

In mid-June, DBD collaborated with the World Health Organization African Regional Office and CDC's Division of Emergency Operations to host a sub-regional emergency management/preparedness workshop in Ouagadougou, Burkina Faso. Participants from 12 West African countries were invited to participate in sessions designed to help them strengthen their core public health capacities and gain emergency management skills to address the immediate threat of a meningitis epidemic.

**Ghana:** DBD staff conducted laboratory and epidemiology trainings to strengthen meningitis surveillance in the Northern, Upper West, and Upper East regions of Ghana in June. The division is collaborating with the Global Immunization Division on the Ghana Strengthening the Second Year of Life Project. Ghana will be one of the first countries in the meningitis belt of Africa to introduce serogroup A meningococcal conjugate vaccine into the routine immunization program. Read this Bulletin's Epi-Aids and Investigations section to learn about DBD's rapid response to the February 2016 outbreaks of pneumococcal and meningococcal meningitis in Ghana.

**India:** DBD staff are active in a CDC collaboration with the National Institute of Mental Health and Neurosciences, India to enhance existing surveillance for acute encephalitis syndrome (AES) to include surveillance for bacterial meningitis. CDC India staff are conducting hospital admission surveys to select appropriate AES sites for bacterial meningitis surveillance.

A collaboration with the Division of Viral Diseases (DVD), the Influenza Division (ID), and CDC India staff with the National Institute of Epidemiology in Chennai, India will establish facility-based and event-based surveillance for acute diarrheal diseases, acute febrile illness, and severe acute respiratory illness in Tamil Nadu, India. In March, two Epidemic Intelligence Service officers from ID and DBD, and an epidemiologist and laboratory specialist from DVD conducted site visits to document baseline capacity for facility-based surveillance and understand existing event-based surveillance for acute febrile illness in Tiruvallur District, Tamil Nadu.

**Mali:** In March, DBD staff met with Mali's new Minister of Health, Dr. Marie Madeleine TOGO, and the Mali Country Office team to discuss the current meningitis epidemic in the region and DBD's activities to reinforce case-based meningitis surveillance in Mali.



*Photo: Lesley McGee, microbiologist in the DBD Streptococcus Lab reviews monthly results of laboratory tests performed at the District Hospital in Thiruvallur District, Tamil Nadu, India during a January, 2016 GHSa site visit.*



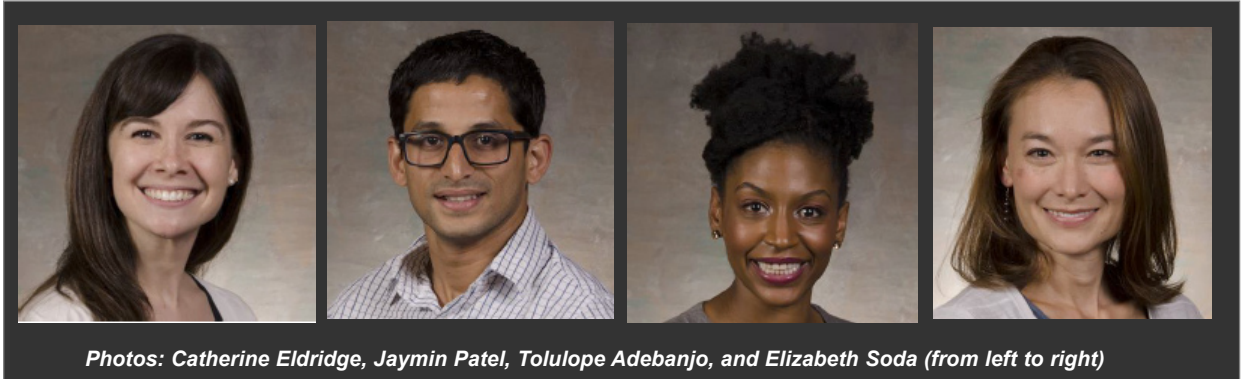
# DBD Welcomes New LLS Fellows and EIS Officers

CDC launched its two-year Laboratory Leadership Service (LLS) fellowship program in 2014 that combines competency-based public health laboratory training with practical, applied investigations and service with a focus on biosafety, quality management systems, and management and leadership competencies to provide early career laboratory scientists with a strong foundation for future leadership and management positions in public health laboratories. During the inaugural year, DBD labs were among the first selected for the placement of LLS fellows and the only labs from NCIRD. **Anna Llewellyn** was DBD's first LLS Fellow, and is in RDB's Pneumonia Response and Surveillance Laboratory. This year, **Xiaoling Tang** will work with staff in the *Streptococcus* Laboratory and **Caelin Cubenas Potts** will join the Bacterial Meningitis Laboratory.



*Photos: Xiaoling Tang, Caelin Cubenas Potts, and Anna Llewellyn (from left to right)*

During the spring 2016 Epidemic Intelligence Service (EIS) Conference, DBD recruited 4 new EIS officers. They will join the division for 2-year assignments that start this summer. Please welcome **Catherine Eldridge** and **Jaymin Patel** to MVPDB, and **Tolulope Adebajo** and **Elizabeth Soda** to RDB.



