



# Infectious Disease Epidemiology Report

## Bacterial Enteric Disease Surveillance Report – Maine, 2015



### Introduction

Bacterial enteric diseases have a substantial impact on communities. Every year millions of cases of foodborne illness occur in the United States of which many require hospitalizations and some cases are fatal.

Bacterial enteric diseases reported in Maine include: campylobacteriosis, salmonellosis, shiga toxin-producing *E. coli* (STEC) infections, shigellosis, vibriosis, and listeriosis.

The most common sources of transmission for all bacterial enteric diseases include food, water (drinking and recreational), and animal contact. Safe food handling practices and good hand hygiene, especially after using the toilet and handling animals, help to prevent illness.

### Methods

The Infectious Disease Epidemiology Program and the Maine Health and Environmental Testing Laboratory (HETL) of the Maine Center for Disease Control and Prevention monitor the incidence of bacterial enteric diseases through disease reports from health care providers and laboratories. All disease reports are investigated by contacting the individual and asking about possible sources of illness. Information on risk factors is gathered including specific questions about food and water consumption, recreational water contact, animal contact, and travel history.

HETL routinely conducts confirmatory and molecular testing on bacterial enteric pathogens (*Salmonella*, STEC, *Shigella*, *Vibrio*, and *Listeria*). Pulsed Field Gel Electrophoresis (PFGE) testing allows for identification of specific DNA patterns. The patterns are compared with those isolated from others in the state and across the country to identify potential clusters of illness.

### Results

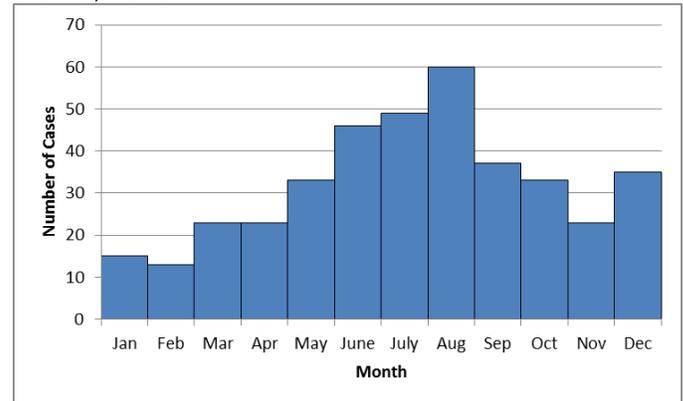
A total of 390 cases of bacterial enteric diseases were reported in 2015. The majority of these cases were caused by *Campylobacter* or *Salmonella* species (Table 1). All cases of listeriosis were hospitalized.

Table 1. Enteric disease case counts and 5 year median, Maine, 2015.

	Case Count	5 Year Median
<i>Campylobacter</i>	221	195
<i>Salmonella</i>	123	133
STEC	29	27
<i>Listeria</i>	7	4
<i>Vibrio</i>	6	9
<i>Shigella</i>	4	8

The most commonly submitted serotypes of *Salmonella* were Enteritidis, Typhimurium, Newport, Muenchen, and Thompson. Forty-one percent of lab confirmed STEC cases were *E. coli* O157:H7. *Shigella sonnei* and *flexneri* were isolated as well as three types of *Vibrio* (*alginolyticus*, *parahaemolyticus*, and *Grimontia hollisae*).

Figure 1. Enteric diseases by month of report, Maine, 2015.



Enteric diseases were reported in all counties in the state (Table 2). Campylobacteriosis and salmonellosis were widespread; other diseases were reported in only a few counties. Cases of listeriosis were reported in Aroostook, Kennebec, Lincoln, Sagadahoc, and Washington counties. Vibriosis cases were reported in Cumberland, Knox, Oxford, and Washington counties. Cases of shigellosis were reported in Cumberland, Somerset, and York counties.

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Table 2. *Campylobacter*, *Salmonella*, and STEC cases by County, Maine, 2015.

County	<i>Campylobacter</i>	<i>Salmonella</i>	STEC
Androscoggin	14	8	4
Aroostook	19	8	2
Cumberland	47	22	4
Franklin	4	4	0
Hancock	10	10	0
Kennebec	21	8	3
Knox	4	6	1
Lincoln	3	1	0
Oxford	11	3	2
Penobscot	26	17	2
Piscataquis	2	1	0
Sagadahoc	5	6	3
Somerset	7	6	1
Waldo	15	1	0
Washington	4	2	0
York	29	20	7
Total	221	123	29

### Prevention and Control

Individuals most at risk of enteric diseases include immune compromised individuals, children under the age of five years, and the elderly.

Bacterial enteric diseases can be prevented by practicing the following:

- Wash hands with soap and water:
  - After using the toilet
  - After changing diapers, or assisting an individual using the toilet
  - Before and after preparing or eating food
  - After handling animals, animal living spaces, and animal waste
- Rinse all fresh fruits and vegetables under clean running water
- Wash counters and cooking utensils with hot soapy water before and after preparing food
- Separate raw meat, poultry, seafood, and eggs from other foods in the grocery cart and in the refrigerator at home
- Use separate cutting boards for fresh fruits and vegetables and for raw meat, poultry, and fish
- Do not reuse plates or packaging materials that held raw meat, poultry, seafood, or eggs

- Do not consume raw or cracked eggs, raw unpasteurized milk, or other dairy products made with raw unpasteurized milk
- Avoid letting infants or young children come into contact (hold, cuddle, or kiss) with:
  - reptiles, such as turtles or iguanas
  - baby chicks or young birds
- When traveling to countries where the water may not be safe and sanitation is poor, do not use ice or drinking water and avoid eating uncooked foods
- Avoid exposing open wounds to water sources, such as pools, lakes, seawater
- Avoid swallowing water when swimming
- People with enteric infections should not prepare or serve food/beverages for others until all symptoms have resolved
- Food handlers, daycare, and healthcare workers should refrain from work as specified by industry rules and guidelines

All cases of campylobacteriosis, salmonellosis, STEC, shigellosis, vibriosis, and listeriosis in Maine must be reported by calling 1-800-821-5821, or by faxing reports to 800-293-7534. All isolates (except *Campylobacter*) must be sent to HETL for confirmatory testing.

For more information on enteric diseases:

- Maine CDC website [www.maine.gov/idepi](http://www.maine.gov/idepi)
- Federal CDC website [www.cdc.gov](http://www.cdc.gov)
- HETL website [www.mainepublichealth.gov/lab](http://www.mainepublichealth.gov/lab)
- FDA website [www.fda.gov/Food/FoodbornellnessContaminants/default.htm](http://www.fda.gov/Food/FoodbornellnessContaminants/default.htm)
- USDA website: [www.fsis.usda.gov/food\\_safety\\_education/index.asp](http://www.fsis.usda.gov/food_safety_education/index.asp)