

# Surveillance in New Jersey—from anthrax to automation

Teresa Hamby\*, Stella Tsai and Lisa McHugh

NJ Department of Health and Senior Services, Trenton, NJ, USA

## Objective

To describe the improvements in New Jersey's Emergency Department surveillance system over time.

## Introduction

In the summer of 2001, New Jersey (NJ) was in the process of developing surveillance activities for bioterrorism. On September 11, 2001, the United States suffered a major terrorist attack. Approximately a month later, anthrax-laced letters were processed through a NJ Postal Distribution Center (PDC). As a result of these events, the state instituted simplistic surveillance activities in emergency departments (EDs). Over time, this initial system has developed into a broader, more streamlined approach to surveillance that now includes syndromic data, e.g., Influenza-like illness (ILI), as well as the use of technology (automated surveys, real-time data connections and alert analysis), to achieve surveillance goals and provide daily information to public health partners in local health departments and DHSS response colleagues.

## Methods

Daily response rates over time were analyzed to determine whether enhancements to surveillance produced any improvement in participation by EDs. During the timeframe used for the study, the total number of EDs varied due to facility closures and reorganizations and, therefore, daily response was measured by using the percentage of facilities responding each day versus the actual number. The study was broken into three different time periods: (1) December 2001, which is when the state's surveillance began, to August 2004, prior to updates in anticipation of the Republican National Convention in nearby New York City; (2) August 2004, when a more technologically advanced method was introduced, to April 2009; and (3) April 2009 when the Novel H1N1 Influenza A outbreak occurred and more sophisticated data collection mechanisms were implemented to present day.

## Results

With each implementation of a new form of data collection and more advanced analysis, the response rate increased (see Fig. 1). In addition, the time involved for surveillance activities decreased for DHSS staff since increased automation led to fewer errors and a reduced need for follow up.

## Conclusions

As automation in surveillance activities has increased, participation rates of facilities improved as well. Hospital staff became more engaged when there was a more defined purpose to reporting ED visits and admissions (e.g., The Republican National Convention and the H1N1 Novel Influenza A outbreak). Based on the improvements observed, the state is undertaking a project to move all NJ EDs into a real-time, syndromic surveillance system. This implementation is expected to further enhance data reporting and increase response rates beyond the current 86.4%.

## Keywords

Surveillance; emergency department; participation

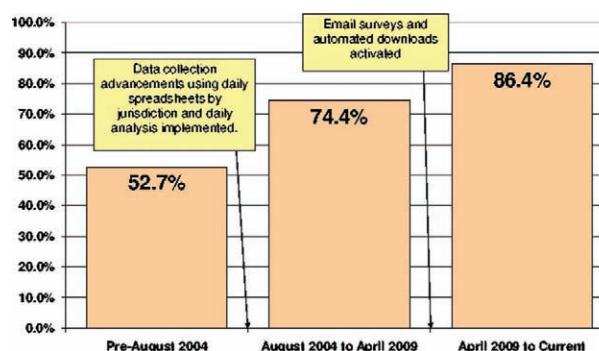


Fig. 1. Facility response rates over time.

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\*Teresa Hamby

E-mail: Teresa.Hamby@doh.state.nj.us