

# Using ESSENCE to Track a Gastrointestinal Outbreak in a Homeless Shelter in Miami-Dade County, 2008

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## OBJECTIVE

To illustrate how Miami-Dade County Health Department (MDCHD) utilized ESSENCE in order to track a gastrointestinal (GI) outbreak in a homeless shelter

## BACKGROUND

Although Electronic Surveillance System for the Early Notification of Community Based Epidemics (ESSENCE) provides tools to detect a significant alert regarding an unusual public health event, combining that information with other surveillance data, such as 911 calls, school absenteeism and poison control records, has proved to be more sensitive in detecting an outbreak. On Monday, June 16, Florida Poison Information Network, which takes after-hours and weekend calls for MDCHD, contacted the Office of Epidemiology and Disease Control (OEDC) about five homeless persons that visited the same hospital simultaneously with gastrointestinal symptoms on Saturday, June 14. Poison control staff asked MDCHD to investigate further to determine whether it was an outbreak.

## METHODS

In 2008, a specialized query for the words <sup>^</sup>diarrhea<sup>^</sup>,or,<sup>^</sup>vomit<sup>^</sup>, which accounts for misspellings, was added to daily communicable disease queries in ESSENCE in order to detect a gastrointestinal outbreak. Staff monitor clusters by resident zip code, hospital and time of emergency department (ED) visit to explore a potential outbreak. If clustering is suspected, MDCHD staff contact the hospital Infection Control Practitioner (ICP) to obtain additional patient information and confirm potential outbreaks.

## RESULTS

Between June 15 and 18, 2008, three small clusters by resident zip code and ED visit time were detected in a southern Miami-Dade County hospital with diarrhea and/or vomiting as chief complaints. The hospital ICP was contacted immediately to confirm the cases. It was

discovered through the ICP that 12 ill individuals arrived from the same homeless shelter throughout the day. Among 12 ill individuals, 9 (75.0%) were male and ages ranged from 20 to 55 years. The homeless shelter can house 300 persons and is typically for residents staying approximately 60 days or more. MDCHD staff contacted the Director of the shelter and a site visit was conducted on Wednesday, June 18 by MDCHD Office of Environmental Health and on Friday, June 20 by OEDC staff. Interviews with the Director, Nursing Director and Cafeteria Manager demonstrated that although there is a clinic at the shelter, it is only for adults and it is closed on weekends. Additionally, no physician was present on Monday, June 16. Therefore, the ill shelter residents were referred to visit the hospital. The environmental inspection showed the cafeteria was clean and the facility followed strict guidelines for safety. Foods that are prepared from outside sources can not be served. However, it was discovered that on June 16, the residents that became ill did not eat food from the cafeteria but rather from food that was served outside in the parking lot from a local organization that made donations. Since some residents stayed at the shelter for a short period of time, interviews could not be conducted with all of the ill persons.

## CONCLUSIONS

This study verified that combined with other surveillance systems, ESSENCE can be useful to follow an outbreak by using a specialized query in addition to the automated syndrome alert. Since a gastrointestinal illness alert was not automated because of the small number of persons involved, this demonstrates how important it is to carefully monitor all clusters and not only those automatically created by the system. Additionally, outbreak investigations can be facilitated by working with multiple partners involved in surveillance.