



WHEN SYMPTOMS SEND A Signal

Health Security Starts Locally

Syndromic Surveillance

Syndromic surveillance serves as an early alert for health events by tracking symptoms such as respiratory distress, fever, and vomiting—before a diagnosis is confirmed. Emergency departments and other sources send this information as electronic messages to public health agencies. Messages are monitored daily to understand usual levels of illness and to detect changes that require a response.

“Building strong health security infrastructure takes innovation and partnerships at all levels of public health, coordination across government agencies, and multiple public-private partnerships.”

— Paula Yoon, ScD, MPH
Director, Division of Health Informatics and Surveillance, CDC

Why It Matters

Following 9/11, initial investments were made in enhancing syndromic surveillance as an early warning system for bioterrorism. This system now allows officials to detect a much wider range of health threats—from opioid overdoses to chemical spills to outbreaks. Equipping communities with diverse, real-time health data that reflect local realities enables faster decision making and better protects Americans.



Emerging infectious diseases and outbreaks



Chronic diseases and their complications



Injury issues (drownings, overdoses)



Mass gatherings and their situational needs



Environmental conditions and their impact



Natural and manmade disaster response needs



Putting Data to Work: From Signal to Response

Using data from emergency departments nationwide to track symptoms has become a model for electronic data exchange between health care and public health. CDC's National Syndromic Surveillance Program helps connect local, state, and national public health agencies to data from more than 4,000 healthcare facilities in 45 states, and Washington, DC. Officials can unite nationwide and act quickly when something unusual happens. They can also monitor how well their response is working and adjust as needed.

Enhancing syndromic surveillance and linking multiple data sources is one focus area of CDC's strategy to improve surveillance data



Newer

Cloud-based technology and analysis tools allow local and state users to visualize and share information from an increasing number of health facilities



Faster

Near-real-time data allows users to quickly detect and monitor health impacts in their local communities and across the country



Smarter

As new health threats emerge, such as Zika infections and opioid overdoses, syndrome definitions can be quickly developed and standardized



Better

As new analytic methods are added and participation increases, data sources can be expanded and integrated with other systems, including electronic death records

Moving the Dial: More Reporting, Improved Response

2.6
Million

Number of electronic health messages received each day from emergency room visits

60
Percent

Percent of all emergency room visits reported to health departments—up from 45% in 2014

24
Hours

Hours to report most emergency room visits