ABSTRACT

Implementing an outbreak/event tracking monitor for public health

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Objective
The aim of this project was to create a secured web-based application that would run within the PH Access communication framework at the Utah Department of Health. This application—Epi Issue Tracker—would provide State and Local Health Departments with an environment that can be used to monitor actions during an event. We created a tracking system that functions as a combination dashboard/notification system to permit timely and effective communication of epidemiology events. This tracking system, Epi Issue Tracker, is used by all 12 Local Health Departments and the State Department of Health to share information across the state. There have been 830 issues/outbreaks entered into Epi Issue Tracker since January 2009, with 647 updates posted for those issues/outbreaks.

Introduction
Utah has a centralized State Health Department and 12 Local Health Departments situated throughout the state. Coordination of outbreaks or events that crosses jurisdictions has been historically difficult. Utah has not had a functional NEDSS-compliant database until 2009 and still does not have an Outbreak Management System (OMS). A survey was sent to Local Health Departments to assess their perception of need for real-time knowledge of current outbreak/events, with the majority indicating that current processes were inadequate.

Methods
We developed this application using open-source tools from PHAccess written in PHP and subject matter experts to provide initial application requirements and feedback. The development process used a series of iterative development cycles that included development, testing and feedback. Through these cycles we are able to add product enhancements and fixes quickly and efficiently.

Results
We created Epi Issue Tracker and provided it to Local Health Departments during a sequential rollout. The application was designed to provide a dashboard detailing all ongoing events within the state. Events are individually managed and activities can be added and maintained in chronological sequence, thus expediting the creation of event reports. Completed events are moved to resolved status and can be maintained in a database that can be exported via CSV for tracking of outbreaks over time. There have been 830 events created since Epi Issue Tracker was rolled out to Local Health Departments, with 647 event updates posted to those events. Since April 2009 the system has been accessed 3099 times by both state and local epidemiologists.

Conclusion
This program is an easy-to-use issue tracker that facilitates cross-jurisdictional management of outbreaks and events.

Through Epi Issue Tracker, Local Health Departments are able to be informed of cross-jurisdictional outbreak events and post updates to those events for other Local Health Departments or the State Health Department. This application has helped increase communication within the state and improve relationships between the State and the Local Health Departments.