*Photos: Catherine Eldridge, Jaymin Patel, Tolulope Adebajo, and Elizabeth Soda (from left to right)*

EIS officers have a significant impact in improving the public's health domestically and internationally through:

- Identifying causes of disease outbreaks
- Investigating other urgent public health threats
- Recommending prevention and control measures
- Implementing strategies to protect people from injury, disability, illness, and death

## EIS Officer Meets Senator Durbin

RDB EIS Officer **Sana Ahmed**, who joined DBD in 2015, was invited by the EIS program to meet Illinois Senator Richard Durbin (D-IL) when he visited CDC in February to attend briefings about CDC's emergency response capabilities and the Zika virus and tour the Emergency Operations Center. Ahmed grew up and attended college in Illinois before pursuing her medical training. Reflecting on that meeting, Ahmed remarked, "Meeting Senator Durbin was a wonderful opportunity. In sharing some of the highlights of my outbreak experiences working on our exciting programs such as the Legionnaires' disease prevention initiative and pneumococcal vaccination studies, I hoped to have imparted to the Senator the enthusiasm and dedication EIS officers possess as the frontline disease detectives."

*Photo: DBD EIS officer Sana Ahmed meets with Senator Richard Durban, along with EIS officer Chris Hsu from the Poxvirus and Rabies Branch.*



# Water Crisis in Michigan: Legionnaires' Disease Response

Since January 2016, the DBD *Legionella* team and partners in the National Center for Environmental Health (NCEH) have been working with public health officials in Michigan to identify buildings at increased risk for growing and spreading *Legionella* and develop a toolkit to help reduce that risk. In the summers of 2014 and 2015, Genesee County, Michigan, experienced an increase in reported Legionnaires' disease cases, which coincided with a change to the water supply source for the city of Flint, Michigan. DBD's *Legionella* team and NCEH are providing technical assistance to Michigan and Genesee County on *Legionella* as part of the much larger public health effort by CDC, HHS, and other federal, state, and local partners to address the water crisis in Flint, Michigan. DBD and NCEH will continue to provide this assistance and encourage use of risk reduction measures outlined in the new toolkit (pictured), which was launched with the June 2016 edition of CDC's *Vital Signs* on Legionnaires' disease.

*Image: "Developing a Water Management Program to Reduce Legionella Growth and Spread in Buildings," a new toolkit developed by DBD and NCEH, which was released in June.*



## Laboratory Assessment and Training in Bangladesh

In the spring of this year, **Stephanie Schwartz**, DBD's global laboratory coordinator, met with longstanding DBD collaborator Dr. Samir K. Saha, professor and head of the Department of Microbiology at the Dhaka Shishu Hospital and the executive director of The Child Health Research Foundation at the Bangladesh Institute, to discuss DBD's in-country laboratory-related activities. Schwartz was in Bangladesh to join colleagues from the World Health Organization to conduct an in-depth laboratory assessment and laboratory training for PCR methods for detection and characterization of agents in bacterial meningitis and pneumonia. The visit was made on behalf of the Invasive Bacterial Vaccine Preventable Disease Global Surveillance Network.

## MPIR Lab Supports the CDC Zika Response

DBD's Microbial Pathogenesis and Immune Response (MPIR) Laboratory is supporting the CDC Fort Collins and San Juan laboratories' Zika investigations by providing serology testing for the surge in the number of Zika specimens being sent to CDC during the current outbreak. MPIR is running 2 assays: the anti-Zika IgM assay to detect recent Zika infection and the anti-Dengue IgM to rule out cross-reactive false positives due to the homology between Zika and Dengue. Prior to accepting specimens, MPIR collaborated with CDC Zika subject matter experts to complete risk assessments and safety precautions for handling the samples, finalize the test algorithm, and define the reporting structure.



*Photo: DBD staff extend best wishes to Conrad Quinn at a March 30 going away party. Pictured left to right: Lakeisha Swanson, Lucia Tondella, Rana Hajjeh, Conrad Quinn, Stacey Martin, and Xin Wang.*

## MVPDB Chief Accepts New Position

**Conrad Quinn**, chief of DBD's Meningitis and Vaccine Preventable Diseases Branch since mid-2014, has accepted a new position in CDC's Office of the Director, Office of the Associate Director for Laboratory Science and Safety. On April 4, Quinn, a 15-year CDC employee in MVPDB, became director of the Office of Laboratory Science.



# Awards

## CDC Honor Awards

The 64<sup>th</sup> Annual CDC & ATSDR Honor Awards ceremony held March 29 highlighted the agency staff's remarkable achievements and recognized groups and individuals who continue to advance CDC's distinguished legacy of improving public health. DBD's **Bacterial Meningitis Laboratory** was awarded the Excellence in Laboratory Research award for exemplary performance in developing and implementing cutting edge technology to improve laboratory capacity, surveillance, and advancing science.

## NCIRD Honor Awards

The 2015 NCIRD Honor Awards on December 17 recognized many DBD staff for achievements in 2014 and 2015.

