

# Using Public School Absentee Data to Enhance Syndromic Surveillance in Miami-Dade County, 2007

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## OBJECTIVE

Utility of school absenteeism data to enhance syndromic surveillance activities for unusual public health events or outbreak detection.

## BACKGROUND

The Miami-Dade County Health Department (MDCHD) currently utilizes Emergency Department (ED) based Syndromic surveillance data, 911 Call Center data, and more recently Public School Absenteeism data. Daily monitoring of school absenteeism data may enhance early outbreak detection in Miami-Dade County in conjunction with the use of other syndromic systems. These systems were employed to detect any possible outbreaks resulting from a large outdoor festival occurring March 11<sup>th</sup>, 2007. This event had an estimated 1 million visitors and it ended at 7:00 p.m.

## METHODS

MDCHD receives electronic, raw data from the Miami-Dade Public Schools System. This data contains student age, sex, race/ethnicity, school name, school zip code, home zip code and absentee status. The percentage of absenteeism was estimated by age group with table and trend figures. The criteria selected at which an alert is raised for absenteeism was set as 8%. SAS, Microsoft Access and ArcGIS were used to perform data analysis and create automatic reports with a geocoded map of the schools with an absentee rate at or above 8%.

## RESULTS

On March 11<sup>th</sup> a large outdoor festival, with food and drink sales, took place in Miami-Dade County. In the days following this festival, an analysis of Syndromic surveillance data and the public schools absenteeism data signaled a spike among the category for gastrointestinal illness (GI) and another peak in the number of absences in the public school system. The March 12<sup>th</sup> alerts for GI were observed on syndromic surveillance data among the 0-4, 5-17, and All age groups (Figures 1-3). Coincidentally, 108 schools had an absenteeism rate at or above 8% (Figure 4). On average in a given month, the number of schools with an absenteeism rate at or above 8% is 40, with the minimum being 25 and maximum 57. According to the data available, schools with absentee rates at or above 8% for March 12<sup>th</sup> matched the zip codes of patients visiting the ED due to GI illness. Forty percent (66 of 165) of children aged 0-17 visited the

ED March 11<sup>th</sup> between 6:00 p.m. and 11:59 p.m. On March 12<sup>th</sup> a similar trend was observed during the hours of 6:00 p.m. to 11:00 p.m.; 36.3% (74 of 204) of visits to the ED among 0-17 year olds had a chief complaint of GI.

## CONCLUSIONS

An epidemiological investigation revealed that many cases visited the ED during the hours of 6:00 p.m. and 11:00 p.m., March 11<sup>th</sup> and 12<sup>th</sup>. This apparent delay to visit the ED may signal that the GI illness was not severe in nature since many parents took their children to the ED later in the day. School absentee data has been used to support other surveillance activities which include detecting chemical and biological attacks and most commonly, early disease outbreaks. However, in practice this data has a limitation; the reason for absence is unknown. Surveillance efforts including school absenteeism data might be useful when used in conjunction with other surveillance systems.

