

Public Health Surveillance

Syndromic Surveillance and Electronic Health Reporting are two programs that rely on a robust health IT system.

Early Detection: Syndromic Surveillance



Report

Patient presents at health care provider's office/hospital and reports symptoms, these are entered into the EHR



Review

The symptoms are categorized and aggregated with other patients' symptoms

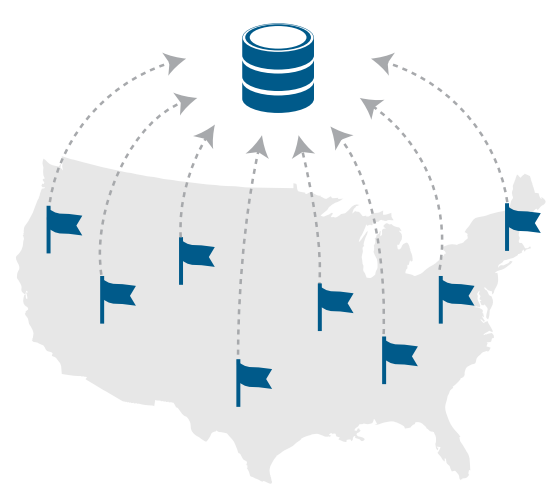


Respond

Hot spots of similar illness types cause alerts to infection control and public health agencies

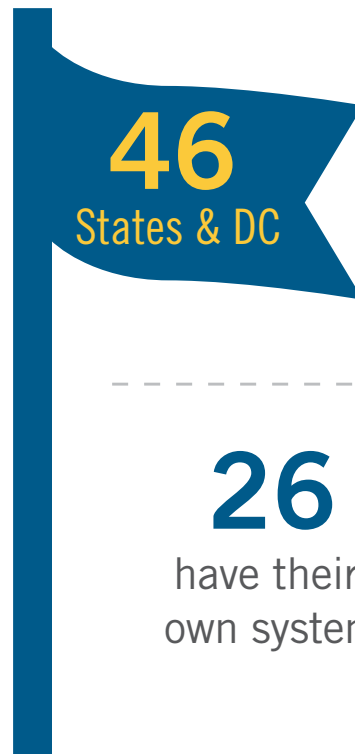
More than **1500 Hospitals** are sending **Syndromic Surveillance Data** to **Public Health Agencies**

National Syndromic Surveillance



Data from at least **36 States** and the **District of Columbia** are sent to a national syndromic surveillance repository

Local Jurisdiction Syndromic Surveillance



Perform **Syndromic Surveillance**

26 have their own system

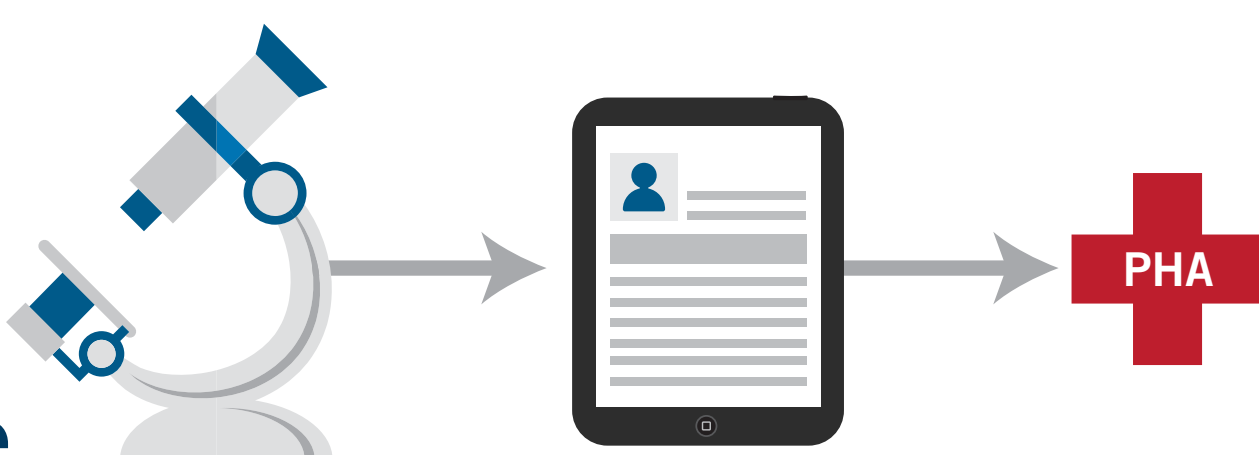
20 use only the national repository system (BioSense)

Proportion of ED Visits Represented in this National Surveillance System

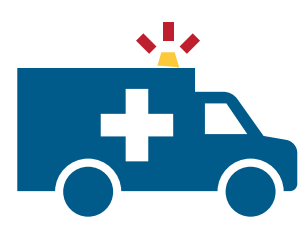
| Number of States | 14 | 10 | 8 | 10 | 9 |
|------------------|-------------|-------|--------|--------|---------|
| % of ED visits | Not Sending | 1-25% | 26-50% | 51-75% | 76-100% |

Real-time Reporting: Electronic Laboratory Reporting

Laboratory Results are sometimes the **first definitive way of identifying** what the patient is infected with



