CDC Health Information Innovation Consortium (CHIIC)
November Forum Meeting Notes

Chamblee 106, 1A + Adobe Connect + Phone Bridge
November 8, 2016, 10:00-11:00AM

Meeting Agenda

1. Introduction – Brian Lee – 10 minutes
2. U.S.- Mexico Border early Warning Disease Surveillance or Dengue and Chikungunya – Stephen Waterman (NCEZID) – 20 minutes – Full Project Description

> Zika, chikungunya, and dengue have surged in the Americas over the past several years and pose serious health threats in regions of the U.S. where *Ae. aegypti* and *Ae. albopictus* mosquito vectors occur. *Ae. aegypti* have been detected up to 8 months of the year or longer in parts of Arizona, Florida, and Texas where mosquito surveillance is regularly conducted. However, many areas in the U.S. lack basic data on vector presence or absence. The Zika, dengue, and chikungunya viruses range in pathogenicity, but all include asymptomatic or mild presentations for which individuals may not seek care. Traditional passive surveillance systems rely on confirmatory laboratory testing and may not detect emergent disease until there is high morbidity in a community or severe disease presentation. Participatory surveillance is an approach to disease detection that allows the public to directly report symptoms electronically and provides rapid visualization of aggregated data to the user and public health agencies. Several such systems have been shown to be sensitive, accurate, and timelier than traditional surveillance. We developed Kidenga, a mobile phone app and participatory surveillance system, to address some of the challenges in early detection of day-biting mosquitoes and *Aedes*-borne arboviruses and to enhance dissemination of information to at-risk communities.

3. STD Analysis and Visualization Tool (SAViT). – Rodney Presley & Massimo Mirabito 20 minutes – Full Project Description

> The Division of STD is actively implementing a SQL data store for STD morbidity and sentinel surveillance data with the intent of replacing the current data storage structure, consisting of project-specific network file shares with SAS data sets. The Division's main in-house data visualization and reporting tool, STDNet, was initially developed over a decade ago. STDNet is a SAS/Intranet web application housed on the CDC intranet and available to approved users in DSTDP and other parts of CDC. Transitioning to a forward looking data architecture affords DSTDP the opportunity to also move to more sophisticated internal data analysis and visualization tools. As background between March

2015 and July 2015 CHIC funded the STD Analysis and Visualization Tools (SAViT) project to review visualization tools as a direct result of the data architecture initiative. The study objectives included:

- Develop a list of data visualization tools and platforms currently available in the market
- Define a set of technical evaluation criteria to help the selection process
- Perform a high level assessment of technologies
- Identify technologies to be considered for pilot projects
- Provide general recommendations and next steps

This presentation will review the capabilities and limitations of STD Net, desirable capabilities of a new data visualization tool, the findings and recommendations of the STD Analysis and Visualization Tools (SAViT) project, and next steps for updating data visualization capabilities.

4. Discussion & Suggestions – 10 minutes

Attendees

The meeting was well attended – a total of fifty-seven people attended in person (11) or via webinar (46). Attendance included people from CDC centers, organizations, and government entities: CSELS, NCCDPHP, NCHHSTP, NCIRD, NCEZID, OADS, OCIO, OCOO, OID, OPHPR, OPHSS, NIAID, ADTSR, NIOSH, CACI, and HHS. Other participants attended the Adobe Connect session, but only their name was captured and not their location or organization.

Minutes

Introduction – Brian Lee

Brian started by introducing the first presenter, Dr. Stephen Waterman who presented on the U.S. Mexico Border Early Warning Disease Surveillance for Dengue and Chikungunya and reminded those attending in person that they will have the experience as those on the telephone due to Dr. Waterman's virtual presentation. He also presented Dr. Rodney Presley and Massimo Mirabito presenting information regarding the STD Analysis and Visualization Tool (SAViT). Brian thanked Permecia Winston, Randy Mitchell and Dennis Jarosz for their supportive efforts with the CHIIC forum.