- Excellence in Emergency Response, Domestic (2015): **New York City Legionnaires' Disease Response Team**
- Excellence in Emergency Response, International (2015): **Niger Meningitis Surveillance and Outbreak Response Team**
- Excellence in Epidemiology, Domestic (2015): **Meningococcal Carriage Evaluation Team**
- Excellence in Laboratory Quality (2014): **Division of Bacterial Diseases Quality Team**
- Excellence in Laboratory Research (2015): **Bacterial Meningitis Laboratory Team**
- Excellence in Program Delivery, International (2014): **Latin American Pertussis Project (LAPP) Team**
- Excellence in Program or Policy Evaluation (2014): **Anthrax Vaccine Evaluation Team**
- Excellence in Program or Policy Evaluation (2015): **Pneumococcal Vaccine Evaluation Team**
- Excellence in Leadership, GS-11-13: **Tamara Pilishvili**
- Excellence in Plain Language, Communication for General Public Audience: **Get Smart: Know When Antibiotics Work**
- Outstanding Team Leadership Award, Domestic: **Matt Moore**
- Outstanding Team Leadership Award, International: **Xin Wang**
- Outstanding Team Player Award, Domestic: **Ivy Adekoya**
- Rising to the Challenge Award, Domestic: **New York City Legionella Outbreak Response Team**
- Rising to the Challenge Award, International: **Niger Meningitis Surveillance and Outbreak Response Team**
- Commissioned Corps Award, Commendation Medal: **Sarah Meyer**
- Length of Service Award, 10 Years (2014): **Cyndi Hatcher, Antonette Hill, Tamara Pilishvili, Jeni Vuong, Margaret Williams**
- Length of Service Award, 20 Years (2014): **Beth Laney**
- Length of Service Award, 10 Years (2015): **Rita Desai, Debra Kuehl, Brian Raphael, Gloria Carvalho**
- Length of Service Award, 20 Years (2015): **Patricia Shewmaker**
- Length of Service Award, 25 Years (2015): **Pam Cassiday**
- Length of Service Award, 40 Years (2015): **Leonard Mayer**



*Photo: DBD's Brian Raphael, Legionella Laboratory lead, with Rima Khabbaz, acting NCIRD director, accepting one of two NCIRD awards recognizing the Legionella team's role in the agency's response to the 2015 New York City Legionnaires' disease outbreak.*



*Photo: Xin Wang, Bacterial Meningitis Laboratory lead, proudly shares her team's 2016 CDC Excellence in Laboratory Research award with DBD director Rana Hajjeh.*



*Photo: DBD's Ivy Adekoya, public health analyst in MVPDB, accepts the NCIRD 2016 Outstanding Team Player Award from Rima Khabbaz, acting NCIRD director.*

### NCIRD Employee of the Month

**Jeni Vuong**, a microbiologist in the Bacterial Meningitis Laboratory, was selected as NCIRD's Employee of the Month for May. She was recognized for her significant contribution to the rapid response to the meningitis outbreak in Ghana, deployment to Chad to provide laboratory training for molecular diagnostic testing and establishing real-time PCR capacity at the national laboratory, and conducting a meningococcal carriage evaluation in Rhode Island.

### DBD Staffer Honored by Alma Mater



The University of Missouri-Kansas City (UMKC) honors the best in its alumni ranks annually, and this year the UMKC Alumni Association Governing Board is recognizing **Bernie Beall**, DBD *Streptococcus* Laboratory lead, with its 2016 School of Biological Sciences Alumni Achievement Award.

### HHS Ignite Accelerator

**Gayle Langley**, director of DBD's Active Bacterial Core surveillance and her team's (including RDB's **Jennifer Hudson** and the Office of Noncommunicable Diseases, Injury and Environmental Health's **Melvin Crum**) project "System to Prevent Group B Streptococcal Infections" (STOP GBS) was selected for the HHS Ignite Spring 2016 Accelerator HHS Idea Lab. This internal innovation startup program is for HHS staff who want to improve the way their program, office, or agency works. The program provides selected teams with methodological coaching and technical guidance in a fast-paced, entrepreneurial framework. Langley's entry was selected from roughly 100 proposals and almost 50 finalists—with four winners having been selected from CDC. STOP GBS is a tool embedded in medical records that provides healthcare providers patient-specific recommendations to prevent group B streptococcal disease based on clinical information entered into the mobile application tool.



*Photo: Jeni Vuong (center), a microbiologist in the Bacterial Meningitis Laboratory, worked with colleagues from Nigeria on a laboratory training at CDC headquarters this spring. Pictured left to right: Grace Olanipekun, Jeni Vuong, and Chinwendu Ogbonnaya.*

### HHS Green Champion Award

DBD associate director for laboratory science, **Debra Kuehl**, and DBD global laboratory coordinator, **Stephanie Schwartz**, along with colleagues in CDC's Office of the Chief Operating Officer, were awarded HHS's 2016 Green Champion Award.

