

Multi-Agency and Hospital, Syndromic Surveillance System in Montana

William C. Mohlenbrock, M.D., Raymond F. Rogers

The National Center for Health Care Informatics, Butte, Montana and Crossflo Systems Inc.

OBJECTIVE

This oral presentation describes a multi-agency and multi-center medical data integration system for syndromic surveillance in the State of Montana. This is a significant public health benefit given the recent threats of bio-terrorism and potential viral epidemics, including Bird-Flu [1].

BACKGROUND

In the aftermath of September 11th, 2001, the potential for subsequent bioterrorism attacks and more recently, the increased awareness of the threat of Avian flu and other communicable diseases, has compelled the Montana healthcare community to mobilize its diagnostic resources for detecting the presence of toxins or infectious biologic agents at the earliest possible moment. This state-wide, pilot initiative integrates disparate Emergency Room data, making patients' symptoms and diagnoses available for biosurveillance and achieves interoperability among Montana's emergency facilities

METHODS

The Montana Health Information Exchange (MT HIE) [2] is sponsored by the National Center for Health Care Informatics (NCHCI) at Montana Tech in Butte, Montana. Crossflo System's software, CDX3, integrates disparate data systems and harmonizes different data-sharing standards. CDX3 is deployed on a HP, Integrity NonStop computer to provide a 24/7/365 interoperable information infrastructure that allows symptoms (coded or alpha) and/or coded diagnoses to be aggregated and sent to the Montana Department of Health and Human Services in Helena for analysis using de-identified patient data from multiple hospital emergency rooms and eventually urgent care facilities located throughout the state. The MT HIE will have the underlying technologies in place to support future expansion, which will enable seamless interoperability among any and all databases contained in physicians' offices, labs, pharmacies, and governmental entities throughout Montana.

RESULTS

The compelling result of this initiative is a fully integrated, interoperable infrastructure for Montana medical facilities. The first phase makes patients' symptoms available for biosurveillance and achieves interoperability among Montana hospitals' emergency departments. These capabilities are a vital first step to the Montana Health and Human Services Department's syndromic surveillance goals.

CONCLUSIONS

This pilot project makes it possible for the Montana Department of Health and Human Services to view initial complaint, diagnostic, treatment, and demographic data from the participating emergency room systems with the potential to expand to all the state's emergency facilities. This model supports the CDC/HHS overall national data sharing effort to facilitate early diagnoses from multiple treatment facilities and thereby combat bioterrorism and support pandemic planning.

REFERENCES

[1] Innovative electronic surveillance systems are being developed to improve early detection of outbreaks attributable to biologic terrorism or other causes. See the Morbidity and Mortality Weekly Report, September 24, 2004, Vol. 53, page 7, for a complete definition.

[2] See Government Health IT, published February 13, 2006. Bob Brewin: "State RHIOs would serve as an umbrella organization for local (RHIOs). A RHIO is an electronic network for exchanging health and patient information among providers within a defined geographic area."

Further Information:
Ray Rogers: rrogers@mtech.edu