



PHAP at Work

PHAP

PUBLIC HEALTH
ASSOCIATE PROGRAM



Michael Jacobson,
PHAP 2013

PHAP Host Site

Mississippi State
Department of Health
Jackson, Mississippi

Program Areas

Epidemiology

How Michael created guidance to help Mississippi laboratories report test results electronically

PUBLIC HEALTH CONCERN: Finding and reporting infectious diseases quickly is essential to halting their spread. Health departments have long relied on laboratories and healthcare providers to report cases of communicable disease; this reporting helps them spot patterns and slow the spread of illness. But disease reporting traditionally has been done manually—such as by mail, fax, or phone—which is slow and cumbersome, both for labs to submit and for health agencies to receive. Any delay or inaccuracy can keep a health official from taking immediate action on an emerging outbreak.

Fortunately, electronic laboratory reporting (ELR) is changing things for the better. Spurred by recent federal laws and incentives, many health departments now require labs to use ELR. Labs that use ELR upload disease reports into secure electronic systems that make results available in real time to health officials, improving the timeliness and quality of disease reporting and reducing errors. But, converting to ELR can be challenging for state health departments and laboratories because it requires setting up complex systems, training staff, and creating guidelines that clearly outline all requirements and steps.

ACTION TAKEN: When Michael Jacobson arrived at the Mississippi State Department of Health (MSDH) in the fall of 2013, the department needed immediate help with its transition from manual laboratory reporting to ELR. MSDH receives—at a minimum—500 disease reports in a single day. At that time, these hundreds of reports were coming in via fax, mail, or telephone. From there, each report needed to be entered manually into an electronic database by a communicable disease staff member. This cumbersome process led to a backlog of reports, making it increasingly difficult for CDC to investigate, report, or use these epidemiologic data.

Under the direction of his host site supervisor, MSDH epidemiologist Theresa Kittle, MPH, Michael familiarized himself with federal ELR guidelines and learned about state health information exchanges, software coding for health records, and other aspects of health informatics needed to help MSDH implement ELR at the state level. Next, he summarized the available information and created the MSDH's Electronic Laboratory Reporting Implementation Guide. Michael then consulted with targeted laboratories to help them implement ELR. Finally, he worked with software vendors to analyze the accuracy and timeliness of data submitted by manual reporting methods versus ELR.

"Now that the process has been laid out with clear instructions on how to proceed, hospitals and labs can move away from the slower and traditional methods of reporting," says Michael. "The most impressive positive public health outcome of implementing ELR has been that, by making the process automated, the thousands of hours and large amount of resources that were spent trying to keep up with manual data entry can now be directed elsewhere to other public health problems that need those resources," says Michael.



Centers for Disease Control and Prevention
Office for State, Tribal, Local and Territorial Support

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RESULTS: The guide's release has streamlined ELR implementation for facilities in Mississippi. Michael spent the latter part of his second year in PHAP trying to get as many eligible hospitals through the ELR onboarding process as he could. As a result of Michael's efforts, Mississippi had the majority of all reportable disease submissions performed through ELR by the end of his second year.

SHARING THE RESULTS: Explore MSDH's [Electronic Laboratory Reporting Implementation Guide](#).

PHAP in the Field: Michael Jacobson

During his PHAP service, Michael has worked on a number of initiatives involving epidemiology, health behavior, policy management, and biostatistics for MSDH.

"My host site has done a wonderful job making sure I get a variety of public health experiences throughout my two years at MSDH," says Michael.



In addition to writing Mississippi's ELR guidance, Michael supported many other MSDH projects, including—

- **CDC Science Ambassador.** As part of the Mississippi Hand Washing Campaign, Michael visited public schools every week to teach kindergarteners about germs and proper hand hygiene.
- **Chikungunya Task Force Member.** Chikungunya virus infection is a mosquito-transmitted disease that is not native to Mississippi but was brought in by residents who returned infected after traveling in the Caribbean. Michael was part of an outreach team that successfully implemented control measures to prevent chikungunya from becoming a native disease in the state. The team visited every house in a three-block radius of a patient's home, giving information about how to prevent mosquito breeding and spraying repellent around homes.
- **Disease Outbreak Investigator.** Michael conducted interviews and assisted disease investigations for *Salmonella* outbreaks, and wrote a survey for and assisted with data management for *Legionella* outbreaks. He planned, wrote, and managed data on Ebola surveillance monitoring, and managed data and wrote reports on one of the most severe influenza seasons in years. He also supported a tuberculosis outbreak investigation at a public high school.

"Without a doubt, PHAP is a no-brainer if you are just out of school in public health," says Michael. "The combination of the training and guidance from the federal level and working in the field, getting real-world experience, is invaluable. The program works best when you take the initiative to find opportunities—that's when you get the best two-year experience available in public health."

"It is refreshing to work with someone who is dedicated, enthusiastic, and has demonstrated the skills and leadership to thrive in public health service," says Torri Johnson, Michael's CDC PHAP supervisor. "Michael is a natural leader."

"Thanks to PHAP and my host site, I've had the opportunity to work on a variety of real-life public health projects and issues, and now I know what I want to do in my future public health career," says Michael. "In fall 2015, I will begin earning my master of public health degree at the University of Michigan in the Health Management and Policy Program and will complete a certificate in health informatics. I have fallen in love with my work and want to continue to solve similar public health problems in the future, specifically, problems related to health informatics."

"We hate to lose Michael, but I can't wait to see where he goes," says Theresa. "He is *definitely* going to be a leader in public health."