The CDC Quality and Sustainability Office (QSO) fosters a long-term partnership with the Georgia Institute of Technology through various projects and educational events. This year QSO and CDC's Environment, Safety, and Health Compliance Office teamed with two classes of industrial design graduate students to incorporate sustainable design and materials into products to minimize their environmental footprint. Students worked with CDC project champions to deliver improved design concepts for CDC equipment and other systems, including deployment kits for CDC staff working abroad, detectable warning paving systems, decontamination foggers, backpack sprayers, and ergonomic stand-up desks. This partnership mentors the next generation of design professionals with a focus on the importance of sustainable design and supply chain management.

## Meetings and Presentation Highlights

### Vaccine-Preventable Diseases Reference Center Stakeholders Meeting

During May 10–11, several staff from across NCIRD participated in the Association of Public Health Laboratories (APHL) Vaccine Preventable Diseases (VPD) Reference Center Stakeholders meeting at the Emory Conference Center. DBD staff, including **Stephen Hadler**, **Lucia Pawloski**, **Adam Retchless**, **Srini Velusamy**, **Michael Weigand**, and **Brunie White**, presented on various topics from pertussis serology testing to Next Generation Sequencing. In collaboration with APHL and CDC, The Reference Centers were established in 2013 to sustain testing services capacity for a broad range of VPDs at selected state public health laboratories. Meeting participants discussed and evaluated successes and challenges over the past three years and considered future priorities.

### Association of Public Health Laboratories Webinar

The April 21 Association of Public Health Laboratories webinar discussed whole genome sequencing (WGS) of bacterial pathogens. DBD laboratory scientists **Lesley McGee**, **Brian Raphael**, and **Adam Retchless** presented an overview of the WGS work being conducted in the *Streptococcus*, *Legionella*, and Bacterial Meningitis Laboratories.



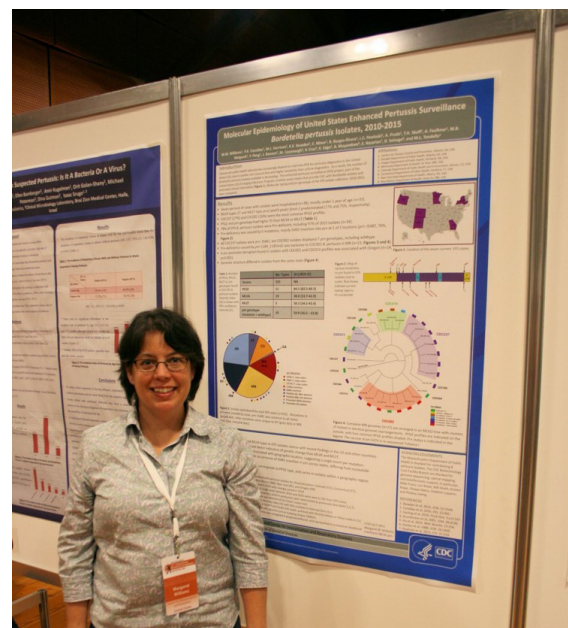
*Photo: DBD's Lesley McGee and Sopio Chochua, microbiologists in the Streptococcus Laboratory, and Adam Retchless, Bacterial Meningitis Laboratory health scientist, present an overview of whole genome sequencing efforts during an April webinar with the Association of Public Health Laboratories.*



# ...Meetings and Presentations Continued

## 11<sup>th</sup> Annual International *Bordetella* Symposium

DBD staff made significant contributions to the science presented at the 11<sup>th</sup> Annual International *Bordetella* Symposium April 5–8 in Buenos Aires, Argentina. Important issues related to *Bordetella* molecular biology, evolution, infection, pathology, immunity, vaccinology, epidemiology, and other topics were presented. **Anna Acosta** presented the poster “Acellular pertussis vaccine effectiveness among children and adolescents in the setting of pertactin-deficient pertussis, Vermont, 2011–2013.” **Katie Bowden** presented the poster “Complete genome analysis of 31 *Bordetella pertussis* isolates from two U.S. pertussis statewide epidemics: California 2010 and Vermont 2012.” **Pam Cassidy** presented the poster “Screening for azithromycin and erythromycin resistance among U.S. isolates of *Bordetella pertussis*, 2012–2015.” **Temí Folaranmi** presented the poster “Systematic review of pertussis in Latin America: 1980–2014.” **Connie Lam** presented the poster “Transcriptional differences in *Bordetella pertussis* strains not expressing vaccine antigens.” **Han Li** presented the poster “Development of a functional assay to measure antibody neutralization activity to *Bordetella pertussis* Adenylate Cyclase Toxin.” **Lucia Pawloski** presented the poster “A qualitative capture ELISA on an electrochemiluminescent platform: An alternative method to screening for the production of *Bordetella pertussis* vaccine immunogens.” **Scott Peng** presented the poster “Whole genome sequencing and single nucleotide polymorphism analysis of 434 *Bordetella pertussis* isolates using de novo assembly pipeline.” **Shankar Rajam** presented the poster “Development of a multiplex serological assay to measure the immune response to pertussis antigens.” **Tami Skoff** presented the poster “The impact of the U.S. maternal Tdap vaccination program on preventing infant pertussis.” **Heidi Soeters** presented the poster “Epidemiology of pertussis in Panama, 2003–2014.” **Lucia Tondella** presented “Latin American Pertussis Projects: Successes and challenges” and co-chaired the session on *Bordetella* biology, genomics, and evolution. **Michael Weigand** presented “*Bordetella* genomics and evolution: A history of genome structural fluidity during the resurgence of *Bordetella pertussis* in the United States.” **Margaret Williams** presented the poster “Molecular epidemiology of *Bordetella pertussis* isolates from the U.S. enhanced pertussis surveillance project, 2010–2015.” Other DBD participants included **Steve Hadler**, **Stacey Martin**, and **Jarad Schiffer**.



