

Emory ECHO

Foodborne/Enteric Illness

Public Health Professionals / Melissa Tobin-D'Angelo / December 11, 2025

Overview

- Foodborne disease surveillance in Georgia
- Collaborations
- Foodborne disease surveillance and outbreak data

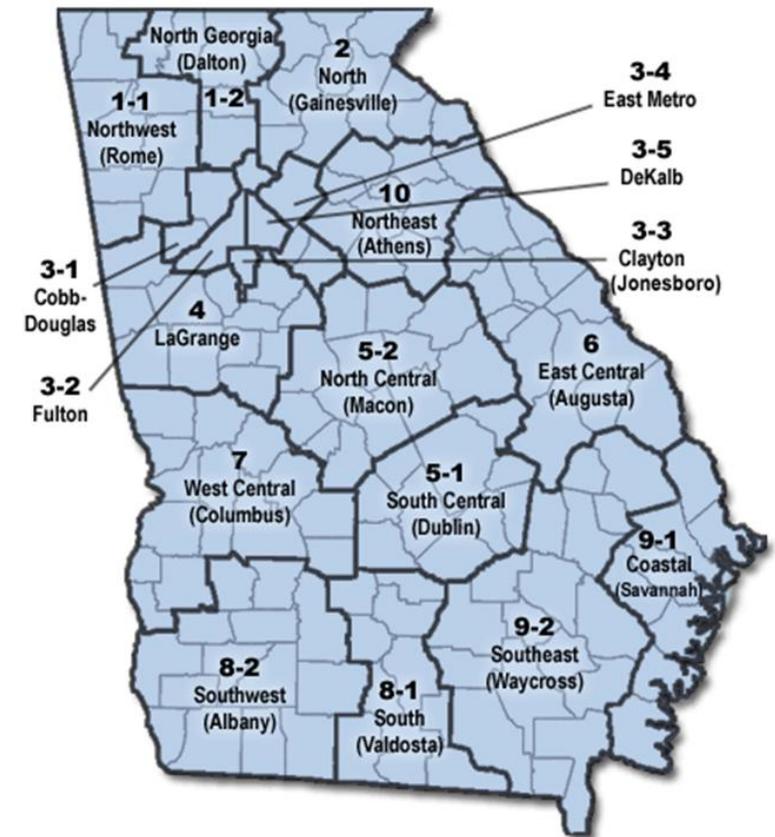
Surveillance and Outbreaks in Georgia

The Georgia Department of Public Health, Acute Disease Epidemiology Section (ADES)

- Oversees infectious disease surveillance
- Conducts infectious disease surveillance if district resources do not allow
- Coordinates or leads outbreak investigations

District Epidemiologists

- Conduct surveillance
- Lead outbreaks within their jurisdiction



Notifiable Disease Reporting

Nationally notifiable conditions are designated by the Council of State and Territorial Epidemiologists, and states have their own lists that may vary—legally mandated (OCGA 31-12-2)

NOTIFIABLE DISEASE CONDITION REPORTING

All Georgia physicians, laboratories, and other health care providers are required by law to report patients with the following conditions.

LEGEND	
* To be determined in consultation with DPH Epidemiology. Based on public health impact potential. Ultimate decision made by State Health Officer and State Epidemiologist.	*** ALT and total bilirubin associated with hepatitis A, B, or C serology should be reported
** Invasive isolated from blood, bone, CSF, joint, pericardial, peritoneal, or pleural fluid.	**** L. monocytogenes resulting in infant mortality is reportable to Vital Records.
	☠ Potential agent of bioterrorism
SUBMISSION REQUIREMENTS FOR CLINICAL MATERIALS ¹	
Ⓐ All reported cases	Ⓒ Send invasive ² specimens
Ⓓ Hold 7 days and submit if DPH requests	Ⓔ DPH does not routinely test but submission may occur upon DPH approval
REPORT IMMEDIATELY	
Call: District Health Office or 1-866-PUB-HLTH (1-866-782-4584)	
all outbreaks/clusters (including infectious and non-infectious causes, toxic substance and drug-related, and any other outbreak)	measles (rubeola) Ⓐ
unusual occurrence of disease of public health concern*	melioidosis ☠
	meningitis (specify agent when reporting) Ⓓ
	meningococcal disease, invasive infections** Ⓐ
	novel influenza A virus infections Ⓐ
	novel respiratory virus infections (SARS, MERS, etc.) Ⓐ
all acute arboviral infections	orthopoxvirus infections (i.e., smallpox, mpox) ☠
• California serogroup viruses (California encephalitis, Jamestown Canyon, keystone, La Crosse, snowshoe hare, trivittatus)	pertussis Ⓐ
• chikungunya virus	plague ☠
• dengue virus	poliomyelitis Ⓐ
• equine encephalitis viruses (eastern, Venezuelan, western)	Q fever ☠
• Powassan virus	rabies (human and animal infections) Ⓐ
• St. Louis encephalitis virus	<i>Staphylococcus aureus</i> infections with vancomycin MIC ≥ 4 mcg / mL Ⓓ
• yellow fever virus	Shiga-toxin producing <i>E. coli</i> infections (STEC) Ⓐ
• Zika virus	
amebic (free living) infections (<i>Acanthamoeba</i> spp., <i>Balamuthia mandrillaris</i> , <i>Naegleria fowleri</i> , <i>Sappinia</i> spp., etc)	