Presentation 1 –U.S. - Mexico Border Early Warning Disease Surveillance for Dengue and Chikungunya – Dr. Stephen Waterman

Speaker bio: **Dr. Steve Waterman** is Chief of the CDC Dengue Branch, Division of Vector-borne Diseases, in San Juan, Puerto Rico and a scientific lead for the Zika response in Puerto Rico. He previously served as Lead of the CDC US-Mexico Unit in the Division of Global Migration and Quarantine. Prior to returning to CDC Dr. Waterman was worked as the

California State Epidemiologist and Chief, Division of Communicable Disease Control, and at the local level in public health in Los Angeles and San Diego counties. Dr. Waterman is physician epidemiologist trained in pediatric infectious diseases. He was an EIS Officer and preventive medicine resident in San Juan, Puerto Rico, at the Dengue Branch, from 1981-1984. He is board certified in Pediatrics and Preventive Medicine. He has published extensively on the epidemiology and surveillance of infectious diseases including vaccine preventable diseases and vector-borne and zoonotic diseases, and on border health. He has been a consultant to the World Health Organization and USAID, and led the CDC H1N1 response in Mexico, and the land border team for the CDC Ebola response in 2015.

Presentation 1 Q&A
[Audience question] I was wondering does the app rely on an internet connection of does it have an off-line mode?

[Dr. Waterman] The app is on currently on Andriod and iPhone/iPad (iOS) however will eventually we will have it on computers. It basically requires Wi-Fi and the ability to connect to the internet.

[Brian Lee] For the local health department participation as you expand this to other areas, (you mentioned Texas, Florida and others) how do you engage the different jurisdictions who would be involved in the receiving end of this participatory surveillance?

[Dr. Waterman] Along the U.S. Mexico border where Arizona and Division of Global Migration and Quarantine works closely with local health departments on border infectious disease surveillance, we have a network of relationships with local health departments and have been able to reach out to Florida with their current Zika outbreak. The key is connecting health departments with the communities and strengthen those connections while using existing relationships to increase the engagement and participation to share their data via the app.

Presentation 2 - STD Analysis and Visualization Tool (SAViT) – Rodney Presley & Massimo Mirabito (NCHHSTP)

Speaker bio: **Dr. Rodney Presley:** After completing a doctorate degree in Educational Psychology from the University of Georgia, Dr. Presley has worked 27 years in the following areas: educational test development with the state of Georgia; Medical education with Mercer University School of Medicine and Medical Center of Central Georgia Family Practice Residency Program; medical care quality improvement with Qualis Health and Georgia Medical Care Foundation; and public health with the Fred Hutchinson Cancer Research Center and Centers for Disease Control and Prevention. In 2006 he joined CDC in the Division of Blood Disorders as a health scientist where he also served as team lead of the Informatics Team. In 2015 he joined the Division of STD Prevention as a health scientist and team lead of the Data Management Team. A common thread in his professional endeavors is working collaboratively with health care professionals in the application of communication skills, knowledge of research methodology, statistics, and data management and data analysis, to turn clinical questions, insights, and hunches into sound scientific investigation and evaluation. The results of these collaborations have been shared through several presentations and publications.

Massimo (Max) Mirabito is a system engineer and technical fellow with Northrop Grumman and he is currently supporting the U.S. Centers for Disease Control and Prevention in NCHHSTP as an enterprise architect.

Items of interest

- Next Forum – February 14, 2016 10am-11pm ET
- Code Day Atlanta – 11/12 [link]
- Atlanta Women Who Code General Meetup – 11/15 [link]
- Surveillance Data Platform Shared Services presentation at Surveillance Science Advisory Group – 11/17 @Century Center 2500, Room 1201
- OHSU Healthcare Data Analytics Online Course – 2017 [link]

If you would like to review other CHIIC projects, please visit the CHIIC web site.

Please contact chiic@cdc.gov to be added to the CHIIC distribution list or have any questions related to previous CHIIC forums.