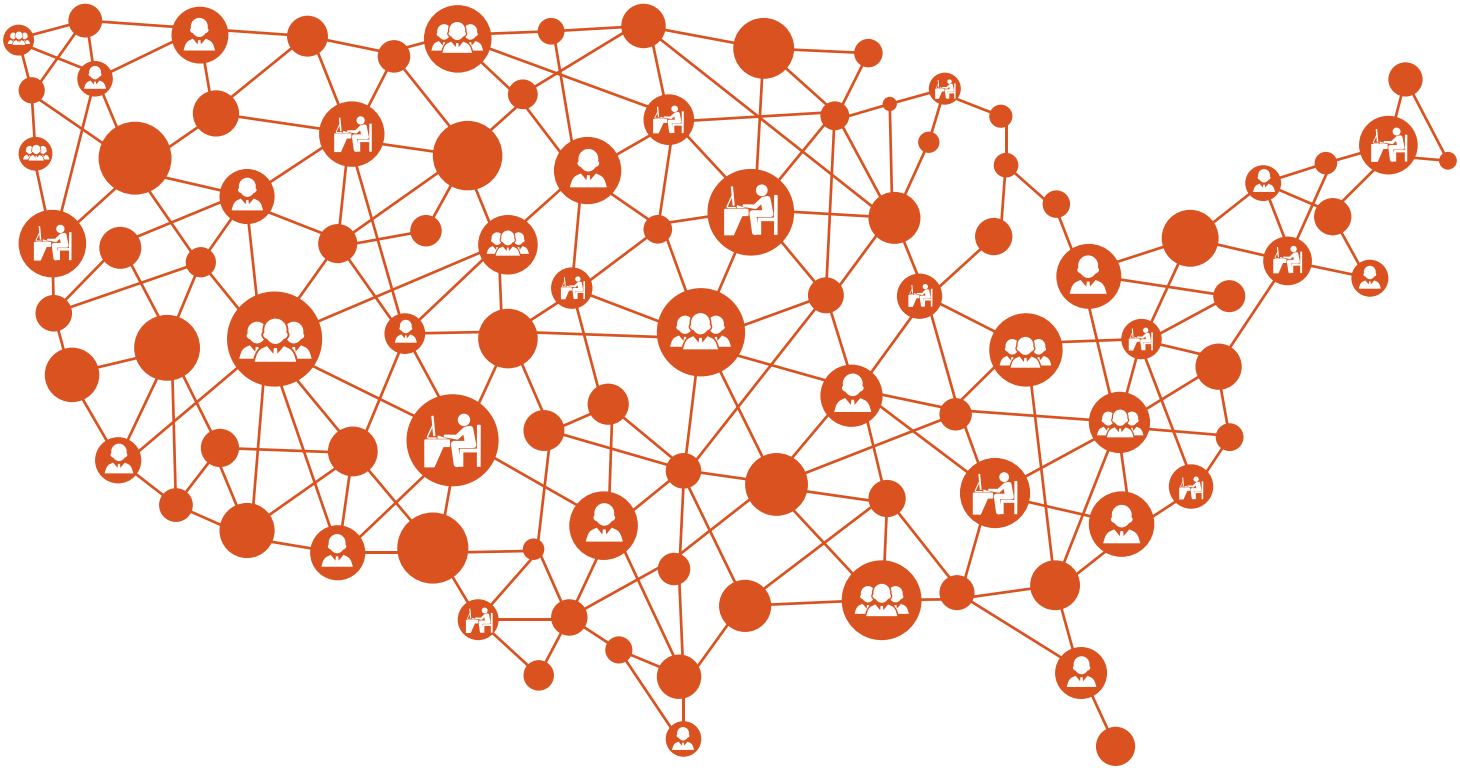
Sharing Data in Real Time to Solve Outbreaks Faster

SEDRIC: System for Enteric Disease Response, Investigation, and Coordination

Rapid, coordinated response to multistate outbreaks of foodborne and animal-related disease can prevent illness and save lives. Such responses require close collaboration, communication, and data sharing among local, state, and federal health and regulatory officials. Since 2011, the Centers for Disease Control and Prevention (CDC) has worked with a private sector partner, Palantir Technologies, to develop a commercial, off-the-shelf, web-based system to streamline and coordinate outbreak investigations.