<https://dph.georgia.gov/epidemiology/disease-reporting>

In Georgia, the following enteric or foodborne infections are reportable, and reports are entered into [SendSS](#), a web-based surveillance system:

- Salmonella
- Listeria
- Shigella
- Cryptosporidium
- Giardia
- Cyclospora
- Campylobacter
- Vibrio
- Yersinia
- Shiga-toxin producing *E. coli* (STEC)
- Cronobacter
- Botulism

Foodborne Disease Surveillance in Georgia

- Notifiable disease surveillance core, minimum
- Substantial support from federal projects and initiatives
- All states: NARMS, PulseNET
- Georgia and selected other states: FoodNet* and OutbreakNet Enhanced
- Expanded data collection, completeness, and isolate/specimen submission

*FoodNet is part of CDC's broader Emerging Infections Program (EIP)



FoodNet

- Estimates the number of foodborne illnesses, monitors trends in incidence of specific foodborne illnesses over time, attributes illnesses to specific foods and settings, and disseminates this information
- In addition to enhanced surveillance, other activities:
 - Data Visualization—FoodNet Fast <https://www.cdc.gov/foodnetfast/>
 - Burden and attribution estimates
 - Other projects—cohort and case control studies, population survey

2023 Food Safety Report
Measuring progress toward foodborne illness prevention

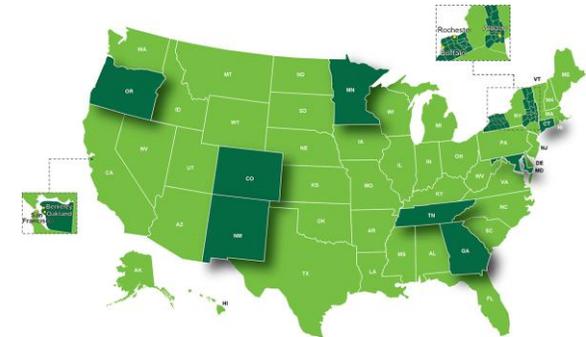
Pathogen	Change from baseline (2013-2018 vs 2019-2023)	Rate in 2023 (per 100,000 people)	Target rate (based on baseline 2013-2018)
<i>Campylobacter</i>	⬇️ 22%	19.3	10.9
<i>Cyclospora</i>	⬆️ 406%	1.3	None
<i>Listeria</i>	↔️ No change	0.29	0.22
<i>Salmonella</i>	↔️ No change	13.9	11.5
<i>Shigella</i>	↔️ No change	4.2	None
STEC <small>(Shiga toxin-producing E. coli)</small>	⬇️ 25%	5.2	3.7
<i>Vibrio</i>	⬆️ 64%	1.0	None
<i>Yersinia</i>	⬇️ 247%	2.5	None

Reported number of infections per 100,000 population. The incidence rate is reported as a percentage change from the baseline (2013-2018) rate. The target rate is based on the baseline rate. The change from baseline is calculated as the percentage change in the rate from the baseline rate to the 2023 rate. The target rate is based on the baseline rate. The change from baseline is calculated as the percentage change in the rate from the baseline rate to the 2023 rate.