*Photo: DBD microbiologist, Margaret Williams, presented her poster at the April 2016 11<sup>th</sup> Annual International Bordetella Symposium.*

## Board of Scientific Counselors Meeting, Office of Infectious Diseases, CDC

RDB branch chief, **Cynthia Whitney**, presented on NCIRD's efforts in CDC's Flint, Michigan, water crisis response, specifically on *Legionella*, at the March 28 Atlanta meeting of the CDC Board of Scientific Counselors.

## Annual Quality Management Systems Management Review

NCIRD hosted its annual Quality Management Systems management review on March 14. DBD's quality manager, **Genevieve Langley**, presented successes of the past year, including the replacement of 76 outdated pieces of laboratory equipment to improve safety and save energy costs and on the development of a personnel tracker (training database). The personnel tracker assigns training and document requirements to roles, groups, and teams, creates reports of pending and completed trainings, and notifies staff of pending or past due requirements.

## 17<sup>th</sup> International Congress on Infectious Diseases

This year marked the first time the International Congress on Infectious Diseases (March 2–5) was held in India. More than 2,000 health and disease experts from 120 countries gathered in Hyderabad for the Congress. A broad roster of scientific sessions encompassed all aspects of infectious diseases with particular attention being paid to the major challenges in the South Asia region—HIV, tuberculosis, pneumonia, enteric infections, antimicrobial resistance, typhoid fever, and diarrhea—and focused on disease prevention and vaccination.

DBD director, **Rana Hajjeh**, general secretary of the International Society for Infectious Diseases, was a member of the International Organizing Committee for the Congress and chaired sessions on cautious antibiotic use as well as infection control practices in developing countries. She also gave a lecture on lessons learned from the introduction of Hib vaccines and implications for other new vaccines.



*Photo: DBD director, Rana Hajjeh (far right), at the Lamp Lighting Ceremony by Shri for the official opening of the 17<sup>th</sup> International Congress on Infectious Diseases (ISID) in Hyderabad, India March 2016. Hajjeh, who serves as general secretary for the Society is joined by (L to R) Charlakola Laxma Reddy Garu—the Honorable Minister for Health, Medical and Family Welfare, Government of Telangana in presence of Dr. Soumya Swaminthan, director general, Indian Council of Medical Research, professor Jonathan Cohen, emeritus professor in infectious diseases and president, ISID, and professor Ramanan Laxminarayan, distinguished professor, Public Health Foundation of India and chair, National Organizing Committee.*  
*Photo: Courtesy of ISID*

# ...Meetings and Presentations Continued

## ABCs Steering Committee Meeting

The March 1–2 Active Bacterial Core surveillance (ABCs) Steering Committee Meeting at CDC's main Atlanta campus provided an opportunity for the 14 member Steering Committee and other ABCs site representatives from 10 states to review and discuss pathogen trends and new project proposals. Trends in infant and adult group B streptococcal disease, *Streptococcus pneumoniae* adult colonization and projects looking at PCV13 evaluation, serogroup B meningococcal vaccine effectiveness, and advanced molecular detection were among the topics explored.

## Meningitis Vaccine Project Closure Conference

DBD's **Ryan Novak**, director of MenAfriNet, presented at the Closure Conference of the Meningitis Vaccine Project (MVP) held during the Ministerial Conference on Immunization February 24–25 in Addis Ababa, Ethiopia. Novak presented "Public health impact of MenAfriVac™: The first four years" and "MenAfriNet: A regional catalyst."

MVP is a consortium of global partners that ultimately developed and delivered the first affordable, tailor-made vaccine for use against serogroup A meningococcal disease in sub-Saharan Africa. The consortium, including CDC, PATH, WHO, FDA, the Health Protection Agency, and the National Institute for Biological Standards and Control, with funding from the Bill & Melinda Gates Foundation, was launched in 2001 and worked with the Serum Institute of India to develop and then deliver in 2010, MenAfriVac™. Since its introduction in 2010, more than 235 million people in 15 countries have received MenAfriVac™ through mass vaccination campaigns. It is expected, that in 2016, all countries in the African meningitis belt will have introduced the vaccine.

## NCIRD Scientific Seminar

DBD's **Brian Raphael**, **Michael Weigand**, and **Jonas Winchell** discussed *Legionella*, pertussis, and diphtheria laboratory activities at the January 6, NCIRD scientific seminar "NCIRD Contributions to the 21<sup>st</sup> Century Public Health Laboratory through Advanced Molecular Detection."

