

BioSense Real-Time Data Initiative: Improving Emergency Preparedness - Monitoring Injury sub-syndromes.

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OBJECTIVE

BioSense is a national human health surveillance system designed to improve the nation's capabilities for disease detection, monitoring, and real-time health situational awareness.

BACKGROUND

Analysis of the BioSense data facilitates the identification, tracking, and management of emergent and routine health events, including potential bioterrorism events, injury related incidents and rapidly spreading naturally occurring events (1). BioSense enhances coordination between all levels of public health and healthcare by providing access to the same data at the same time which can ultimately produce a faster and more coordinated response. BioSense is a network of networks rather than a stand-alone program. Analysts at the BioIntelligence center (BIC) analyze and track BioSense data activity at a national level and support state and local public health system users (2).

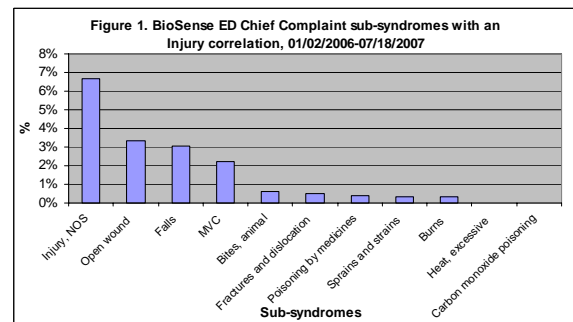
METHODS

Data is currently sent to BioSense from over 370 emergency departments (ED) from across the United States, 893 Veterans Affairs (VA) and 369 Department of Defense (DoD) facilities. Data are analyzed and visualized through a secure web application giving all participating public health jurisdictions and hospitals access to rich data from emergency departments (ED), outpatient clinics, and other hospital settings. There were initially 11 syndromes analyzed and subsequently in 2006 this expanded to include 78 sub-syndromes to provide a more specific assessment of the data. 11 of the Sub-syndromes have an injury correlation (bites, burns, carbon monoxide poisonings, falls, fractures, heat-excessive, injury NOS, motor-vehicle crashes (MVC), open wounds, poisonings, sprains & strains).

RESULTS

A total of 8,342,336 visits were recorded in the ED Chief Complaint category into the BioSense system from January 2, 2006 to July 18, 2007. Of all visits; the greatest proportion binned to the Respiratory (20.2%, 1,688,468), Injury (17.5%, 1,459,691), and Gastrointestinal (14.1%, 1,180,181) categories. Among the injury sub-syndromes, the most frequent

were injury NOS (6.7% of total visits), open wounds (3.4%), falls (3.1%), and MVC (2.2%).



CONCLUSIONS

BioSense provides health situational awareness on an assortment of illnesses and injuries before, during, and after a health event and assists to confirm or refute the existence of an event, to monitor its size, location, and rate of spread. Monitoring injury sub-syndromes using the BioSense system may assist in surveillance efforts during emergency responses including hurricanes and other major disasters.

REFERENCES

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