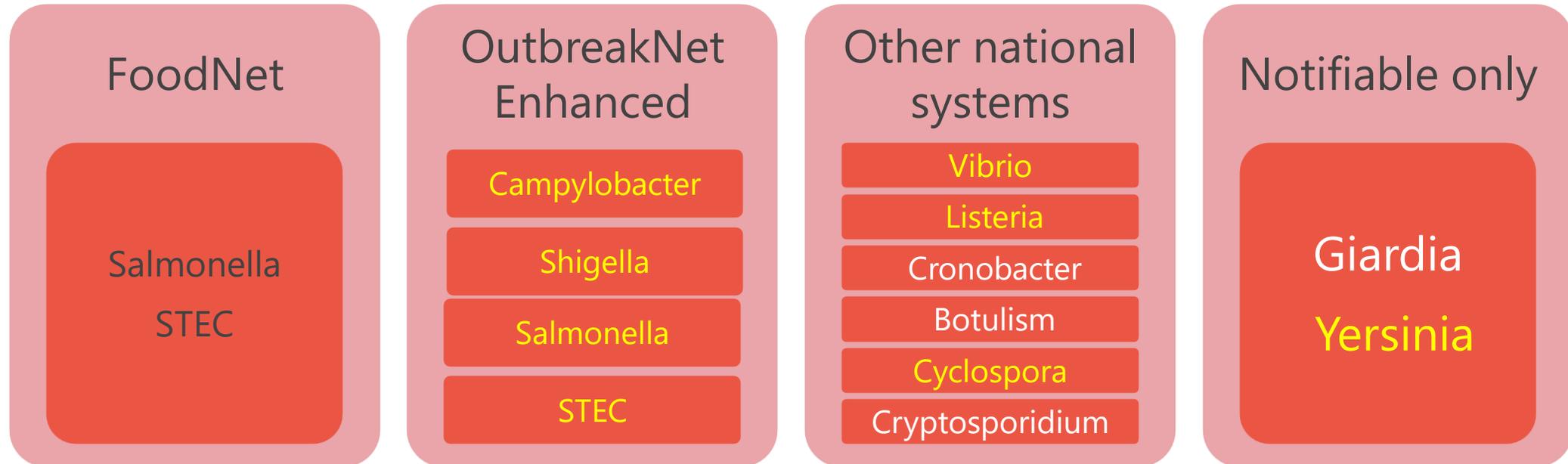


Reported Incidence of Infections Caused by Pathogens Transmitted Commonly Through Food: Impact of Increased Use of Culture-Independent Diagnostic Tests — Foodborne Diseases Active Surveillance Network, 1996–2023

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Enteric Disease Surveillance in Georgia

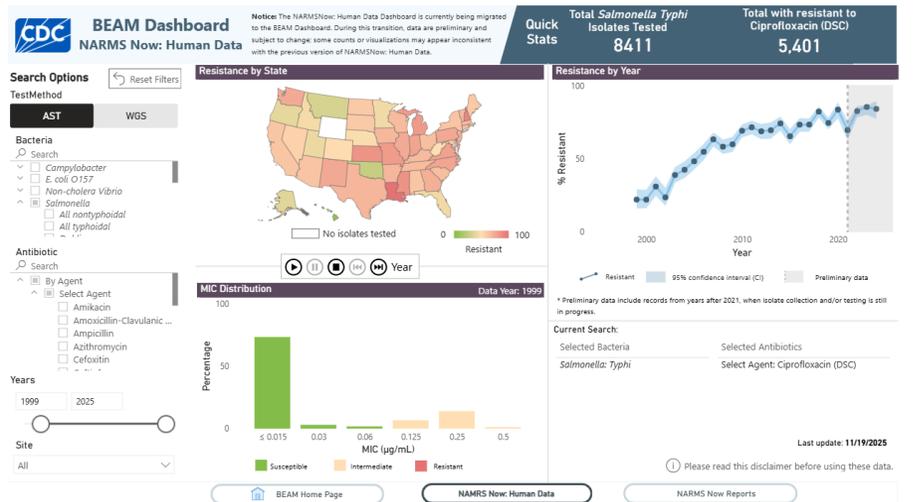


We will not “cut” FoodNet conditions from our EIP surveillance completely, but as federal resources and priorities change, data quality and usefulness may suffer. The additional surveillance systems in place are complimentary to FoodNet, but do not replace it.

Enteric Disease Surveillance

NARMS—National Antimicrobial Resistance Monitoring System

Collects information about enteric bacteria from humans, retail meats, and food animals and provides data on emerging antimicrobial resistance



<https://www.cdc.gov/narms/about/index.html>

PulseNet

National national laboratory network that connects foodborne, waterborne, and One Health–related illness cases to detect outbreaks through DNA fingerprinting techniques



<https://www.cdc.gov/pulsenet/php/anniversary/index.html>

One Health

“CDC uses the One Health approach by involving experts in human, animal, environmental health, and other relevant disciplines and sectors in monitoring and controlling public health threats and to learn about how diseases spread among people, animals, plants, and the environment.”



<https://www.cdc.gov/one-health/about/index.html>

“We are a collaborative, cross-sector network of researchers, educators, practitioners, and leaders from diverse institutions across Georgia – working together to advance One Health solutions through research, education, and community service.”

Multiple academic institutions, state agencies (including DPH), and other organizations are involved.



<https://www.georgiasouthern.edu/research/centers/health-logistics-analytics/one-health/georgia-one-health-consortium>