## Epi-Aids and Investigations

**Meningococcal Epi-Aid**—New Jersey, May 2016. A team of epidemiology staff was deployed to assist the New Jersey Department of Health in defining the population at risk for serogroup B meningococcal disease and determining a strategy for MenB vaccination in response to a cluster of disease at a university.

**Group A Streptococcal Epi-Aid**—Chicago, Illinois, March 2016. A team was deployed to assist the Illinois Department of Public Health in determining sources of infection, risk factors for disease, and recommendations to stop transmission at a long-term care facility.

**Meningococcal Epi-Aid**—Boston, Massachusetts, March 2016. A team was deployed to assist the Massachusetts Department of Public Health, in collaboration with the Boston Public Health Commission, in investigating an outbreak among Boston's homeless population. The investigation helped researchers better understand factors contributing to the increased risk of meningococcal disease among this population, potential barriers to chemoprophylaxis, and vaccination acceptance. The information and data will help inform future prevention and control activities in this population.

**Meningococcal Carriage Evaluation**—Rhode Island, March 2016. A team of epidemiology and laboratory staff was deployed to conduct the fourth round of a *Neisseria meningitidis* carriage evaluation following a serogroup B outbreak at a college.

**Meningococcal Carriage Evaluation**—Oregon, March 2016. A team of epidemiology and laboratory staff was deployed to conduct the fourth round of a *Neisseria meningitidis* carriage evaluation following a serogroup B outbreak at a university.

**Meningitis Investigation**—Ghana, February 2016. At the request of the Ghana Ministry of Health, epidemiology and laboratory staff deployed to provide technical assistance to the Ministry and the World Health Organization (WHO) for an outbreak response to both pneumococcal and meningococcal meningitis in districts in the northern area of the country. During the team's 2-week stay, they conducted hands-on training for lab staff in molecular diagnostics for confirmation and typing of meningitis-causing pathogens to help Ghana strengthen its in-country laboratory capacity. Epidemiology staff provided technical assistance with the local outbreak investigation. The Ministry and WHO secured 160,000 doses of meningococcal vaccine for three districts in the northern area of the country to help stop such outbreaks. Read more at [www.cdc.gov/globalhealth/security/stories/ghana-lab-meningitis-outbreak.html](http://www.cdc.gov/globalhealth/security/stories/ghana-lab-meningitis-outbreak.html).



*Photo: DBD's Ryan Novak (second from right), director of MenAfriNet, accepts a certificate of appreciation for CDC's support of the Meningitis Vaccine Project (MVP) achieving its goals. Joining Novak from left to right are Marie Pierre Preziosi, MVP director 2012–2015, Mahmoudou Harouna Djingarey, MVP focal point WHO Inter-country Support Team/ West Africa, and F Marc Laforce, former MVP director 2001–2012, current director of Technical Services, Serum Institute of India.*



*Photo: DBD's Jeni Vuong conducts PCR testing at the Tamale, Ghana Public Health Laboratory during a meningitis outbreak investigation in Ghana in February 2016.*



# Communications

DBD is pleased to announce development of new products for staff, clinicians, and the general public:

## Laboratory Photos and 3D Pathogen Illustrations

Jessica Kolis, on DBD's health communication science team, collaborated with CDC photographer Jim Gathany to stage photo shoots in each of DBD's laboratories as part of a division-wide project to compile an extensive photo repository documenting the division's laboratory activities that support the agency's domestic and global public health laboratory trainings, research, specimen testing, and outbreak response activities. Photos demonstrate how staff adhere to the highest laboratory quality and safety standards. The communications team is also working with CDC graphic designers to develop a series of 3D illustrations for the pathogens the division works with. These products will be available for use in presentations, trainings, news coverage, and on websites. For more information, please contact the DBD communications team.



*Image: 3D illustration of *Mycoplasma pneumoniae* developed by CDC graphic designers with technical input from DBD.*

## New! Materials and Websites

### Legionnaires' Disease *Vital Signs*

Read more about how water management programs in buildings can be used to help prevent outbreaks. Also find new fact sheets, graphics, podcasts, and more at [www.cdc.gov/vitalsigns/legionnaires](http://www.cdc.gov/vitalsigns/legionnaires).



### Toolkit: Developing a Water Management Program to Reduce *Legionella* Growth and Spread in Buildings

Download DBD and NCEH's new practical guide to implementing industry standards at [www.cdc.gov/legionella/WMPtoolkit](http://www.cdc.gov/legionella/WMPtoolkit).

### Legionnaires' Disease Fact Sheets

Find new Legionnaires' disease fact sheets for clinicians and the general public on the *Legionella* website at [www.cdc.gov/legionella](http://www.cdc.gov/legionella). The general public version is available in Spanish.

