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.

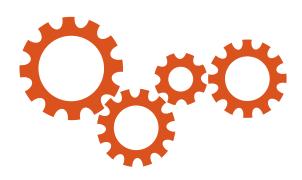


The System for Enteric Disease Response, Investigation, and Coordination, or SEDRIC, lets disease detectives in many different locations work together faster and more effectively when responding to foodborne and animal-related outbreaks. The secure, web-based platform combines epidemiologic, laboratory, 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.



How does SEDRIC work?

SEDRIC provides tools that integrate multiple data streams including:



Outbreak Dashboards



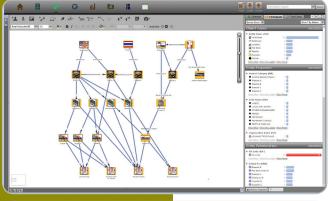
View summary data for outbreaks, including demographics, when illnesses occurred, and laboratory data

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

				ılıl D		**					Import	uptake publish				
Outbreak 7 100	Swajpo-1	a= 192 Is	olate \ w	20940 • Ke		WA_2094					bitant	ions Import is	re list (broot Lis	e litti. Date	fice (Int	d) Odirek
Tay	Source St	Serotipe	PFGE-Xbal-Part.	PFGE-Bini-Part. PI	CG-Apai-P	at. PFGE-Asd-Pat.	MUVA	Outbreak Code	Source County	Source City	Source Country	Source Site	Source Type	Age	Sex	foot:
W_1521500001	AK:	14,85,121-	JP90001.1914	JPXA25.0554				1505WAJFX-1	Fanal	Soldotna		Stool	Human	29	r	9796
DC150780489	ID .	14,85,121-	JP90001.1314					1505WAJPX-1	Nez Perce	Lewiston		Stool	Human	46	r	8712
DC150800008	10	1435,121-	JP10001.1014	JPXR26.0554				1505WAJPX-1	Kostenai	Retidom		Stool	Human	45		87/2
P_16070180218	OR	Typhimerium	JP900091.1914	T Set une un beren	NA_2040											
P_16071002666	OR	Typhimorium	JP90001.1014	WA 20940												
P_16073009225	90	Typhimenum	JP90001.1314	State: Outcreak: Serotype: 66068APWY			PFGE Xbal Pattern. PFGE 8nn Pattern		PEGE Apri Patter							
NA_20784	WA	14,88,121-	JP10001.1314			59A-PV-1			PEGE ANN PARM							
WA20021	WA	14,85,121-	JP10001.3161			R128-	NAPMS Re	sistance Pattern								
NA. 20037	WA	1425121-	JP90001.1314				County									
NA_20879	WA	1435121-	JP90001.1914			Secol Way			King		State	WA				
WA_2000	WA	1439.121-	JP90001.1314	DEMOGRAPHICS												
NA 20001	WA	1428122-	JP10001.1014	Ann	19		Sex		MINI							
NA. 20018	WAS.	14393129-	JP90001.1314													
WA_20931	WA	1489122-	JP90001 1314	ISOLATE DETAILS												
WA. 20939	WA	1435121-	(Proces 1914	Source Site	Sto	ol	Source Typ		Human		Oncet Date	06/15	3015	Received Date	ed Date	06/24/2015
WA 20040	WA	1425121-	JP90001.1014	Isolate Date 06/			Community		Party on 6113; be	ef broccoli, sho	ow mein, and chicken o	wings from Gold	en Daisy			
WA_20941	WA	143931211	JP90001 1314			06/17/0916 Comments										
WA_20942	WA	1435121-	JP90001 1314	Hospitalized CCRV	in N		Died (CRAS		M		Grocery Stores (Text)	foots	Neger, Coston	Butter	net And	Profe Country
WA 20043	WA	1439,121-	JP10001.1014	Animal Exposures (Text)				ne-sie rywesia	-	Exposures of Note (Text)						
WA 20044	WA	1426128-	JP90001.1314			, Landing					.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	-				
WA_20946	WA	1489122-	JP10001.1914			Pods Punchaso										
WA 20946	WA	1439,122-	JP10001.1314	WGS (YN)				Pork Purchase Date		Traceback To Kapowsin (Vif		N (MAX) ma				
WA_20947	WA	1435123-	JP10001.1314													
WA_20061	WA	1439,121-	JP90001.1914	Pork Consumption Date			Supplemental		Y	Post Purchase Location		on				
WA_20952	WA	1435,122-	JP30001 1314													
WA_20953	WA	1425,121-	JP90001.1014		GH	Iden Daisy										
WA_20064	WA	143811211-	JP90001.1914	Sub-Cluster ID			Pork Details									
	WA		JP10001.1314	AST DOM			Postcone		N	$\overline{}$						
AA_20961 AA_20962	WA	1439,121-	JP90001.1914													
NA_20902 NA_20903	WA		JP10001.1914													
		1425,121-		Save									-	ancel.		
NA20964	WA	14,85,123-	JP90081.1914					1100000000				1000	- DOMESTIC (C)	ences)		-

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:

For more information, visit: