

DBD BULLETIN

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Photo: *Laboratorian Kathy Thurman successfully undertook the task of consolidating CLIA records from RDB's two labs; she has the many binders to prove it!*

DBD Labs Pass CLIA with Flying Colors

Earlier this summer, laboratories within the Division of Bacterial Diseases (DBD) passed an important inspection, demonstrating that they meet federal quality standards. All U.S. facilities and sites that test human specimens for health assessment or to diagnose, prevent, or treat disease—including many CDC laboratories—undergo this inspection as part of the Clinical Laboratory Improvement Amendments (CLIA) of 1988. Due to the extraordinary efforts of our labs, DBD passed the CLIA inspection with flying colors.

Preparing for CLIA inspection occurs year-round. DBD labs ensure that all their records, competency tests, proficiency tests, and other documents and tests, are continuously up to date. Preparation to become a CLIA-certified lab is a very rigorous, time-intensive and demanding process—but a necessary and important task. The emphasis placed on passing inspection cannot be overstated—if one lab at CDC fails the CLIA inspection, then all labs are affected and cannot work.

Labs must consider two important aspects to keep their CLIA laboratory classification. First, when new assays are added for CLIA certification, the protocols and records of sensitivity and specificity, among other documentation, must be documented in the CLIA manuals. Second, all labs within a branch eventually need to consolidate their paperwork for CLIA purposes—and this is challenging.

DBD has five labs in two branches. Preceding the June inspection, CDC conducted an internal assessment in November 2011 and 2012. DBD's Associate Director for Laboratory Science, Kathy Tatti, noted that, "An important lesson learned is that the internal assessment performed by the CDC Laboratory Quality Management Program team is very useful for preparing for the CLIA inspection. All the findings and corrective actions noted by this team need to be addressed as soon as they are found."

After the November 2012 assessment, the Respiratory Diseases Branch (RDB) worked to consolidate CLIA records from their two labs (*Streptococcus* Laboratory and Pneumonia Response and Surveillance Laboratory). This task, as well as addressing CLIA concerns, involved devoting one full-time staff member as CLIA manager for the branch. Kathy Thurman successfully undertook this effort from January through April. Kathy's perseverance, hard work, and meticulous attention to detail were key to accomplishing the CLIA consolidation task for RDB. Working alongside Kathy was Lynne Shewmaker from the *Streptococcus* Laboratory.

Serving as CLIA designees of the three Meningitis and Vaccine Preventable Diseases Branch laboratories were Jordan Theodore (Meningitis Laboratory), Monte Martin (Pertussis and Diphtheria Laboratory), and Rita Desai (Microbial Pathogenesis and Immune Response Laboratory). They are meeting regularly, with Monte Martin taking the lead, to consolidate their labs in order to meet that CLIA requirement.

Looking forward, DBD's laboratories will have CDC internal assessments in fall 2014 and a CLIA inspection in spring 2015.

epidemiology of neonatal infections in order to develop better prevention strategies.

As we get close to the end of 2013, I would like to recognize many of our senior staff who retired over the last year. Just before Labor Day, we bid farewell to Brian Plikaytis, our beloved statistician who retired after 36 years of working at CDC and making major contributions to public health. Our retirees helped train hundreds of scientists over the years, and thus DBD continues its strong work improving prevention and control of bacterial respiratory and vaccine-preventable diseases in the United States and globally. Looking forward to another great year!

Rana

regards from

Rana...

Dear Colleagues,

It's been busy the last few months but we have much to celebrate and be thankful for this Holiday season! I want to mention a few. Our laboratories passed CLIA inspection with flying colors, yet another testimony to the high quality science these laboratories are conducting, but also the importance of teamwork. We received a grant from the Bill & Melinda Gates Foundation to support strengthening surveillance in the meningitis belt and demonstrate impact of MenAfriVac. DBD is making history by implementing a serogroup B meningococcal vaccine campaign at Princeton University to control an outbreak of meningococcal disease among students. We investigated a multitude of outbreaks, notably many Legionnaires' disease ones. We just recently participated in a Public Health Grand Rounds on antimicrobial resistance that was very successful and highly attended.