The System for Enteric Disease Response, Investigation, and Coordination, or SEDRIC, lets disease detectives in many different locations work together faster and more effectively when responding to foodborne and animal-related outbreaks. The secure, web-based platform combines epidemiologic, laboratory, and traceback data in real time to make collaboration easier when investigating information from different sources. Detecting and solving outbreaks faster leads to fewer illnesses and deaths.

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

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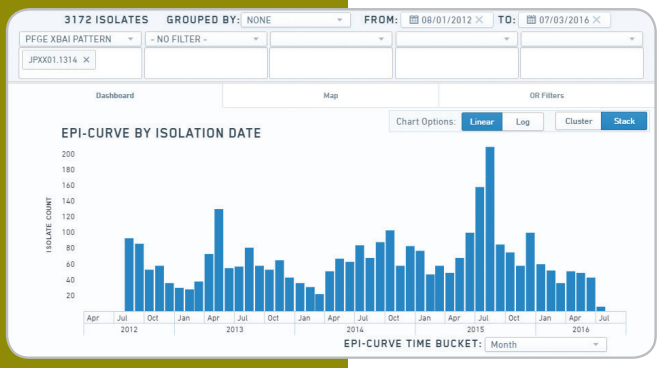
How does SEDRIC work?

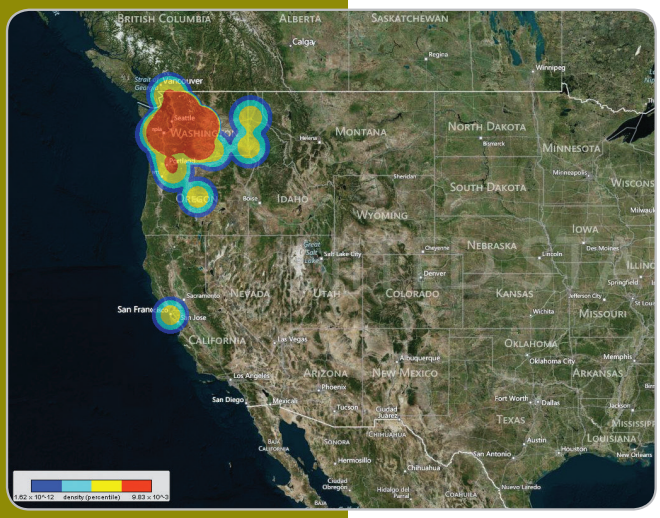
SEDRIC provides tools that integrate multiple data streams including:

Outbreak Dashboards



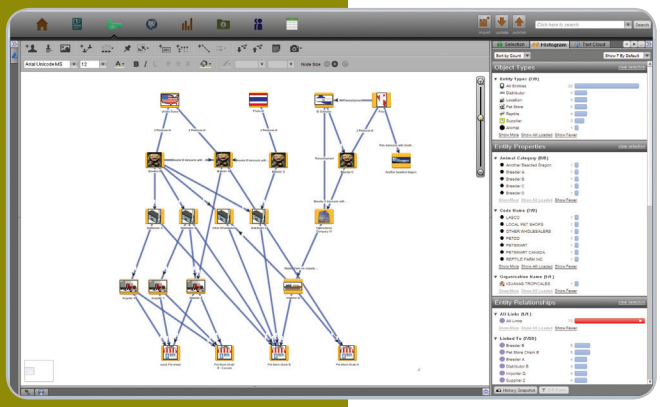
View summary data for outbreaks, including demographics, when illnesses occurred, and laboratory data

