

Improving syndromic surveillance for nonpower users: NC DETECT dashboards

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Objective

To describe the development, implementation and preliminary evaluation of new dashboard interfaces in NC DETECT, designed primarily for infrequent users of NC DETECT at local health departments.

Introduction

NC DETECT provides near-real-time statewide surveillance capacity to local, regional and state-level users across NC with twice daily data feeds from 117 (99%) emergency departments (EDs), hourly updates from the statewide poison center and daily feeds from statewide EMS runs and select urgent care centers. The NC DETECT Web application provides access to aggregate and line listing analyses customized to users' respective jurisdictions. The most active users are state-level epidemiologists (DPH) and hospital-based public health epidemiologists (PHEs). The use of NC DETECT is included in PHE job descriptions, and functionality has been developed specifically to meet their surveillance needs, including data entry of aggregated laboratory results for flu and respiratory panels. Interviews of local health department (LHD) users completed as part of an evaluation project have suggested that functionality specifically tailored to LHDs may increase their use of the NC DETECT Web application (1). As of June 2011, there were 139 LHD users with active NC DETECT accounts (out of 384 total users with active accounts).

Methods

Initial information-gathering sessions were held with DPH stakeholders on April 7 and 12, 2011. Mock-ups based on these meetings were discussed with LHD focus groups on April 13 and 14 via Web conference. A later version of the prototype was shown in person at a health department epidemiology team meeting on May 13, and feedback from that meeting was incorporated into the initial release of the dashboards, which were made available to LHD users on June 14, 2011. On June 21, 2011, drill down functionality was added to the dashboards, and on June 30, 2011, the dashboards were made available to DPH users. The dashboards were developed in Java to integrate with our existing Web application using Java and jQuery.

Results

The dashboards are organized by tabs; current tabs include Overview (Fig. 1), Hot Topics, Heat, Animals/Vectors, Hurricane, Foodborne, PHE Weekly Report summary and users comments on signals and events investigations. The tabs will change in subject in the fall and winter months, e.g., including a Flu tab. The average number of LHD logins into the NC DETECT Web application has not increased significantly since the release of the dashboards (Fig. 2).

Conclusions

Average LHD logins per week for June and July 2011 (n = 15) are significantly lower than for PHEs (45 per week on average for 12 total PHE level users). Dashboard interfaces may be particularly beneficial and used more during large scale events of public health significance monitoring, e.g., the 2012 Democratic National

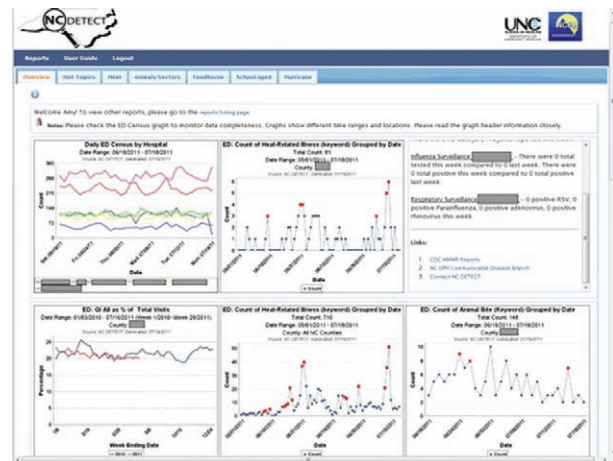


Fig. 1. Screenshot of NC DETECT overview tab on the dashboard interface.

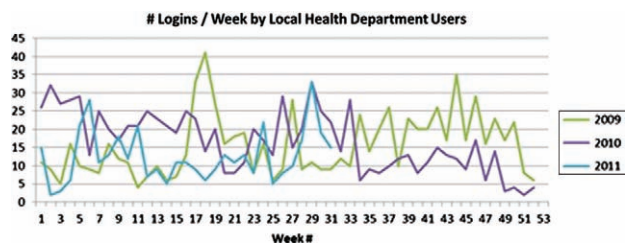


Fig. 2. Number of logins per week by local health department users of NC detect (2009–2011).

Convention in Charlotte, NC. We will continue to work with LHD users to design easy-to-use reports to meet their surveillance needs.

Keywords

Dashboards; all-hazards surveillance; user interface design

Acknowledgments

The authors wish to thank Clifton Barnett for his assistance in compiling user login information.

Reference

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