In this Bulletin, we highlight some critical public health activities that DBD covers that don't always receive a lot of publicity (e.g., diphtheria, neonatal infections). Though diphtheria is rarely heard of in the United States any longer, it continues to cause unique challenges globally; DBD is working closely with our partners within and outside CDC to ensure this disease remains adequately controlled. Neonatal infections continue to be a major cause of deaths among infants worldwide, and through ANISA, DBD is playing a major role to understand the

On Call 24/7 for Diphtheria

Once a major cause of illness and death among children, diphtheria is now nearly unheard of in the United States and serves as an example of the benefit of vaccination.

With fewer than 55 U.S. cases reported to CDC since the 1980s, most physicians today have never seen a case of diphtheria and few scientists work on this increasingly rare disease. In light of this, many people are often surprised to learn about CDC's diphtheria activities and the unique challenges that come with a disease being so uncommon.

"Continuous vigil by healthcare providers is still a necessity," says Tej Tiwari, an epidemiologist with DBD's Meningitis and Vaccine Preventable Diseases Branch (MVPDB) who has worked on diphtheria since 2001. "Given that diphtheria continues to occur in many developing countries, the increasing volume of global travel, and the presence of susceptible people in the United States—the potential for importation is very real."

When a case is suspected, early and prompt treatment is critical to reducing the complications caused by the potent toxin that diphtheria bacteria produce. That is where CDC and the DAT pager come into play. DAT stands for diphtheria antitoxin and only CDC is authorized to distribute it in the United States.

MVPDB staff members are on call 24/7 to respond to physician requests for the life-saving treatment. They discuss the case-report with the physician and decide together whether DAT treatment is appropriate. If indicated, CDC releases DAT from the nearest U.S. Public Health Service quarantine station so it gets to the patient as quickly as possible. Typically there are fewer than five DAT releases each year.

Only a few countries in the world currently produce DAT and CDC is finding it increasingly difficult to acquire it. This highlights the need for new research to find an alternative to DAT.

Due to the low number of cases in the United States, local capacity to test for and confirm diphtheria is also decreasing. CDC's Pertussis and Diphtheria Laboratory (PDL) provides laboratory support to health departments when a case is suspected.

Each year, PDL receives 10–15 isolates from across the country and has the capability to quickly determine whether or not a suspected case really is diphtheria or not. If an isolate is identified as *Corynebacterium diphtheriae* (*C. diphtheriae*), the bacterium that causes diphtheria, the lab then runs a special test—the Elek test.

"Just because *C. diphtheriae* is isolated from someone, it doesn't usually mean the person has diphtheria," explains PDL microbiologist Pam Cassiday, who has worked on diphtheria since 2000. "The Elek test is important because it shows if the isolate produces diphtheria toxin. This toxin is what causes the symptoms of diphtheria."

Childhood vaccination for diphtheria is high (95% among children in kindergarten according to a recent *MMWR* report), but there is a lot of room for improvement in adult vaccination rates. In 2011, the proportion of adults receiving any diphtheria toxoid-containing vaccination (i.e., Td or Tdap) during the past 10 years was 65% for adults aged 19–49 years, 64% for adults aged 50–64 years, and 54% for adults aged 65 and older.

These rates leave many adults susceptible to diphtheria. In fact, screening tests conducted since 1977 show that somewhere between 4 to 8 out of every 10 adults over the age of 60 are no longer protected against diphtheria.

Are you up to date? If not, consider getting your booster and help keep diphtheria a distant memory in the United States.

DBD Supports MERS Response

CDC activated its Emergency Operations Center on April 8, 2013, to support the response to MERS-CoV. Middle East Respiratory Syndrome (MERS) is a viral respiratory illness first reported in Saudi Arabia in 2012. It is caused by a coronavirus called MERS-CoV. Most people who have been confirmed to have MERS-CoV infection developed severe acute respiratory illness. They had fever, cough, and shortness of breath. As of November 21, 2013, there have been 157 cases and 66 deaths.

So far, all the cases have been linked to six countries in or near the Arabian Peninsula. No cases have been identified in the United States. This virus has spread from ill people to others through close contact. However, the virus has not shown to spread in a sustained way in communities. The situation is still evolving.

