The BioSense Influenza Module

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OBJECTIVE

This presentation describes the new BioSense Influenza Module, its performance during the 2007-8 influenza season, and modifications for the 2008-9 influenza season.

BACKGROUND

BioSense is a national system that receives, analyzes, and visualizes electronic health data and makes it available for public health use. In December 2007 CDC added the Influenza Module to the main BioSense application.

METHODS

The Influenza Module allows side-by-side comparisons of time series and maps presenting traditional surveillance (U.S. Sentinel Provider network, the WHO/NRVESS laboratory results for respiratory pathogens, and the state and territorial epidemiologists' assessment of statewide influenza activity) and automated surveillance (BioSense hospital emergency department (ED) and VA and DoD outpatient facilities) data. The influenza-related indicators from BioSense include: (1) chief complaints of fever or cough or ILI, and (2) diagnosis codes for acute respiratory illness (ARI) (ICD-9-CM codes 460-466 or 480-487). Data from all sources are aggregated by week, a modified C2 algorithm is used to flag increased influenza activity in individual facilities (such as sentinel providers or BioSense hospitals), and facilities are shaded accordingly on an interactive map.

RESULTS

In the 2007-2008 season, there was variable correlation between traditional surveillance and automated surveillance indicators. BioSense hospital ED indicators were more highly correlated with U.S. Sentinel Provider Network % ILI than was the VA/DoD ARI indicator, but all indicators showed a peak within one week of 02/23/2008. Further analysis of these trends and the performance of the various automated indicators will be presented and recommendations for modifications to these indicators will be discussed. Initial feedback and recommendations from state and local public health users will be presented. Analysis of two new national data sources – influenza antiviral prescription data and commercial influenza laboratory data – will be presented.

CONCLUSIONS

The BioSense Influenza Module collates and co-presents traditional and automated influenza surveillance data. For the 2008-9 influenza season, the influenza module will incorporate updated indicators as well as additional indicators from new data sources.

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