

# Foodborne Illnesses

**Definition:** A foodborne illness is an infection or poisoning caused by a bacterium, virus, parasite, or chemical transmitted by food. A foodborne outbreak is an illness event that typically includes two or more people infected from a common food source.

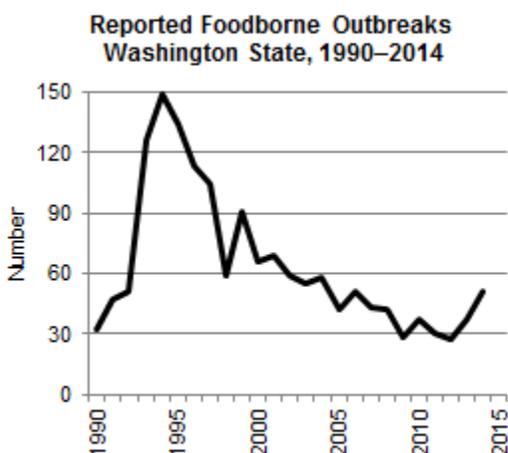
This is a data update of the *Health of Washington State* chapter on [Foodborne Illnesses](#) published in 2013.

## Time Trends

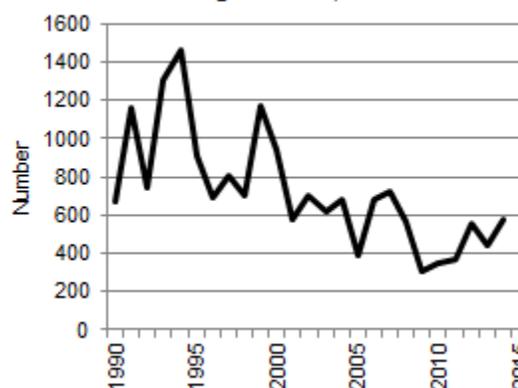
### **Reported outbreaks and related illnesses.**

Before 1993, 30 to 60 foodborne outbreaks were reported each year in Washington. Following a major *E. coli* O157:H7 outbreak in January 1993, reporting by the public and healthcare providers increased to nearly 150 outbreaks. Since 1995, the number of reported outbreaks and associated cases have steadily declined.

Current numbers are consistent with reporting levels prior to 1993. From 2010–2014, Washington State reported an annual average of 40 foodborne outbreaks. These outbreaks involved an average of around 450 sick people a year. It is not clear the extent to which the decrease represents a return to prior levels of reporting (that is, the heightened awareness has faded) or results from improved food safety.



**Foodborne Illness Cases Related to Reported Outbreaks Washington State, 1990–2014**



Given that Washington's population increased by 43% from 1990 to 2014, a return to reporting levels before 1993 represents a drop in the rates of outbreaks and cases of foodborne illness.

## Sources of Illness

Foodborne illness can occur from using contaminated ingredients and from introducing contamination through food handling, such as contamination by an infected food handler, contamination of foods from raw animal products, improper temperature maintenance after cooking resulting in microbial growth, and insufficient cooking or cooling.

Based on investigation of reported outbreaks by state and local public health agencies, improper food handling causes most foodborne illnesses. The table below shows the principal causes of foodborne illness outbreaks related to improper handling in Washington.

**Factors Contributing To Foodborne Outbreaks  
Washington State, 2010–2014**

Contributing Factor	Ranking
Contaminated raw food	1
Bare hand contact with food	2
Contamination from gloved hand	3
Cross contamination of foods	4
Food handler worked while ill	5
Toxic substance part of tissue	6
Room temperature storage	7
Improper cooling of food	8
Insufficient cooling or reheating	9
Inadequate hot holding of food	10

Food served in restaurants accounted for about two-thirds of outbreaks that occurred from 2010–2014. Those outbreaks resulted from restaurants using contaminated commercial products and from improper handling practices. It is likely outbreaks from meals at residences are less commonly reported.

**Foodborne Outbreaks by Source  
Washington State, 2010–2014**

Food Contamination Source	Percent of Outbreaks
Restaurant	65%
Private residence	16%
Catered meals	11%
Grocery	3%
Institution	2%
Camp	2%
Concession	1%
Workplace	1%

**Other Measures of Burden**

**Illness reporting.** Foodborne illness complaints from the public are the primary source of information for outbreak detection. However, due to developments in laboratory identification of pathogen subtypes, the proportion of outbreaks identified through public health surveillance is steadily increasing.

The Department of Health tracks the annual number of laboratory-confirmed cases of disease related to pathogens that are primarily transmitted by food, such as *Salmonella* and *Campylobacter*. According to the department's data, campylobacteriosis is the most commonly reported intestinal illness with 900 to 1600 cases in

Washington each year. Salmonellosis is the second most common with 600 to 850 cases each year.

According to CDC, norovirus is the most common cause of foodborne illness nationally.<sup>1</sup> This is likely also true in Washington. Viral foodborne outbreaks that are not laboratory confirmed are assumed due to norovirus.

Sharing pathogen subtype information between laboratories and public health agencies contributes significantly to identifying outbreaks. This information sharing allows for the linking of seemingly unrelated individual illness cases and facilitates public health surveillance, notification and investigation of suspected cases to identify causes of the outbreak.

**Agents Associated with Foodborne Outbreaks  
Washington State, 2010–2014**

	Number of Outbreaks
<b>Bacterial Agent</b>	
<i>Salmonella</i>	39
STEC*	15
<i>Vibrio parahaemolyticus</i>	13
<i>Listeria monocytogenes</i>	8
<i>Campylobacter</i>	6
<i>Bacillus cereus</i>	1
Staphylococcus	1
<b>Viral Agent</b>	
Norovirus	68
Hepatitis A	1
<b>Toxin Agent</b>	
<i>Clostridium perfringens</i>	6
Scombrototoxin	5
Histamine	1
Paralytic shellfish poisoning	1
<b>Parasitic Agent</b>	
<i>Trichinella</i>	1
<b>Unknown or Other Agent</b>	16

\*STEC =Shiga toxin-producing *E. coli*

**Data Sources**

[Washington State Department of Health, Communicable Disease Annual Reports 1990–2014](#)

[Washington State Department of Health, Food Safety Program](#)

### **For More Information**

Washington State Department of Health, Food Safety  
Program (360) 236-3385  
<http://www.doh.wa.gov/YouandYourFamily/FoodSafety.aspx>

Partnership for Food Safety and Education, Fight Bac!  
<http://www.fightbac.org/>

U.S. Centers for Disease Control and Prevention (CDC),  
Foodborne Illness:  
<http://www.cdc.gov/foodsafety/facts.html>

CDC Food Safety Office: <http://www.cdc.gov/foodsafety/>

U.S. Department of Agriculture, Food Safety:  
<http://www.fsis.usda.gov/Home/index.asp>

U.S. Food and Drug Administration, Food Safety:  
<http://www.fda.gov/Food/FoodSafety/default.htm>

Washington State Department of Agriculture:  
<http://agr.wa.gov/Portals/Food/>

Washington State University Cooperative Extension-Food  
Safety: <http://www.foodsafety.wsu.edu/>

### **Acknowledgments**

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### **Endnotes**

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<sup>1</sup> U.S. Centers for Disease Control and Prevention. *What are the most common foodborne diseases?* Atlanta, GA: U.S. Centers for Disease Control and Prevention; 2012.  
<http://www.cdc.gov/foodsafety/facts.html#mostcommon>. Accessed March 11, 2013.