CDC, including several staff from DBD, is working with partners to better understand the risks of this virus, including the source, how it spreads, and how infections might be prevented. CDC has provided information for travelers and is working with health departments, hospitals, and other partners to prepare for possible cases in the United States. Staff members from DBD who have been actively involved in this agency effort include: Chris Van Beneden, Gayle Langley, Manisha Patel, Preeti Kutty, Elizabeth Briere, and Kathleen Dooling.

Diphtheria Work Leads to International Collaborations

While diphtheria is well controlled in the United States, it is still an important global public health issue. The disease is endemic in several countries while others continue to experience sporadic outbreaks—cases often occur in large areas or among pockets of unvaccinated or inadequately immunized populations. CDC provides epidemiologic and laboratory support to countries at their request, either in person or remotely. Most recently, MVPDB staff collaborated with the World Health Organization (WHO) and local health ministries during visits to Laos (2013), Indonesia (2010), and Haiti (2010). Pictured here, a team conducts patient interviews in the home of a village leader during an outbreak investigation in Huoaphang Province, Laos. CDC, WHO's Laos country office, and the district's surveillance group worked in close collaboration during the investigation.



Photo: Co-investigator from WHO's country office for The Lao People's Democratic Republic, a diphtheria patient (boy) and his mother, the district surveillance officer, DBD's Tej Tiwari, and the village leader (pictured left to right).

Applying New Statistical Tools to ANISA

Of children younger than five years old who die in the South Asian countries of Bangladesh, Pakistan, and India, 40% are neonatal deaths. Newborn deaths in these three countries alone account for more than a third of all neonatal deaths around the world. In developing countries, infections are one of the top three causes of neonatal deaths, but there is not much data demonstrating which pathogens are responsible. To help answer that question, the Aetiology of Neonatal Infections in South Asia (ANISA) project was launched in 2011.

Funded by the Bill & Melinda Gates Foundation, the study aims to improve neonatal survival in the region and beyond by describing etiology of community-acquired newborn infections, antibiotic sensitivity of bacterial pathogens, and risk factors for infection. DBD scientist Stephanie Schrag is a co-principal investigator of ANISA, with statistician Nong Shang and several key laboratory staff (led by Jonas Winchell, Maureen Diaz and Lesley McGee) integrally involved. Stay tuned for a future story about the extensive lab efforts related to ANISA.



Photo: Two community health workers assess a newborn in the Sylhet site in Bangladesh. Photo courtesy of the Sylhet ANISA site.

As part of ANISA, every woman between the ages of 14 and 49 in selected urban and rural communities of Bangladesh, Pakistan, and India is being monitored by local health workers—seeing who gets pregnant and following up on their pregnancy, childbirth, and post-natal period. In addition to collecting information on risk factors for neonatal infection, the health workers provide the expectant mothers with basic prenatal care and aim to see each mother during the first 24 hours after childbirth. Babies with an infection are referred for immediate care to designated study facilities. Once there, blood samples and nasal and throat swabs are collected from the newborns.

After samples are collected and processed, the statistical analysis can begin. The goal is to construct a pathogen pie, or frequency distribution of individual pathogens, among the children with sepsis in the study population. The results will then be used to guide policymakers in planning public health interventions, such as development of new vaccines and treatments.

However, ANISA is not without analytic difficulties. The most challenging issue when it comes to the analysis is how to develop a method to correctly estimate the fraction of disease due to certain pathogens when there is no gold standard to identify which pathogen is causing the disease. Due to limitations with laboratory testing methods, and even more importantly the challenge of sampling the actual site of infection (for neonatal sepsis this

could be blood, cerebrospinal fluid, lung aspirate, or urine) researchers need to come up with a plan for preventing biased estimation of the pathogen distribution.

Another serious challenge is obtaining the needed sample size and quality of specimens from the healthy babies selected as controls. Different statistical approaches will be explored to adjust the bias from such controls. With many other potential challenges to contend with, the complexity of the analysis substantially increases.

These challenges are exciting for the researchers planning the analysis. Nong said, “I’m eager to address methodological challenges by developing powerful and useful tools for one of the largest etiology studies. The study has great potential to improve lives of millions of newborn babies and to understand the nature of sepsis.”

The analysis plan tries to combine all aspects of the project—case definition, control selection and adjustment, and laboratory techniques—into an integrated statistical model by applying modern yet standardized statistical tools. It is not often that a research project has final outcomes that depend strongly on applying new statistical tools. As a result, there are many challenges involved in the implementation process. Great progress has already been made in resolving these challenges and the experience will provide insights to improve future project design and optimize laboratory techniques.