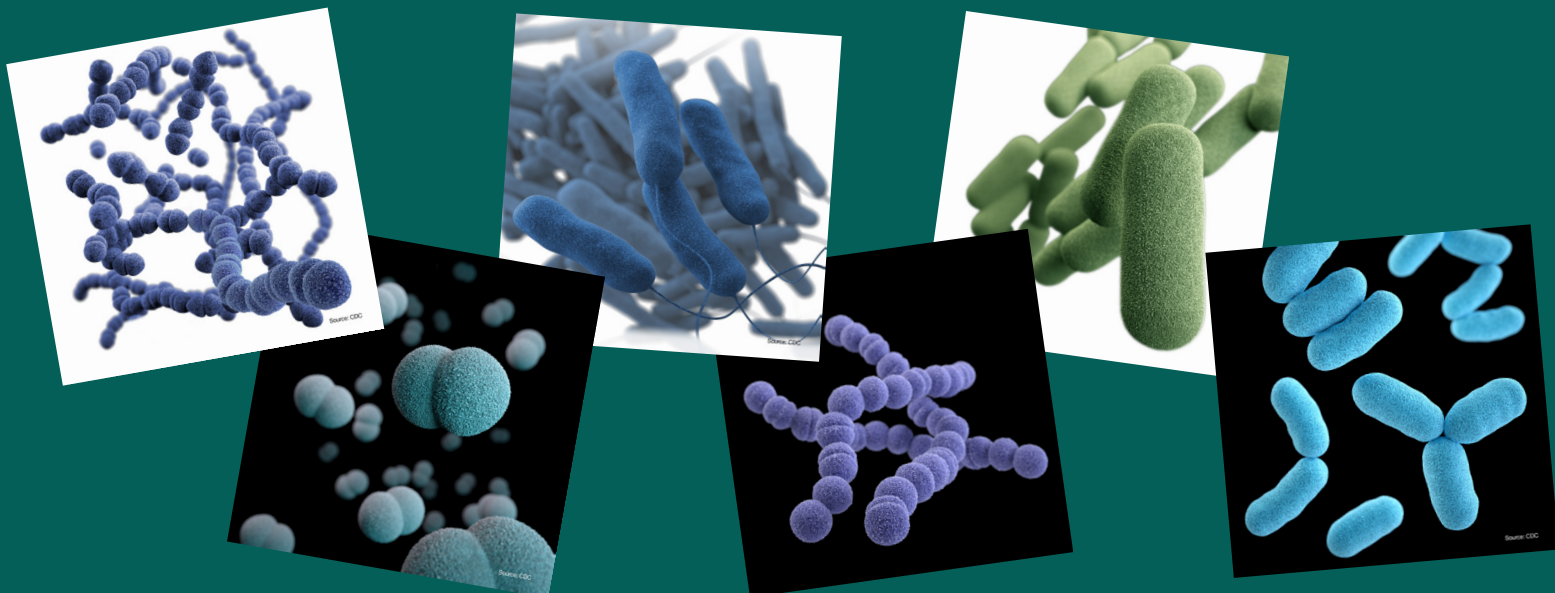
### MenAfriNet Website

The MenAfriNet website ([www.menafrinet.org](http://www.menafrinet.org)), with the latest details about activities, partners, and the project's future plans, has been launched.

### LAPP Website

The new Latin American Pertussis Project (LAPP) website at [www.cdc.gov/pertussis/countries/lapp.html](http://www.cdc.gov/pertussis/countries/lapp.html) includes reviews of LAPP's objectives, information on pertussis surveillance in LAPP countries, and resources.

*Photo: CDC photographer Jim Gathany photographs How-Yi Chang, a microbiologist in the Bacterial Meningitis Laboratory, analyzing a plate of *Neisseria meningitidis* as her actions are observed by Betsy Butler, DBD's laboratory safety officer.*



*Illustrations: From left to right, *Streptococcus pneumoniae*, *Neisseria meningitidis*, *Legionella pneumophila*, *Streptococcus pyogenes*, *Haemophilus influenzae*, and *Corynebacterium diphtheriae*.*

# Publication Highlights

Breakwell L, Kelso P, Finley C, et al. **Pertussis vaccine effectiveness in the setting of pertactin-deficient pertussis.** *Pediatrics*. 2016 Apr 12. [Epub ahead of print]

Cassiday PK, Skoff TH, Jawahir S, Tondella ML. **Changes in predominance of pulsed-field gel electrophoresis profiles of *Bordetella pertussis* isolates, United States, 2000–2012.** *Emerg Infect Dis*. 2016;22(3):442–8.

Conklin LM, Bigogo G, Jagero G, et al. **High *Streptococcus pneumoniae* colonization prevalence among HIV-infected Kenyan parents in the year before pneumococcal conjugate vaccine introduction.** *BMC Infect Dis*. 2016;16(1):18.

Faulkner A, Skoff TH, Tondella L, Cohn A, Clark TA, Martin SW. **Trends in pertussis diagnostic testing in the United States, 1990–2012.** *Pediatr Infect Dis J*. 2016;35(1):39–44.

Garrison LE, Kunz JM, Cooley LA, et al. **Vital Signs: Deficiencies in environmental control identified in outbreaks of Legionnaires’ disease - North America, 2000–2014.** *MMWR Morb Mortal Wkly Rep*. 2016;65(22):576–84.

