

# Disease Surveillance among Katrina Evacuees in Shelters—Use of a Web-based Surveillance System during an Emergency Response

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## OBJECTIVE

To assess public health needs among sheltered evacuees, the GA Department of Human Resources, Division of Public Health (DPH) recommended daily surveillance.

## BACKGROUND

On Monday, August 29, 2005, Hurricane Katrina struck the Gulf Coast [1]. Outside of the affected areas of TX, LA, MS, and AL, GA received the largest number of these evacuees, approximately 125,000. By August 30, 2005, GA began receiving a total of approximately 1,300 NDMS patients from flights arriving at Dobbins Air Force Base. Within days, Georgia established 13 shelters for evacuees. Crowded shelters can increase the risk for communicable diseases. In addition, many evacuees left behind needed medications, thus increasing the risk for chronic disease exacerbations.

## METHODS

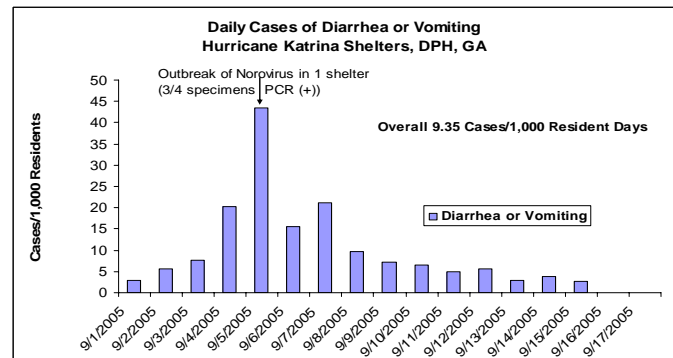
One day after Hurricane Katrina made landfall in LA, DPH began developing forms for disease surveillance in evacuation shelters and for triage of NDMS patients. On September 1, these forms were available electronically and on September 3, they became a part of the State Electronic Notifiable Diseases Surveillance System (SendSS). The shelter disease surveillance form captured census data, symptoms consistent with infection diseases of outbreak potential, chronic conditions, injuries, and medical referrals. The shelter surveillance was conducted by District epidemiologists and public health liaisons (District Disease Surveillance Team).

## RESULTS

Twenty-four public health staff completed forms for 13 shelters over a 21-day period. For the shelters, the single-day maximum number was 1,504, mean number of daily residents was 122 (median 112), 50% were female, and 30% were <19 years old. A norovirus outbreak of 6 persons was identified at one shelter and controlled by implementing strict hand washing practices among evacuees (Figure).

The most commonly identified conditions were chronic—hypertension (33 cases/1,000 resident-days), diabetes, and signs of mental illness (both 11 cases/1,000 resident-days). Potentially infectious conditions were also identified – diarrhea and cough

(both 9 cases/1,000 resident-days) and skin infections (8 cases/1,000 resident-days). These conditions resulted in medical care provided inside (70 referrals/1,000 resident-days) and outside (9 referrals/1,000 resident-days) of the shelters.



## CONCLUSIONS

The hard work of Georgia's Public Health Districts in collaboration with DPH allowed for timely collection and recording of standardized shelter surveillance data. Surveillance detected a norovirus outbreak in one shelter, among other conditions needing intervention. These conditions, chronic and potentially infectious, were similar to those seen elsewhere [2, 3].

Use of the internet-based SendSS system simplified the rapid and systematic collection, analysis, and interpretation of surveillance data from shelters across Georgia. Collaboration facilitated by SendSS proved valuable and should be used during future public health emergencies requiring the collection and analysis of data from various locations.

## REFERENCES

- [1] NOAA, Hurricane Katrina forecast timeline; [http://commerce.senate.gov/pdf/Katrina\\_NOAA\\_Timeline.pdf](http://commerce.senate.gov/pdf/Katrina_NOAA_Timeline.pdf). Accessed: May 22, 2006.
- [2] KM McNeill, et al. Surveillance for illness and injury after Hurricane Katrina—Three Counties, Mississippi, September 5–October 11, 2005. *MMWR* 55:231–234;2006.
- [3] A Toprani, et al. Surveillance in Hurricane Evacuation Centers—Louisiana, Sept–October 2005. *MMWR* 55:32–35;2006.

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