Other Partnerships

DPH Epidemiology
DPH Environmental
Health
DPH Georgia Public
Health Laboratory

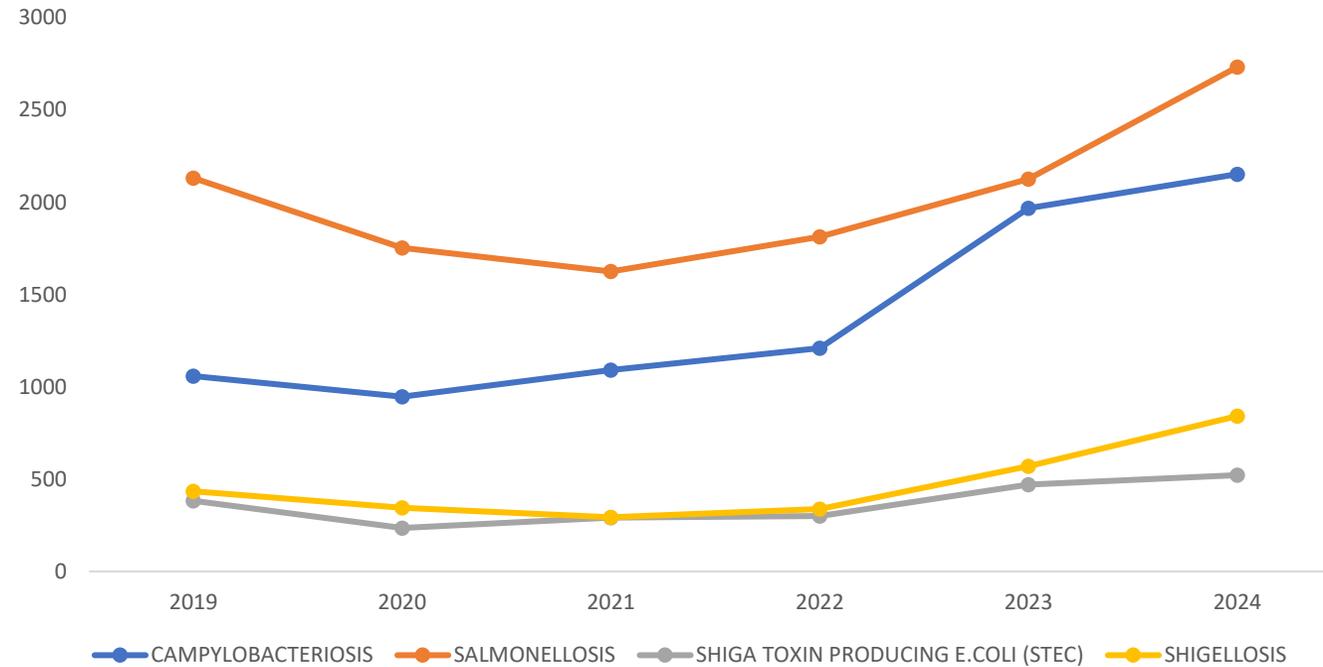
- Healthcare providers/clinical labs
- Federal agencies—CDC, USDA, FDA
- Academic partners—UGA, Emory, Georgia State, others
- State Partners—Department of Agriculture*, Department of Education, other state health departments



*Georgia Food and Feed Rapid Response Team

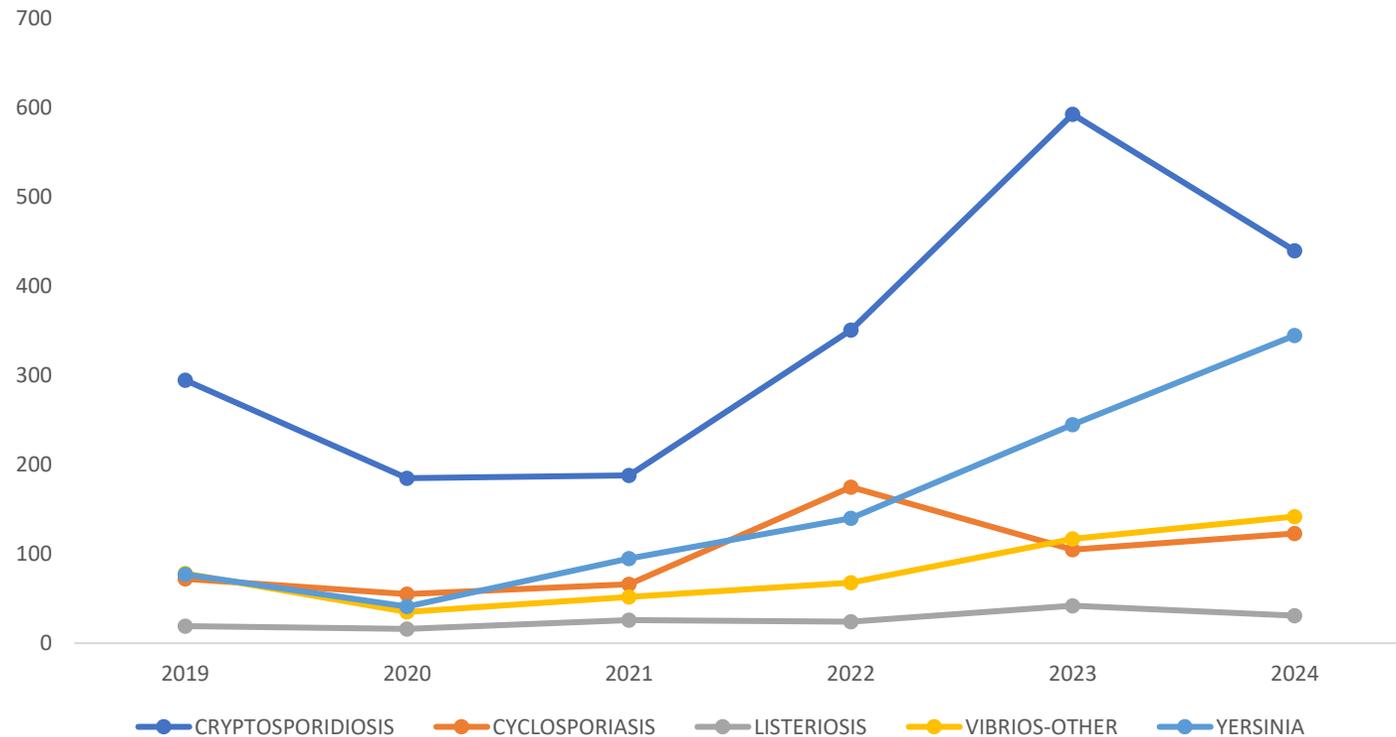
Georgia DPH Enterics Summary I

Case Counts (High Frequency Pathogens),
January to September, 2019-2024, Statewide