The ANISA team developed an analysis plan for etiology attribution, the primary objective of the project. This analysis plan was discussed and well-received during the Third ANISA Investigator Conference in early November; CDC will continue to lead the analysis finalization and implementation.

Retirement of Brian Plikaytis

Brian Plikaytis, M.Sc., retired from CDC after 36 years of service on September 3, 2013. Brian was chief of the Biostatistics Office, Division of Bacterial Diseases, National Center for Immunization and Respiratory Diseases. During his career at CDC—as a mathematical statistician, activity chief, section/office chief, and branch chief—he focused on study design and advanced statistical analyses for multiple bacterial and fungal infectious diseases of public health importance, with a special emphasis on vaccine development, evaluation, and research, and standardization and validation of laboratory diagnostic and immunologic tests.

Most recently, Brian has been the senior advisor for biostatistics for the Meningitis Vaccine Project, focusing on the development, evaluation, and licensure of a meningococcal conjugate vaccine that aims at eliminating the devastating meningitis epidemics in the meningitis belt of sub-Saharan Africa, and that has so far proven very successful.

About his career at CDC and plans for life after CDC, Brian says, “With my undergraduate degree in a laboratory science and graduate degree in biostatistics, it would be difficult to imagine a job more well-suited to my skills set than the one I’ve enjoyed here at the CDC. I feel extraordinarily fortunate to have the opportunity to work with so many smart and talented people on projects with such high degrees of public health impact.” Brian plans to continue his professional collaborations with present and former clients as a statistical consultant.



Photo: DBD hosted a retirement party for Brian that was attended by many colleagues, some of whom worked with Brian over 30 years ago. Pictured here is Brian (second from right) at the party with Stephanie Schrag, Rana Hajjeh, and Bob Pinner.

Vaccine News

Expanded Age Indication for Menveo®

On August 1, 2013, the Food and Drug Administration approved Menveo® for the prevention of meningococcal disease in infants and toddlers from two months of age. This is the first licensed infant meningococcal vaccine that protects against four serogroups of *Neisseria meningitidis* (A, C, Y, and W-135), which means it can also be used when indicated for travel. The Advisory Committee on Immunization Practices discussed and voted on use of Menveo® for high risk infants at its October meeting.

2012 Data Show More Adolescents are Getting Tdap and MCV4

From 2011 to 2012, vaccination coverage among U.S. adolescents between the ages of 13 and 17 years increased to about 85% for at least one dose of Tdap and 74% for at least one dose of MCV4. Increased Tdap coverage might be due to state school vaccination requirements (40 states required Tdap vaccination for entry into nonresidential middle schools during the 2012–2013 school year), as well as other factors, including providers' and parents' awareness that in recent years most states have reported increased cases or outbreaks of pertussis. Increased coverage for meningococcal vaccine might be due partly to state school vaccination requirements; 13 states required MCV4 vaccination for entry into nonresidential middle schools during the 2012–2013 school year.

Expanding Use of a Serogroup B Meningococcal Vaccine

Princeton University is experiencing a prolonged outbreak of serogroup B meningococcal disease, with eight cases reported as of November 29, 2013. CDC, the New Jersey Department of Health, Princeton University officials, and local health authorities have been working closely together since the first case of meningococcal disease associated with Princeton University was reported in March 2013. A serogroup B meningococcal vaccine, which is only licensed for use in Europe and Australia, will be used at Princeton University. FDA has allowed the use of the vaccine at Princeton University under an Investigational New Drug application. Learn more at www.cdc.gov/meningococcal/vaxQAs.

Awards and Recognition

The **Pertussis Team** in DBD's Meningitis and Vaccine Preventable Diseases Branch was awarded the "Excellence in Program or Policy Evaluation—Domestic" as part of the CDC and ATSDR Civil Service Honor Awards. The team was awarded this honor for remarkable insight and leading comprehensive efforts to address the 2012 pertussis resurgence in the United States. Thomas Clark (right) accepted the award from CDC Director, Dr. Tom Frieden, on behalf of the team.