Hao Y, Strosnider H, Balluz L, Qualters JR. **Geographic variation in the association between ambient fine particulate matter (PM2.5) and term low birth weight in the United States.** *Environ Health Perspect*. 2016;124(2):250–5.

Harris A, Aol G, Ouma D, et al. **Improving capture of vaccine history: Case study from an evaluation of 10-valent pneumococcal conjugate vaccine introduction in Kenya.** *Amer J Trop Med and Hyg*. 2016 May 2. [Epub ahead of print].

Harrist A, Van Houten C, Shulman ST, Van Beneden C, Murphy T. **Substantial incidence of group A streptococcal pharyngitis diagnoses at a rural urgent-care clinic associated with nonadherence to testing guidelines—Wyoming, March 2015.** *MMWR Morb Mortal Wkly Rep*. 2016;64(50):1383–5.

Kim L, McGee L, Tomczyk S, Beall B. **Biologic and epidemiologic features of antibiotic-resistant *Streptococcus pneumoniae* in pre- and post-conjugate vaccine eras: A United States perspective.** *Clin Microbiol Rev*. 2016;29(3):525–52.

Metcalf BJ, RE Gertz, RA Gladstone, et al. **Strain features and distributions in pneumococci from children with invasive disease before and after 13-valent conjugate vaccine implementation in the USA.** *Clin Microbiol Infect*. 2016;22(1)60.e9–29.

Matthias J, Pritchard PS, Martin SW, et al. **Sustained transmission of pertussis in a highly vaccinated preschool: A 1-5-year-old cohort.** *Emerg Infect Dis*. 2016;22(2):242–6.

Moore MR, Link-Gelles R, Schaffner W, et al. **Effectiveness of 13-valent pneumococcal conjugate vaccine for prevention of invasive pneumococcal disease in children in the USA: A matched case-control study.** *Lancet Respir Med*. 2016 Mar 14. [Epub ahead of print]

Quinn CP, Sabourin CL, Schiffer JM, et al. **Humoral and cell mediated immune responses to alternate booster schedules of anthrax vaccine adsorbed in humans.** *Clin Vaccine Immunol*. 2016;23(4):326–38.

Schiffer JM, McNeil MM, Quinn CP. **Recent developments in the understanding and use of anthrax vaccine adsorbed: Achieving more with less.** *Expert Rev Vaccines*. 2016 Mar 4. [Epub ahead of print]

Skoff TH, Martin SW. **Impact of tetanus toxoid, reduced diphtheria toxoid, and acellular pertussis vaccinations on reported pertussis cases among those 11 to 18 years of age in an era of waning pertussis immunity: A follow-up analysis.** *JAMA Pediatrics*. 2016 Mar 28. [Epub ahead of print]

Stoecker C, Kim L, Gierke R, Pilishvili T. **Incremental cost-effectiveness of 13-valent pneumococcal conjugate vaccine for adults age 50 years and older in the United States.** *J Gen Intern Med*. 2016 Mar 14. [Epub ahead of print]

Terranella A, Rea V, Griffith M, et al. **Vaccine effectiveness of tetanus toxoid, reduced diphtheria toxoid, and acellular pertussis vaccine during a pertussis outbreak in Maine.** *Vaccine*. 2016 Mar 30. [Epub ahead of print]

Tomczyk S, Arriola CS, Beall B, et al. **Multistate outbreak of respiratory infections among unaccompanied children, June–July 2014.** *Clin Infect Dis*. 2016 Mar 21. [Epub ahead of print]

Williams MM, Sen K, Weigand MR, et al. ***Bordetella pertussis* lacking pertactin and pertussis toxin: Report of a clinical case.** *Emerg Infect Dis*. 2016;22(2):319–22.

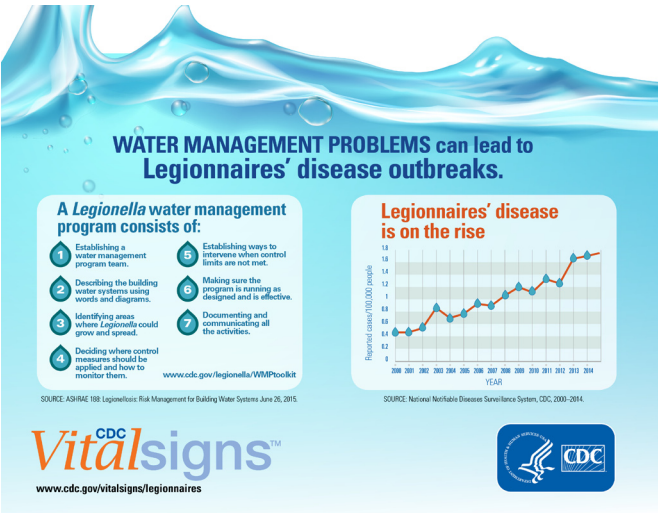


Image: Graphics representing findings from the June 2016 Vital Signs report on Legionnaires’ disease, “Deficiencies in environmental control identified in outbreaks of Legionnaires’ disease – North America, 2000–2014.”