Georgia DPH Enterics Summary II

Case Counts (Low Frequency Pathogens),
January to September, 2019-2024



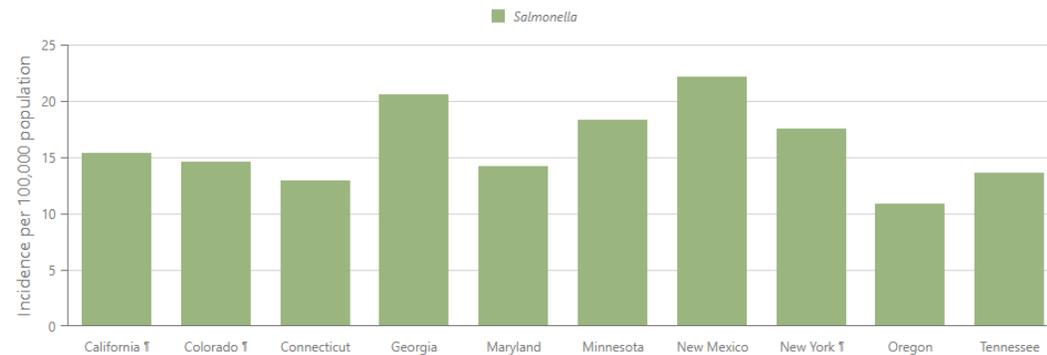
Salmonella Spotlight - FoodNet Data

GA one of the highest incidence FoodNet sites representing 27% of all cases in 2022

Assessment of serotype distribution limited by lack of bacterial isolates

Salmonella infections by geographic area in 2022

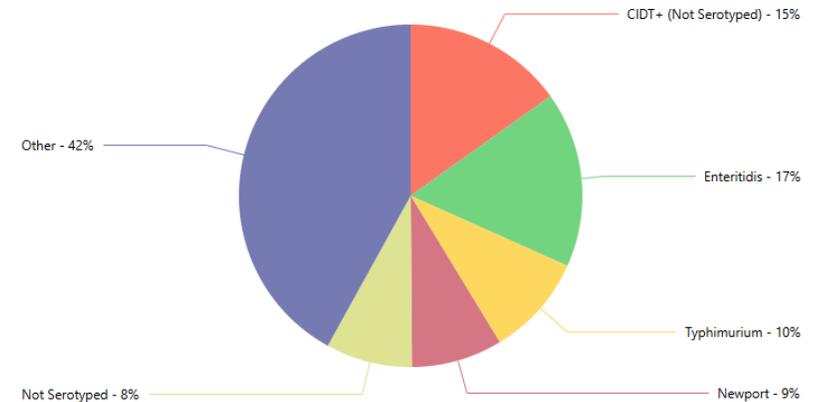
Incidence per 100,000 population - FoodNet sites



These sites do not include all counties.

Distribution of Salmonella infections in 2022

Percentage of infections by serotype - FoodNet sites



CIDT = culture-independent diagnostic test

<https://wwwn.cdc.gov/foodnetfast/>

Salmonella Serotypes in Georgia

Figure 1. Top 10 *Salmonella* Serotypes 2015-2024, Georgia

Serotype	Count
NEWPORT	3239
JAVIANA	3070
ENTERITIDIS	2320
TYPHIMURIUM	1091
MUENCHEN	733
I 13,23.B.-	717
MISSISSIPPI	685
MONTEVIDEO	665
SAINT PAUL	588
BRAENDERUP	419

Figure 2. Top 10 *Salmonella* Serotypes among cases that were hospitalized 2015-2024, Georgia

Serotype	Count
NEWPORT	980
JAVIANA	932
ENTERITIDIS	855
TYPHIMURIUM	379
I 13,23.B.-	227
MISSISSIPPI	227
MUENCHEN	227
MONTEVIDEO	186
BRAENDERUP	147
SAINT PAUL	143

