

Use of Syndromic Data for Surveillance of Hurricane-Related Injuries in Miami-Dade County, FL

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OBJECTIVE

To determine the proportion of injuries in Miami-Dade County that could be related to the impact of Hurricane Wilma, which made landfall in Florida on October 25, 2005.

BACKGROUND

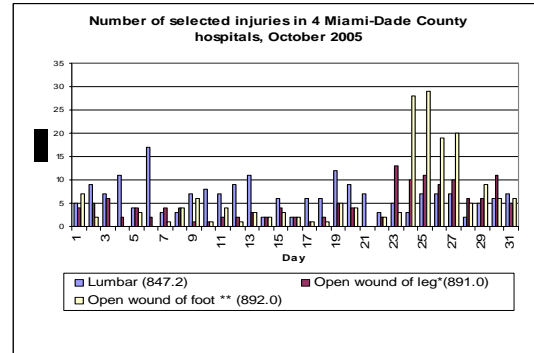
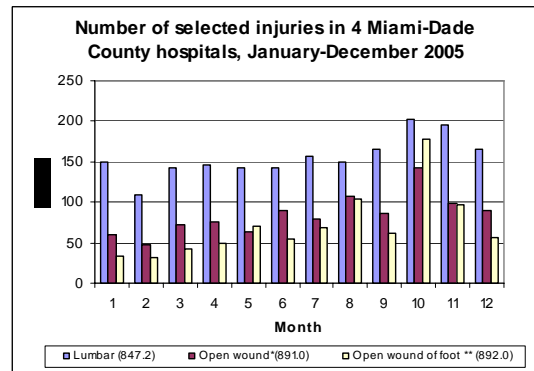
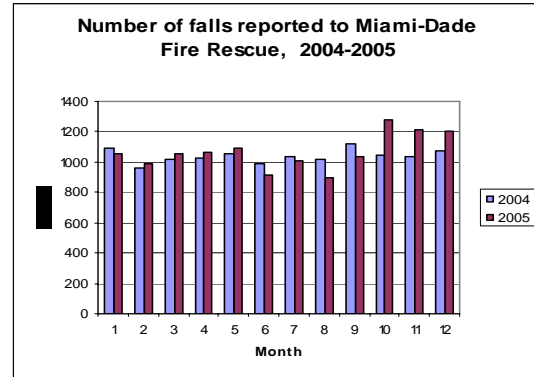
In 2005, three hurricanes made landfall in Florida, with Hurricane Wilma having the most severe impact on Miami-Dade County. Syndromic surveillance is typically used to detect bioterrorism or natural disease outbreaks before specific diagnoses are made. After Wilma, however, the Miami-Dade County Health Department (MDCHD) assessed the utility of syndromic data for surveillance of hurricane-related injuries.

METHODS

Surveillance for hurricane-related injuries was conducted using emergency department data from four of eight participating Miami-Dade County hospitals. Data elements included the ICD-9 Clinical Modification discharge diagnosis code, age, gender, race/ethnicity, and zip code. Surveillance was also conducted using 911 call data was from Miami-Dade Fire Rescue. Data analysis focused on injuries that occurred between October and December 2005, as these may have resulted from preparation, impact, or clean-up after the event. SAS 9.1 was used for data analysis.

RESULTS

Based on 911 data, the number of falls from October to December 2005 increased to 3699 (from 3159 during the same period in 2004), a 17.1% increase. During October 2005, the number of falls reached a peak between October 23 and October 28. Hospital emergency department data in October 2005 showed an increase in the number of cases reported with the following injuries: lumbar (ICD-9 847.2), open wound of knee, leg (except thigh), ankle without mention of complication (ICD-9 891.0) and open wound of foot except toe(s) alone without mention of complication (ICD-9 892.0). ICD-9 codes 891.0 and 892.0 peaked between October 23 and October 27. Seventy-six percent (400 of 523) of injured patients were aged 18-64 years old. Gender varied with type of injury. The percentages of males with ICD-9 codes 847.2, 891.0 and 892.0 were 43.4%, 66.4%, and 65.5% respectively.



CONCLUSIONS

Syndromic surveillance data has some utility for injury surveillance before, during, and after hurricanes. From June to November of every year, Miami-Dade County is threatened by hurricanes. Knowledge of common injuries associated with hurricane preparation and recovery efforts can help public health officials to target prevention messages appropriately.