

Bridging the Gap: Incorporating Data Entry for Lab-based and Inpatient Surveillance in NC DETECT

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OBJECTIVE

New functionality has been added to NC DETECT to facilitate monitoring of non-reportable communicable diseases, reporting for H1N1 related emergency department visits, and to supplement existing influenza like illness syndromic surveillance with hospitalization and laboratory surveillance reports. Providing a centralized, secure mechanism for users to enter aggregated laboratory and hospital admissions data allows public health decision makers to monitor trends efficiently and in a standardized manner.

BACKGROUND

NC DETECT provides early event detection and public health situational awareness to hospital-based and public health users across NC. Authorized users are able to view Web-based aggregated analyses and line listing information from emergency departments (EDs) (n=119, 99%), the statewide poison center, the statewide EMS data system, as well as select veterinary lab and urgent care data. The most active NC DETECT users include hospital-based public health epidemiologists (PHEs). The North Carolina Division of Public Health (NC DPH) established the PHE program in 2003 to strengthen coordination and communication among hospitals and health departments (HDs). Ten PHEs are based in the state's largest hospitals, covering approximately 37% of general/acute care beds and 40% of ED visits. Core activities include surveillance, investigation, outreach, education, special studies, and collaboration with local HDs. While NC DETECT has allowed PHEs to document their ED visit-related public health investigations centrally since 2007¹, other PHE work was recorded in disparate spreadsheets and sent weekly to the PHE Director for review and aggregation.

METHODS

Starting in 2008, NC DETECT technical staff worked closely with the PHEs and PHE Director to model, draft and develop centralized, secure, Web-based reporting mechanisms in NC DETECT for the PHEs to record notes and aggregate counts based on data not available in NC DETECT, including laboratory and inpatient data.

RESULTS

The PHE weekly data entry and summary reports were initially made available in May 2009 and allow for the recording of various positive labs via an easy-to-use interface with a different "tab" for each report type. Users can also retrieve summary reports to

view the data entry results in NC DETECT and/or export the results to MS Word or Excel for further dissemination. Most of the data recorded reflect conditions that are not reportable in NC by law but are still of great interest for public health surveillance. In June 2009, an additional tab specifically for tracking H1N1 and Acute Respiratory Admits was added.

Table 1 shows select lab results, admissions data and comments now tracked in NC DETECT for the PHE hospitals.

*Table 1: PHE Weekly Reports in NC DETECT**

H1N1 # ("Acute Resp Admits")	Influenza	Respiratory	Communicable Disease Investigations
Admits	Total tested	RSV tested	Notes on disease investigations coordinated with HDs
Total Tested	Total positive	RSV positive	
Confirmed H1N1	AH1 positive	Parainfluenza	
State Lab Specimens	AH3 positive	Adenovirus	
Hospital Admits	A positive	Rhinovirus	
	B positive	Rotovirus	
	Flu deaths		

**Data Entry by age group is included in most categories*

While a formal evaluation of these new reports has not been conducted, feedback is solicited regularly throughout the iterative development process. End users state that the new interface has made data entry, exporting and sharing of information quicker and easier. While it "[took] a while to get used to," the creation of centralized data entry has enforced standardization and facilitated comparisons across health systems for influenza and respiratory diseases.

CONCLUSIONS

The PHE Weekly reports have facilitated centralized, efficient tracking and surveillance for a wide range of communicable diseases previously tracked in disparate spreadsheets. Graphing functionality is included in the next iteration.

REFERENCES

[2] Ising A, Li M, Waller AE. Documenting Alerts within a Web-based Early Event Detection System. AMIA Annu Symp Proc. 2006; 964.