Maps



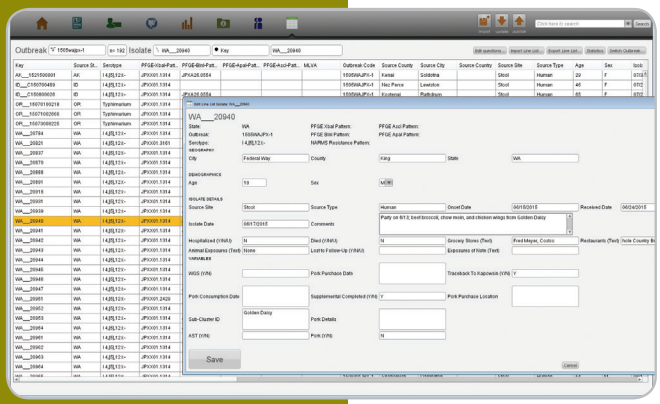
Visualize the geographic spread of illnesses, including capabilities to view illness distribution over time

Traceback Diagrams



Construct complex diagrams to connect illnesses to a common point of contamination

Line Lists



Create and edit lists of information about each ill person in an outbreak, including relevant demographic, clinical, laboratory, and exposure data

How does SEDRIC support outbreak investigations?

SEDRIC is a web-based software system that can:

Integrate multiple surveillance data sources in real time.

- DNA fingerprints of bacteria from sick people and contaminated food or animals from CDC PulseNet
- Antibiotic resistance data from the National Antimicrobial Resistance Monitoring System

Visualize outbreak data rapidly in one place.

- Listing of ill people who are included in an outbreak investigation
- Epidemic (“epi”) curves showing when people became ill
- Maps showing where and in what sequence people became ill

Provide a secure platform for partner collaboration.

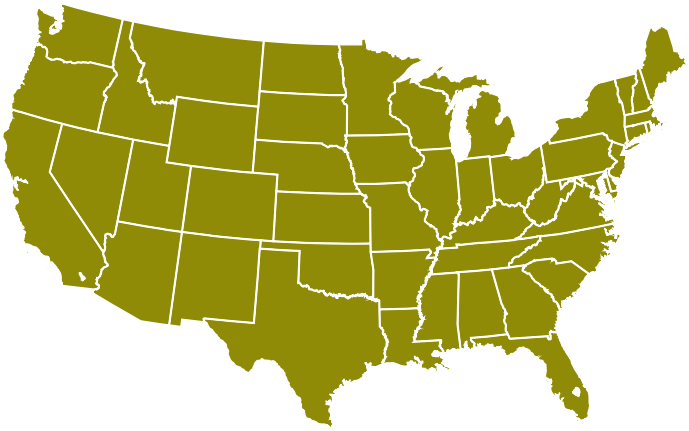
- Sharing documents such as questionnaires, restaurant inspections, and other records
- Sharing food or animal traceback investigation diagrams

Manage a repository of historic surveillance and outbreak data.

- Data on past outbreaks from the National Outbreak Reporting System
- Historical information on bacteria found in foods or animals, on farms, and in production environments

Who uses SEDRIC?

CDC's partners who investigate foodborne and animal-related disease outbreaks have access to SEDRIC. More than 450 people are using SEDRIC, with users in all 50 states and Puerto Rico.



CDC partners using SEDRIC include:

- State and local health departments
- U.S. Department of Agriculture Food Safety and Inspection Service
- U.S. Food and Drug Administration

"In California, we've been using SEDRIC for several years. With all of the historic data available, SEDRIC answers a lot of questions for us as we start our investigations. How common is the strain in California? Is the strain found more often in certain parts of the state? Who is affected more often, children or adults, females or males? Has this strain been isolated from any foods or animals before? SEDRIC has been an invaluable tool for us. It doesn't solve our investigations, but it often provides us with key clues."

Jeff Higa, Epidemiologist
California Department of Public Health

Beyond enteric disease:

The SEDRIC platform is providing a model for data integration systems for other groups at CDC involved in outbreak response.

For more information, visit:

www.cdc.gov/foodsafety/outbreaks/investigating-outbreaks/sedric