If the laboratory results are **captured in the EHR in a structured (i.e. standardized) way**, then it is easy **for the health IT system to report those data to public health agencies**

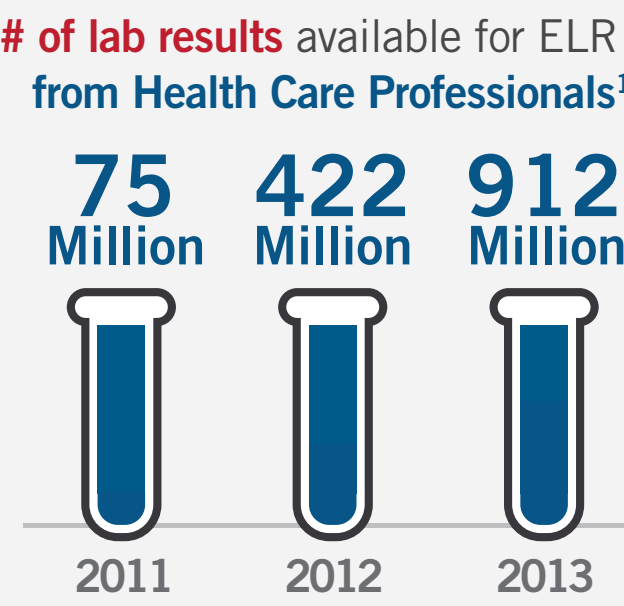
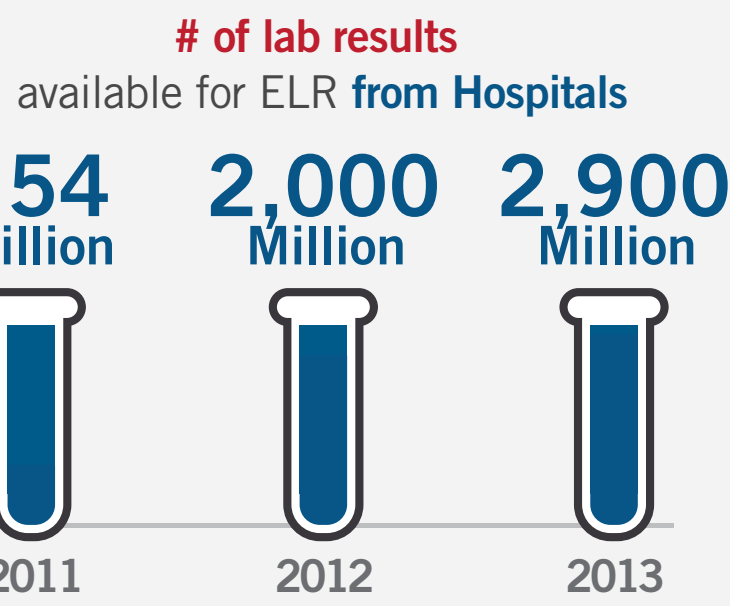


Fast and complete reporting to public health agencies helps expedite investigation, which can translate into **more people receiving appropriate preventive treatment, and fewer people exposed**

Health Care Providers' Capability to Capture Laboratory Results Electronically

On average, hospitals participating in Meaningful Use have **96%** of their laboratory results captured as structured data, meaning they are readily available for public health reporting

2900 Hospitals registered their intent to send **ELR for 2014**



Local Jurisdiction ELR Capacity

67% of lab reports sent to PHA are sent electronically. By 2016, this number is projected to be over **80%**

51% of hospitals are sending data electronically to PHA

95% of jurisdictions (48 States and 6 Large Local Health Departments) are receiving some lab results through **ELR**



ELR improves timeliness and completeness of reporting to public health, making surveillance and public health mitigation strategies more efficient

ELR is faster: 5 days faster follow-up than non-ELR reported cases²



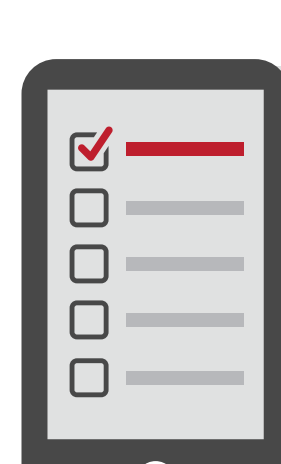
ELR identifies more cases: 4.4 times more than traditional reporting³

Future State: Electronic Case Reporting



EHR data will populate standard public health surveillance case reporting forms. **Those data will be sent electronically to public health agencies**

This enhanced electronic information exchange with public health agencies may make case follow-up and management even faster and more complete



Sources

- Based on CMS EHR Incentive Program data through August, 2014. "Health care professionals" includes Medicare eligible professionals.
- Samoff E, Fangman MT, Fleischauer AT, Waller AE, Macdonald PD. Improvements in timeliness resulting from implementation of electronic laboratory reporting and an electronic disease surveillance system. Public Health Reports. 9/13; 128(5): 393-8.
- Overhage JM, Grannis S, McDonald CJ. A comparison of the completeness and timeliness of automated electronic laboratory reporting and spontaneous reporting of notifiable conditions. AJPH, 2/2008, vol. 98: 344-350.

Acronyms

- PHA: Public Health Agency
- EHR: Electronic Health Record
- ED: Emergency Department
- ELR: Electronic Laboratory Reporting