Anna Acosta (DBD/MVPDB) was awarded the IDWeek 2013 Program Committee Choice Award in recognition of excellence in her abstract submission. This award is given to the four best accepted abstracts overall. The IDWeek Program Committee selected Anna as a recipient based on her outstanding scientific research for the abstract, "Vaccine Effectiveness and Duration of Protection of Tetanus Toxoid, Reduced Diphtheria Toxoid and Acellular Pertussis among Adolescents, Washington State, 2012."



Pamela Cassidy (DBD/MVPDB) won second place in CDC's International Program category of the annual Public Health in Action Photo Contest. The panel of judges picked the winners based on the quality of the photo and the public health story it tells. Pam's photo (at left) shows a CDC scientist adding solution to an ELISA plate during pertussis serology training. Since 2010, members of the CDC Pertussis and Diphtheria Laboratory, in conjunction with the Pan American Health Organization and the Sabin Vaccine Institute, have conducted several training courses in Latin America on laboratory diagnosis of pertussis by culture, PCR, and serology.

Alicia Demirjian (DBD/RDB) and **Katherine Fleming-Dutra** (DBD/RDB) were awarded the Trainee Award for IDWeek 2013. The Trainee Awards are intended to provide support for fellows-in-training to attend IDWeek. Travel grants will be made available to fellows-in-training in Accreditation Council for Graduate Medical Education-accredited programs in adult and/or pediatric infectious diseases in the United States and Canada, PharmD research training programs in infectious diseases, and other related fellowship programs.

Rita Desai (DBD/MVPDB) successfully completed the requirements of the American Society for Quality (ASQ) to be named an ASQ-Certified Manager of Quality/Organizational Excellence. These important credentials are awarded by the Certification Board of ASQ. This is a formalized recognition that Rita has reached a significant level of professional accomplishment and consistently demonstrates proficiency in and a comprehension of Quality Management principles and practices.

Laurel Garrison (DBD/RDB) was selected as NCIRD's Employee of the Month for November 2013. This is in recognition of the terrific work she has been doing coordinating Legionnaires' disease surveillance and outbreaks in the United States and internationally.

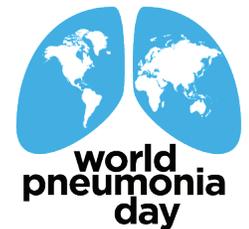
Jennifer Whitmon (DBD/MVPDB) recently completed her Doctor of Health Science (D.H.Sc.) degree with a concentration in global health studies from Nova Southeastern University, Florida. The interdisciplinary D.H.Sc. program prepares professionals for application of scientific knowledge to public health, clinical practice, delivery of health services and the education of health professionals. During her internship under the mentorship of Robert Kolter, Harvard professor and past President of the American Society for Microbiology (2010), Jennifer visited industrial and academic microbiological institutions and laboratories in Beijing and Shanghai, China to study the advances in microbiology and their impact on health in the country. Additionally, Jennifer's practicum project involved creating an educational product for laboratory research professionals in malaria diagnostics development.

Communications

Events

World Pneumonia Day, November 12, 2013

The day mobilized efforts to fight a neglected disease that kills more than one million children under the age of five worldwide each year. For more information, visit www.worldpneumoniaday.org.



Fight Pneumonia.
Save a Child.
November 12th.



Get Smart About Antibiotics Week, November 18-24, 2013

This is an annual effort to coordinate the work of CDC's Get Smart campaign (outpatient and inpatient), state-based appropriate antibiotic use campaigns, non-profit partners, and for-profit partners during a one-week observance of antibiotic resistance and the importance of appropriate antibiotic use. As part of the Week, a Twitter chat and Satellite Media Tour were hosted. For more information, visit www.cdc.gov/getsmart. *Photo at left: RDB's Memo Sanchez, Louise Francois Watkins, Alicia Demirjian, and Sara Tomczyk (left to right) helping at the Get Smart Twitter chat.*

Grand Rounds, November 19, 2013

Lauri Hicks (DBD/RDB) (photo at right), along with three other speakers, presented information on how consumers, healthcare providers, and policy makers can work together on using antibiotics wisely by participating in CDC's Public Health Grand Rounds on



"Combating Resistance: Getting Smart About Antibiotics." For more information, visit the archived presentation at <http://www.cdc.gov/about/grand-rounds/archives/2013/November2013.htm>.

