

# Post-Katrina Situational Awareness in North Carolina

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## OBJECTIVE

To compare two different methods of monitoring hurricane Katrina evacuees' hospital visits in North Carolina.

## BACKGROUND

The North Carolina Disease Event Tracking and Epidemiologic Collection Tool (NC DETECT) is the early event detection system that serves public health users across North Carolina. One important data source for this system is North Carolina emergency department visits. ED data from hospitals across the state are downloaded, standardized, aggregated, and updated twice daily.

After hurricane Katrina devastated the Gulf Coast on August 29, 2005, federal officials evacuated two large groups of evacuees into Wake and Mecklenburg counties in North Carolina. In order to identify and monitor the hospital-based public health needs of these and other "unofficial" evacuees, NC state officials used both NC DETECT and hospital-based Public Health Epidemiologist (PHEs) reporting methods, along with other public health surveillance initiatives.

## METHODS

The NC DETECT data were monitored for ED visits occurring on or after August 28, 2005. These visits were chosen based on the presence of certain keywords in the chief complaint and triage note fields. For the first several iterations of this report, the data set from the previous iteration was analyzed in order to determine further refinements and additions to the list of keywords in order to maximize both specificity and sensitivity of the data mining effort.

A report was first created on 9/1/2006 within two hours of the initial request from the Division of Public Health (DPH). It was then run twice daily until 9/20/2006. The results of each report were exported into an electronic document, which was emailed to staff at the DPH. This report encompassed a total of 51 hospital-based EDs.

The second method involved PHEs manually reviewing hospital records, and reporting to the Division of Public Health any visits determined

to be Katrina related. The PHEs filled out a one page paper form for each visit and faxed these forms to staff at DPH, who then manually entered the data into a database. This process required up to two weeks after the occurrence for DPH to receive data on some of the identified visits. There were eleven PHEs monitoring the eleven largest hospital systems in the state.

## RESULTS

22 of the 51 NC DETECT facilities reported a total of 157 Katrina-related visits. 10 facilities out of the 11 PHE systems reported 144 visits. Only 7 of these 10 facilities were also represented in NC DETECT at the time of the study. These three facilities accounted for 14% of the PHE reported visits.

Two facilities represented 60% of the visits identified by NC DETECT. Hospital A (34%) is located in Mecklenburg county. Hospital B (26%) is located in Wake county. Hospital A and Hospital B represent 73% of the visits in the PHE report, 37% and 36% respectively. Hospital B detected several visits that were directly admitted to the hospital, thus bypassing the emergency department. The PHE report identified a total of 105 visits at Hospitals A and B; NC DETECT identified a total of 90 visits.

## CONCLUSIONS

NC DETECT offers a near real-time view of the data as well as broader geographical coverage. The scalability of this method (currently 82 of 112 hospital-based emergency departments) as more hospitals join the NC DETECT system will increase this sensitivity

The PHE based reporting method exhibited greater specificity for Hospitals A and B. Reasons for this may include access to directly admitted patient records and access to patient data not collected by NC DETECT.

For future efforts, both reporting methods have strengths to offer. However, NC DETECT can possibly realize greater specificity through improved data mining techniques at little cost; improving PHE sensitivity is not possible without much greater funding.