Relationship between Emergency Room (ER) Syndromic surveillance data and Influenza-Like Illness (ILI) Surveillance in Houston, Texas

Debo Awosika-Olumo MD., MS., MPH, Osaro Mgbere PhD, Salma Khuwaja MD., MPH., DrPH, Olushola Adeleye MD., MPH. Raouf Arafat, MD., MPH

Bureau of Epidemiology, Office of Surveillance and Public Health preparedness, Houston Department of Health and Human Services

Background

Disease surveillance provides essential information for control and response planning[1]. Emergency Room (ER) syndromic surveillance data can help to identify changes in disease incidence and affected group thereby providing valuable additional time for public health interventions[1]. The current study explored the relationship between ER syndromic surveillance data and influenza notification to the Houston Department of Health and Human services (HDHHS).

Methods

A retrospective analysis of Emergency Room (ER) Syndromic surveillance data was conducted to examine the validity of using such data for early detection of disease outbreaks in the community for the period June 2005 through May 2006. The study period was classified into two seasons: Flu and non-flu season. The emergency Room data were obtained from Real-time Outbreak and Disease Surveillance system (RODS). This system captures all patients presenting to emergency rooms in Houston and categorizes the chief complains into syndromes - respiratory, constitutional, gastrointestinal, rash, hemorrhagic, botulinic and neurological. The current study used all cases categorized as respiratory. The time lag between ER and influenza notification data from the Houston Department of Health and Human Services (HDHHS) for the same period was evaluated. The seasonal trends and relationships were determined using the product moment correlation and regression analysis.

Results

A positive correlation was demonstrated between, ER syndromic surveillance data and influenza notification data (r=0.50; P<0.01) during the flu season. Non-flu season data showed no significant correlations (P>0.05). The ER visits in Houston significantly (P<0.01) predicted the number of influenza notifications to HDHHS (R^2=0.25). The ER syndrome data peaked two weeks before a peak was observed for the traditional influenza notification to HDHHS.

Conclusion

The pattern of relationship noted in this study demonstrates that ER visits can be used for early prediction of influenza activity in a community. This will allow time for early planning of intervention in the advent of an outbreak.

Elisabeta Vergu 2006. Emerging Infectious diseases: Medication sales and syndromic surveillance, France. March 2006. http://findarticles.com/p/articles/mi_m0GVK/is_3_12/ai_n16108998/print Accessed on June 19, 2007.