Figure 3. Top 10 *Salmonella* Serotypes among cases that died 2015-2024, Georgia

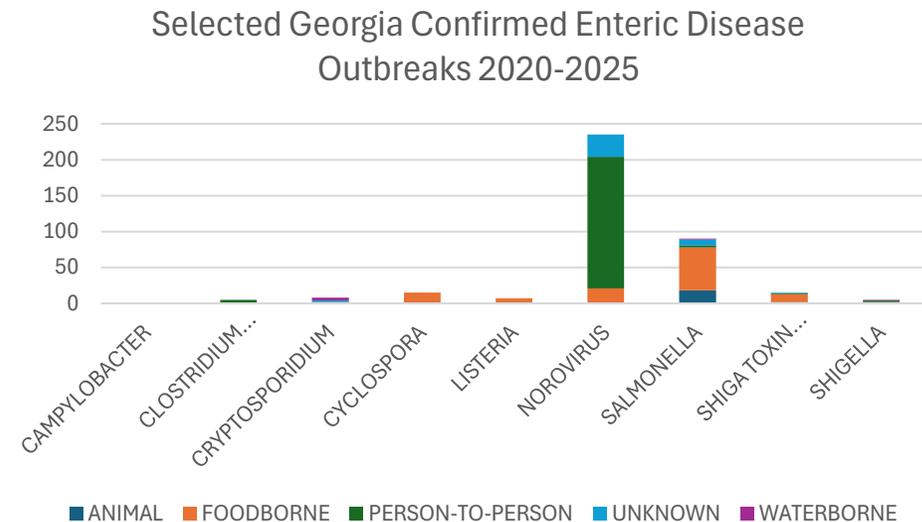
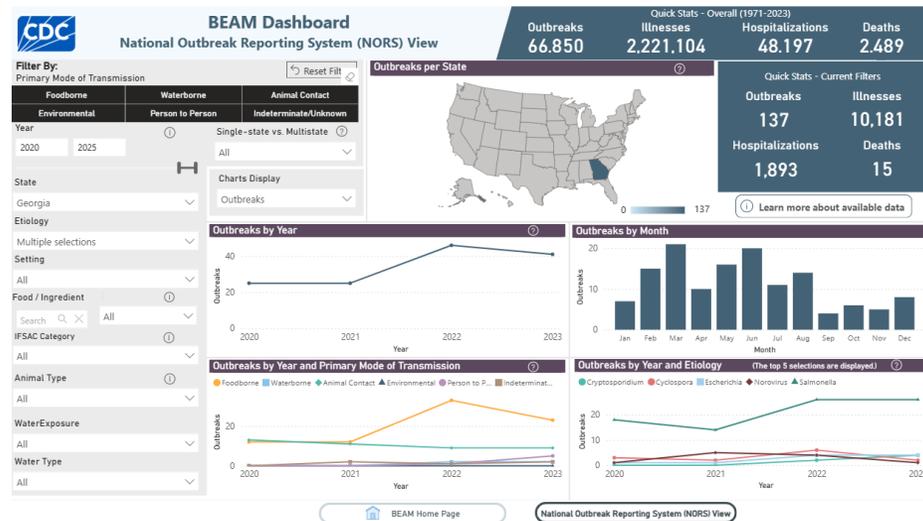
Serotype	Count
ENTERITIDIS	36
JAVIANA	27
NEWPORT	24
TYPHIMURIUM	16
I 4.I.-	7
I 4,5,12.I.-	5
SAINT PAUL	5
I 13,23.B.-	4
MISSISSIPPI	4
MONTEVIDEO	4

Figure 4. Top 10 *Salmonella* Serotypes among cases in outbreaks 2015-2024, Georgia

Serotype	Count
ENTERITIDIS	164
HADAR	82
THOMPSON	71
BRAENDERUP	62
NEWPORT	41
INFANTIS	33
BOCHUM	25
JAVIANA	25
TYPHIMURIUM	25
MBANDAKA	18

More on Outbreaks

- Outbreak is defined as more cases in time and place than expected—a foodborne outbreak is two or more people who consumed the same food and have similar illness
- Identified through epidemiological surveillance, laboratory sequencing, illness complaints, or reports from affected persons, clinicians, or facilities