"Prevent Group B Strep" App

On September 7, 2013, "Prevent Group B Strep" was added to the iTunes App Store. "Prevent Group B Strep" is a standalone application that provides patient-specific and scenario-specific guidance consistent with the 2010 Guidelines for the Prevention of Perinatal GBS Disease. The app generates customized guidelines based on user input of patient characteristics.



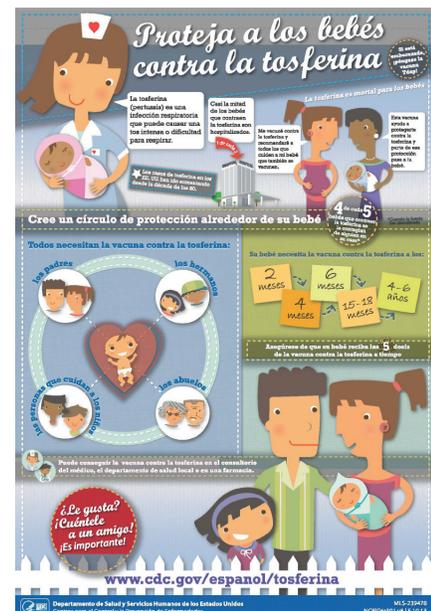
With this app, healthcare professionals can:

- Select their portal—obstetric or neonatal—and answer questions about their patient
- Receive specific patient management guidance based on the scenario they have entered
- Obtain appropriate antibiotic regimens for obstetric patients requiring intrapartum prophylaxis

Learn more about the app, which more than 3,000 people have already downloaded, at www.cdc.gov/groupbstrep/app.

Pertussis Infographic Now Available in Spanish

Pregnant women now need a Tdap shot during every pregnancy to protect them from pertussis (whooping cough) and pass some protection to their newborns. Learn the three best ways to protect babies from whooping cough in this new CDC pertussis infographic available in Spanish. Find it at www.cdc.gov/pertussis.



New ELISA Website

A new ELISA website went live on September 4, 2013. ELISA for Windows is a series of programs or program modules that process bioassay data collected from 96 well ELISA plates downloaded from several different models of ELISA readers. This software is fully validated and the validation documents are available for download. View the new website at <http://www.cdc.gov/ncird/software/elisa/index.html>.



Legionnaires' Disease Featured on Travel Channel

The original Legionnaires' disease outbreak in Philadelphia, PA, was highlighted on Travel Channel's Mysteries at the Museum show on September 19, 2013. This show tells the stories behind interesting and unusual artifacts stored in museums, including a sample from this outbreak that is kept at the CDC David J. Sencer Museum. RDB laboratorian Claressa Lucas was featured in the episode. View at <http://www.travelchannel.com/video/deadly-legionnaires-disease>.

Featured Publications

Carvalho Mda G, Pimenta FC, Moura I, et al. **Non-pneumococcal mitis-group streptococci confound detection of pneumococcal capsular serotype-specific loci in upper respiratory tract.** *PeerJ*. 2013;1:e97.

CDC. **Updated recommendations for use of tetanus toxoid, reduced diphtheria toxoid and acellular pertussis (Tdap) vaccine in pregnant women—Advisory Committee on Immunization Practices (ACIP), 2012.** *MMWR Morb Mortal Wkly Rep*. 2013;62:131–135.

CDC. **Use of 13-valent pneumococcal conjugate vaccine and 23-valent pneumococcal polysaccharide vaccine among children aged 6–18 years with immunocompromising conditions: Recommendations of the Advisory Committee on Immunization Practices (ACIP).** *MMWR Morb Mortal Wkly Rep*. 2013;62:521–524.

Cho BH, Stoecker C, Link-Gelles R, et al. **Cost-effectiveness of administering 13-valent pneumococcal conjugate vaccine in addition to 23-valent pneumococcal polysaccharide vaccine to adults with immunocompromising conditions.** *Vaccine*. 2013;31:6011–21.

Diaz MH, Waller JL, Napoliello RA, et al. **Optimization of multiple pathogen detection using the TaqMan Array Card: Application for a population-based study of neonatal infection.** *PLoS One*. 2013;8:e66183.

Fairlie T, Zell ER, Schrag SJ. **Effectiveness of intrapartum antibiotic prophylaxis for prevention of early-onset group B streptococcal disease.** *Obstet Gynecol*. 2013;121:570–7.

