

The Utility of Biosurveillance for Public Health Practice: The Findings from Two Case Studies

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Objectives

A goal of the case studies was to assess the impact of biosurveillance on public health system preparedness, detection and response for a range of public health threats.

Background

States and localities are using biosurveillance for a variety of purposes including event detection, situational awareness, and response. However, little is known about the impact of biosurveillance on the operational components and functioning of the public health system and the added value of biosurveillance to traditional surveillance methods. A deeper understanding of how state and local public health systems use biosurveillance data and the factors that facilitate and impede its utility are needed to inform efforts to improve public health surveillance.

2. Methods

The two biosurveillance systems participated in the case study- the North Carolina NC Detect System and Tarrant County, Texas Advance Practice Center. Site visits were conducted to each of these cases in July, 2007 and December, 2007, respectively.

In-person key informant interviews were conducted with personnel involved in the collection, management and use of biosurveillance data including local and state public health officials, epidemiologists, and hospital infection control personnel. The discussion topics focused on: 1) describing the system; 2) describing the system experience during and after an event; 3) and assessing the

system's utility for outbreak detection, situational awareness and response.

Results

Eighteen individuals were interviewed from each of the case study sites in either an individual or group interview setting. Analysis of the showed that:

- Biosurveillance has been useful in tracking and monitoring a number of non-reportable disease outbreaks (e.g. Norovirus, Methicillin-resistant *Staphylococcus aureus*, influenza)
- Biosurveillance facilitates monitoring of reportable diseases that are not well reported (e.g. botulism, Meningococcal meningitis);
- Biosurveillance enhances situational awareness of seasonal influenza; and
- Biosurveillance has been useful for other public health purposes including seasonal events (heat-related conditions, carbon monoxide poisoning and chronic conditions).

Conclusions

However, results of the case studies indicate that users (primarily public health epidemiologists and to some extent hospital infection control officers) perceive a significant benefit to biosurveillance above and beyond traditional surveillance both in terms of timeliness and capability for initiating public health investigations.