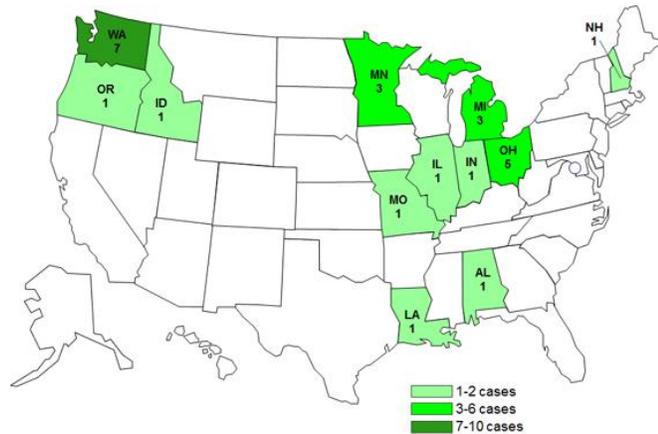


<https://www.cdc.gov/ncezid/dfwed/BEAM-dashboard.html>

Preliminary GA DPH data

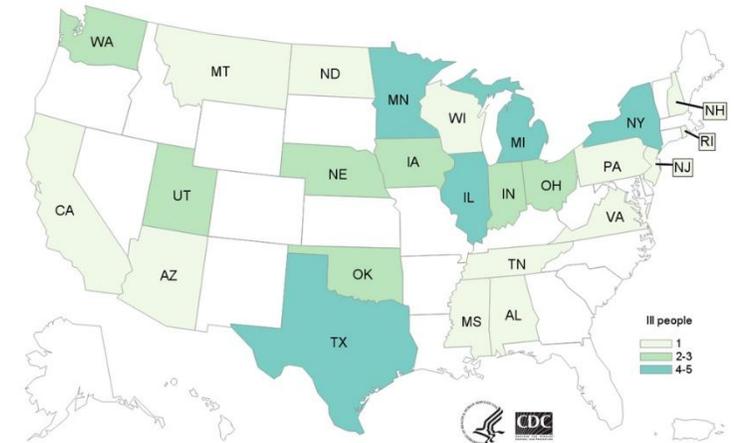
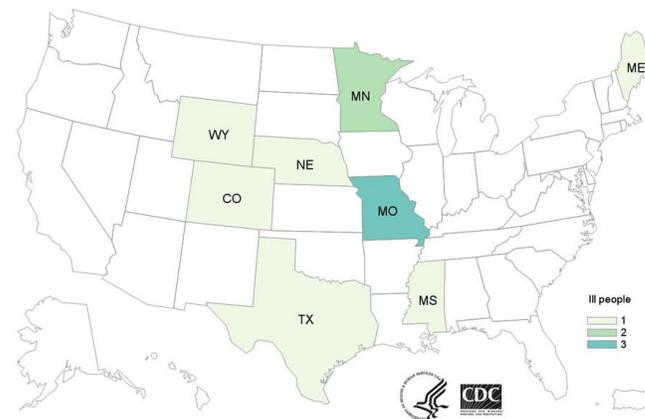
Not All Enteric Disease Outbreaks are Foodborne

Salmonella Typhimurium due to Hedgehogs 2013, 2018 and 2020



Persons infected with the outbreak strain of *Salmonella* Typhimurium, by State n=26 for whom information was reported as of June 3, 2013

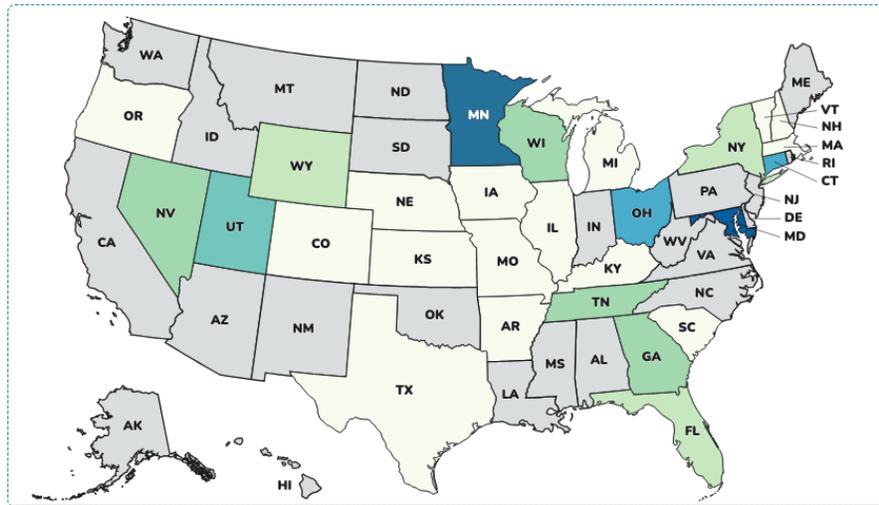
People infected with the outbreak strain of *Salmonella* Typhimurium, by state of residence, as of January 23, 2019 (n=11)



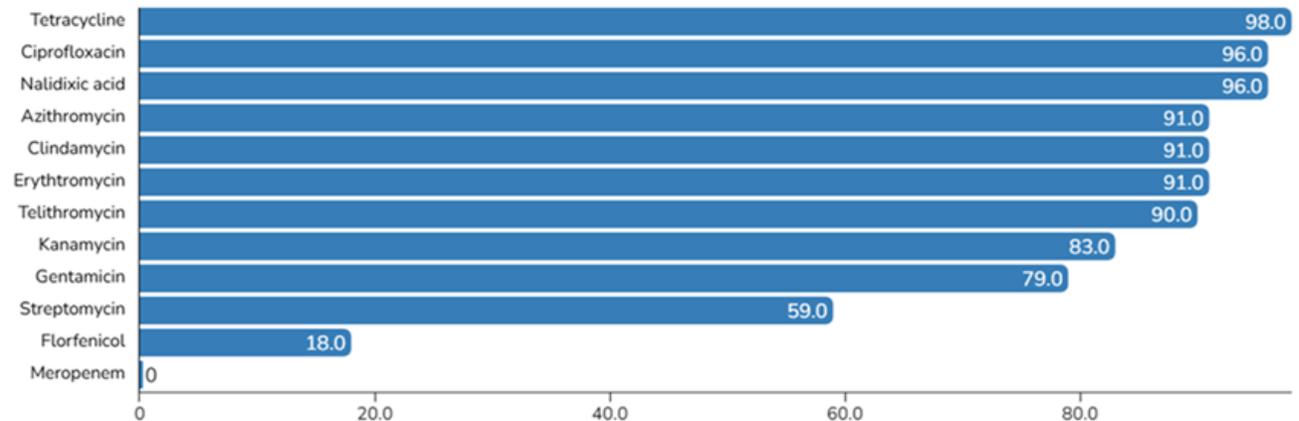
People infected with the outbreak strain of *Salmonella* Typhimurium, by state of residence, as of January 11, 2021 (n=49)

