

# BioSense Participation by Non-Federal Hospitals

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## OBJECTIVE

In this paper we present summary information on the non-federal hospitals currently sending data to the BioSense system and describe this distribution by hospital type, method of data delivery as well as patient class and patient health indicator.

## BACKGROUND

BioSense is a national program designed to improve the nation's capabilities for conducting disease detection, monitoring, and real-time situational awareness. Currently, BioSense receives near real-time data from non-federal hospitals, as well as national daily batched data from the Departments of Defense and Veteran's Affairs facilities. These data are analyzed, visualized, and made simultaneously available to public health at local, state, and federal levels through the BioSense application.

## METHODS

During our study period from January-August 2008, we focused upon non-federal facilities sending data to the BioSense system. We examined the distribution by hospital type (general medicine, children's, and specialty), data delivery method (directly from a hospital or via existing state or local health department surveillance systems), patient class (emergency department [ED], inpatient, outpatient), and patient health indicator (chief complaint, working diagnosis, and final diagnosis). According to the American Hospital Association (AHA), there were 5787 hospitals in the U.S. in 2006; further comparisons between AHA and BioSense data are pending.

## RESULTS

Currently, BioSense receives data from 569 non-federal hospitals from 25 states and the District of Columbia. After facilities were matched to the AHA dataset, 546 (96%) were identified as primarily a general medicine hospital, 10 (1.8%) were children's hospitals, and 13 (2.2%) were specialty facilities. 466 (82%) of the facilities sending data to BioSense delivered their data via existing state and local public health surveillance systems. 103 (12%) facilities send data directly to BioSense and these data are

availed to state and local public health via the BioSense application. About 11% of total U.S. ED visits are sent to BioSense, 10% via state or local health departments and 1% directly from hospitals.

Data received directly from hospitals typically include more data elements and detail compared to data received from state and local surveillance systems. Data received from state and local systems typically include only demographics, chief complaints, and (for some facilities) diagnosis, whereas data received directly from hospitals may include additional census (91 hospitals), laboratory (37 hospitals), radiology (41 hospitals), pharmacy (32 hospitals) and detailed ED (eg, vital signs, 91 hospitals) information.

560 (98%) of the facilities participating in the BioSense program send emergency department visit information, in addition to these data approximately 20% of facilities also send data regarding inpatient and outpatient visits.

Of all emergency department visits during the study period, 95% of these records contained a chief complaint, 14% a working diagnosis, and 37% a final diagnosis. Of all inpatient visits, 88% had a reason for admission, 40% a working diagnosis, and 57% a final diagnosis. Of the total number of outpatient visits, 87% had a reason for visit, 33% a working diagnosis, and 53% a final diagnosis.

## CONCLUSIONS

Partnerships with state and local health departments account for most of the data that BioSense currently receives. Initiatives are underway to increase participation, improve representativeness, and increase receipt of more detailed data types.

## REFERENCES

- [1] [CDC. BioSense---a national initiative for early detection and quantification of public health emergencies. MMWR 2004;53\(Suppl\):53--5.](#)
- [2] <http://www.cdc.gov/biosense>

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