Ferdinands JM, Gargiullo P, Haber M, et al. **Inactivated influenza vaccines for prevention of community-acquired pneumonia: The limits of using nonspecific outcomes in vaccine effectiveness studies.** *Epidemiology*. 2013;24:530–7.

Griffin MR, Zhu Y, Moore MR, et al. **US pneumonia hospitalizations: A decade of pneumococcal conjugate vaccine use.** *N Engl J Med*. 2013;369:155–63.

Hersh AL, Jackson MA, Hicks LA, the COMMITTEE ON INFECTIOUS DISEASES. **Principles of judicious antibiotic prescribing for bacterial upper respiratory tract infections in pediatrics.** *Pediatrics*. 2013 Nov 18. [Epub ahead of print]

Kristiansen PA, Ba AK, Sanou I, et al. **Phenotypic and genotypic characterization of meningococcal carriage and disease isolates in Burkina Faso after mass vaccination with a serogroup A conjugate vaccine.** *BMC Infect Dis*. 2013;13:363.

Link-Gelles R, Taylor T, Moore MR. **Forecasting invasive pneumococcal disease trends after the introduction of 13-valent pneumococcal conjugate vaccine in the United States, 2010–2020.** *Vaccine*. 2013;31:2572–7.

Link-Gelles R, Thomas A, Lynfield R, et al. **Geographic and temporal trends in antimicrobial nonsusceptibility in *Streptococcus pneumoniae* in the postvaccine era in the United States.** *J Infect Dis*. 2013;208:1266–73.

Mandal S, Wu HM, MacNeil JR, et al. **Prolonged university outbreak of meningococcal disease associated with a serogroup B strain rarely seen in the US.** *Clin Infect Dis*. 2013;57:344–8.

Mlacha SZ, Peret TC, Kumar N, et al H. **Transcriptional adaptation of pneumococci and human pharyngeal cells in the presence of a virus infection.** *BMC Genomics*. 2013;14:378.

Pawloski LC, Queenan AM, Cassiday PK, et al. **Prevalence and molecular characterization of pertactin-deficient *Bordetella pertussis* in the US.** *Clin Vaccine Immunol*. 2013 Nov 20. [Epub ahead of print]

Payne AB, Link-Gelles R, Azonobi I, et al. **Invasive pneumococcal disease among children with and without sickle cell disease in the United States, 1998–2009.** *Pediatr Infect Dis J*. 2013 Jul 9. [Epub ahead of print]

Shapiro D, Hicks LA, Pavia AT, et al. **Antibiotic prescribing for adults in ambulatory care in the USA, 2007–09.** *J Antimicrob Chemother*. 2013 Jul 25. [Epub ahead of print]

Stoecker C, Hampton L, Link-Gelles R, et al. **Cost-effectiveness of using 2 versus 3 primary doses of 13-valent pneumococcal conjugate vaccine.** *J Pediatr*. 2013;132:e324–32.

Tatti KM, Martin SW, Boney KO, et al. **Qualitative assessment of pertussis diagnostics in United States laboratories.** *Pediatr Infect Dis J*. 2013;32:942–5.

Terranella A, Asay GR, Messonnier ML, et al. **Pregnancy dose Tdap and postpartum cocooning to prevent infant pertussis: A decision analysis.** *J Pediatr*. 2013;131:e1748–56.



Supplement: *Haemophilus influenzae* type b (Hib) 2013;164(1):A1–14, S1–98
The Journal of Pediatrics.
Edited by Hajjeh R, Mulholland K, Santosham M.

Publications Reminder...

Once your article has been accepted for publication, forward the draft to Alison Patti so she can submit to NCIRD's Advance Media Report and include in the annual publications list.

Epi-Aids

Group A *Streptococcus* outbreak – American Samoa, June 2013. The team went to American Samoa to assist the American Samoa Department of Health and Lyndon B. Johnson Tropical Medicine Center with defining the epidemiology of scabies infestation and streptococcal skin infection in the pediatric population.

Legionella outbreak – Columbus, Ohio, July 2013. The team assisted with conducting an epidemiologic and environmental investigation of a Legionnaires' disease outbreak at a retirement community in Ohio. They also provided environmental legionellosis outbreak response training.

