I hope you all had a good summer and had the chance to take some time off. The new fiscal year promises to be very exciting for OAR, as we start getting results from many of the studies we began the last five years, embark on new ventures that will increase our understanding of vaccine-preventable diseases and the impact that vaccines will have in the U.S. and globally.

In the first week of the new fiscal year, as part of QPR, we presented to Dr. Frieden on the TAC assay, an exciting new multi-pathogen respiratory diagnostic platform that is accelerating outbreak control and opening the door for many new investigations in the U.S. and around the world. This highlights yet again the critical role of our laboratories in supporting the Division’s work and goals as well as advancing public health. Our critical role is also evident in many the trainings and workshops staff conduct to support the WHO surveillance network that are described below.

We are lucky in our division to have multiple support services for our activities. As you can read about in this Bulletin, we have an excellent statistical unit that is world-renowned. Our Division is also known for our epidemiologic and laboratory activities. Many, many fellows and policy and disease experts staff have contributed significantly to a year-long activity that sought to evaluate the effectiveness of meningococcal vaccines as part of a center-wide effort to get more public engagement in vaccines. This activity just concluded with a national stakeholders’ meeting here in Washington, D.C.

I hope you all enjoyed your summer, that you’re refreshed for the new year, and that the TAC assay promises to be very exciting for OAR this year.

Karla L. Davis, DVM, MS, PhD
Chief, OAR

TAC: Changing the Way CDC Responds to Outbreaks

TaqMan® Array Card (TAC), known as TAC-M, is changing the Low Density Array (TLDA) card is changing the way CDC and the Division of Bacterial Diseases respond to outbreaks. Four Centers at CDC (NCIRD, NCEZID, NCHHSTP, and CCGH) are collaborating on optimizing the use of these cards, which became popular after the 2009 H1N1 influenza pandemic.

The premise of TAC is to be able to test for multiple pathogens from a single specimen; at this point, only respiratory specimens have been used. By being able to simultaneously test for multiple pathogens from one specimen, CDC can rapidly identify the etiology of an outbreak respiratory specimen. When the results are suggestive of a certain pathogen, the outbreak team can then use the appropriate epidemiologists and laboratory personnel to conduct the appropriate investigations to identify the cause and to initiate a public health response.

Before TAC was available, each lab at CDC divided a clinical specimen and tested it with their individual wet assay. This testing approach was not cost-effective (for lab supplies and person time) but also challenged Southern Africa meeting in South Asia (ANISA) study.

TAC will benefit from further evaluation and optimization, especially for field site use. Winchell envisions an eventual technology that could be used to cost-effectively test for outbreaks of C. pneumoniae in Texas, M. pneumoniae in Rhode Island, and adenovirus in Alaska, among others.

Global, the utility of TAC is being assessed at International Emerging Infections Project (IEIP) field sites along with selected National Emerging Centers (NIC). This is a large pilot study to assess the card’s utility in these settings, which are also being used for other international projects, including ones funded by the Bill & Melinda Gates Foundation, like the Aetiology of Neonatal Sepsis in South America (ANISA) study.

IEIP and NIC sites recently had an on-site training at CDC. In November, 27 CDC employees and 18 people were trained on how to use TAC with the latest updates that run these cards (see photo). The participants enjoyed the hands-on training and commented that, “The combination of theory, experience of the experts, and the practice was the best combination to learn this technique.”

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The Invasive Bacterial Vaccine-Preventable Diseases Network (IB-VPD) is a laboratory-based surveillance network started by WHO in 2006 to support and coordinate the detection and characterization of invasive bacterial pathogens and other vaccine-preventable diseases. IB-VPD was born out of a joint mission of the Global Reference Laboratory (GRL) and the WHO headquarters and regional offices. IB-VPD collaborates with these laboratories, DBD laboratories have supported WHO regional and national laboratories (RRLs) in 11 countries to develop capacity for diagnosis, detection, and characterization of the GRL's regional priorities, including meningococcal disease.

The GAVI Alliance announced it will provide funding for 16 more developing countries to introduce rotavirus vaccines and 18 more countries to introduce pneumococcal vaccines, noting that the roll out of rotavirus vaccines across Africa has already begun in Sudan. GAVI CEO Seth Berkley, MD, said, "Thanks to our donors and partners, the GAVI Alliance has already provided vaccines to over 300 million children in developing countries, including children in the world's least developed regions. The roll out of rotavirus vaccines in Africa is particularly significant and will help to reduce child mortality rates and improve health equity. We are particularly proud of this achievement because it is a product of a global partnership that has allowed us to deliver these vaccines to more than 300 million children around the world."

The National Institutes of Health (NIH) recently launched two strategic plans aimed at reducing health disparities in the United States. The plans call for the NIH to increase diversity and inclusion of women and minorities in clinical trials and to make progress toward understanding and controlling health inequities. The plans were developed with input from experts across the NIH and with guidance from the NIH Advisory Committee to the Director on the Social Determinants of Health. The plans include specific goals and strategies for improving diversity and inclusion, enhancing collaboration with community organizations, and increasing community engagement in NIH research. The plans also call for the NIH to develop and implement policies and procedures to ensure that all NIH-funded research addresses the needs of all populations, including those traditionally underrepresented in research. The plans are available on the NIH website (nih.gov).