Not All Enteric Disease Outbreaks are Foodborne

- Multi-drug-resistant *Campylobacter* infections initially occurring over almost 2 years in 17 states, continuing through 2024
- Reoccurring, emerging, or persisting (REP) strains, can reoccur and periodically cause acute outbreaks, and increase or persist despite prevention efforts



Percentage of human *Campylobacter jejuni* REPDBR01 isolates that were antimicrobial resistant, by antimicrobial (268 isolates), as of June 30, 2024 — NARMS



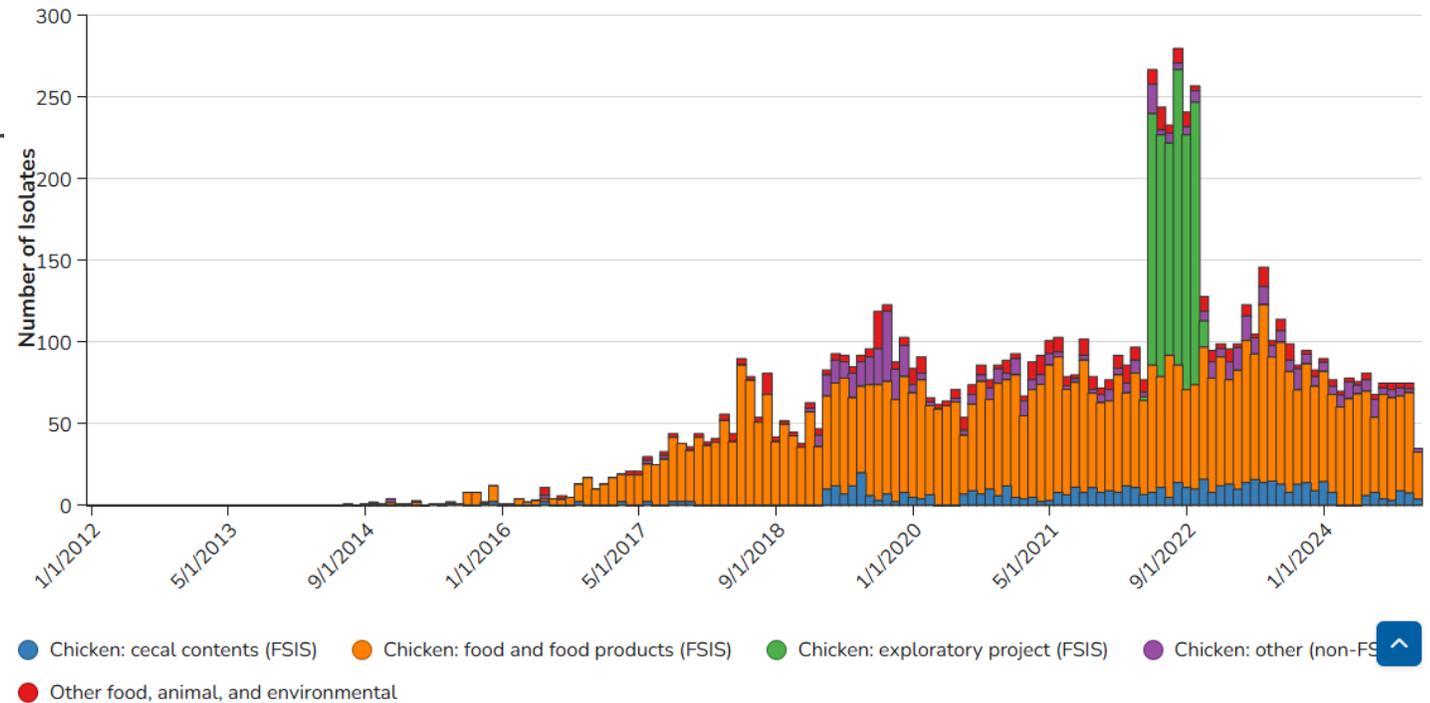
Centers for Disease Control and Prevention. (2025). Data Summary: Persistent Strains of *Campylobacter jejuni* (REPDBR01) Linked to Pet Store Puppies.

<https://www.cdc.gov/campylobacter/php/data-research/rep-strain/index.html>

REP Strains: Salmonella Infantis

- As of 2024, almost 4000 human isolates of this concerning REP strain
- Multiple outbreaks associated with chicken and international travel
- Of selected cases with clinical information, 30% were hospitalized

Number of REPJFX01 isolates from non-human sources submitted to PulseNet, by month of sample collection, 2012–2024



<https://www.cdc.gov/salmonella/php/data-research/repjfx01.html>

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Questions

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