Legionella outbreak – Atlanta, Georgia, August 2013. The team assisted with conducting an epidemiologic and environmental investigation of a Legionnaires' disease outbreak associated with a family reunion in Georgia. They also provided environmental legionellosis outbreak response training.

Legionella outbreak – Florence, Alabama, October 2013. The team assisted with conducting an epidemiologic and environmental investigation of a Legionnaires' disease outbreak associated with a long-term care facility in Alabama.

Serogroup B meningococcal disease outbreak – Princeton, New Jersey, October 2013. The team assisted with investigating a meningococcal disease outbreak at Princeton University.



Photo: The CDC team who investigated the Legionnaires' disease outbreak in Atlanta, GA. Jasen Kunz (NCEH) and DBD/RDB's Laurel Garrison, Sara Tomczyk, Claressa Lucas, and Jeff Mercante (from left to right).

Meetings

The 2013 CSTE Annual Conference was held June 9–12, 2013, in Pasadena, CA. DBD participants included Anna Acosta, Amanda Faulkner, and Tami Skoff.

The 10th International Symposium on *Bordetella* was held September 8–11, 2013, in Dublin, Ireland. Pam Cassiday, Thomas Clark, Amanda Cohn, Rajam Gowrisankar, Stephen Hadler, Stacey Martin, Manisha Patel, Lucia Pawloski, Han Li, Conrad Quinn, Lucia Tondella, and Margaret Williams attended. Visit <http://www.bordetella2013.com> for more information.

Measuring Short- and Long-Term Vaccine Impact of PCV Meeting was held September 16–20, 2013, in Geneva, Switzerland. Rana Hajjeh, Jennifer Verani, and Cynthia Whitney participated.

NUVI IB-VPD Strategic Review Meeting was held September 16–20, 2013, in Geneva, Switzerland. Rana Hajjeh, Carla Talarico, and Chris Van Beneden attended.

Today's Drug-Resistant Health Threats

On September 16, CDC issued a landmark report on drug-resistant health threats. Every year, more than two million people in the United States get infections that are resistant to antibiotics and at least 23,000 people die as a result. The report presents a first-ever snapshot of the burden and threats posed by the antibiotic-resistant germs that have the most impact on human health, including three from DBD: *Streptococcus pneumoniae*, group A *Streptococcus*, and group B *Streptococcus*. This report is also the first time that CDC has ranked these threats into categories of urgent, serious, and concerning. Read the report at www.cdc.gov/drugresistance.

Estimated minimum number of illnesses and deaths caused annually by antibiotic resistance*:

At least  **2,049,442** illnesses,
 **23,000** deaths

*bacteria and fungus included in this report

Mark Your 2014 Calendar

Advisory Committee on Immunization Practices Meetings: February 26–27; June 25–26; and October 29–30 at CDC in Atlanta, GA

National Foundation for Infectious Disease Clinical Vaccinology Course: March 21–23 in Seattle, WA

Epidemic Intelligence Service Conference: April 28–May 2 in Atlanta, GA

17th Annual Conference on Vaccine Research: April 28–30 in Bethesda, MD

World Meningitis Day: April 24

American Society for Microbiology 113th General Meeting: May 17–20 in Boston, MA

2013 APHL Annual Meeting & Eight Government Environmental Laboratory Conference: June 1–4 in Little Rock, AR

Group B Strep Awareness Month: July 2014

American Statistical Association Joint Statistical Meetings: August 2–7 in Boston, MA

Interscience Conference on Antimicrobial Agents and Chemotherapy: September 6–9 in Washington, DC

IDWeek 2013™ Joint Meeting of IDSA, SHEA, HIVMA, and PIDS: October 8–12 in Philadelphia, PA

International Meeting on Emerging Diseases and Surveillance: October 31–November 3 in Vienna, Austria

World Pneumonia Day: November 12

Get Smart About Antibiotics Week: November 17–23



Reminders for 2014

*Save posters presented at meetings and conferences to display during a DBD All-Hands Meeting.

*Take photos of work activities here and in the field. Action shots are always great!

*Submit articles accepted for publication to NCIRD's Advance Media Report. Send to Alison Patti prior to online or print publication.

*Make sure DBD OD knows about any awards you receive. Please forward these items to Alison Patti.