

PROFILES OF SELECTED OUTBREAKS

Starting in 2009, the categories for outbreak reporting changed (see Ohio Administrative Code [Chapter 3701-03](#)). These are referred to as “[Class C](#): Report an outbreak, unusual incidence or epidemic by the end of the next business day.” The new categories for outbreak reporting are: community outbreak, foodborne outbreak, healthcare-associated outbreak, institutional outbreak, waterborne outbreak and zoonotic outbreak.

In 2009, the Outbreak Response and Bioterrorism Investigation Program (ORBIT) assisted local health jurisdictions in Ohio in the investigation of 212 outbreaks. These outbreaks were detected in 53 of 88 counties throughout the state. The number of Ohioans known to be ill from these outbreaks was 3,120. The outbreaks were classified as: institutional (64), foodborne (56), healthcare-associated (55), community (26), zoonotic (9) and waterborne (2). Causative agents identified during the outbreak investigations included: *Acinetobacter baumannii*, *Bordetella pertussis*, *Campylobacter* spp., *Clostridium botulinum*, *Clostridium perfringens*, *Cryptosporidium* spp., *Enterococcus faecium* (vancomycin-resistant), *Escherichia coli* O157:H7, Hepatitis A virus, *Histoplasma capsulatum*, *Legionella pneumophila*, Norovirus genotypes GI and GII, *Pseudomonas aeruginosa*, *Salmonella* spp., *Sarcoptes scabiei* (scabies mite), *Shigella sonnei*, *Staphylococcus aureus* (including methicillin-resistant), *Staphylococcus epidermidis* (methicillin-resistant), group B *Streptococcus*, *Streptococcus pyogenes*, *Streptococcus salivarius* and Varicella Zoster virus.

Details on selected types of 2009 outbreaks are discussed below.

COMMUNITY OUTBREAKS

In 2009, 26 community outbreaks were reported from a variety of settings. Twenty of these outbreaks were confirmed, with the causative agent as follows: Norovirus (7), methicillin-resistant *S. aureus* (9), *S. sonnei* (3) and *B. pertussis* (1).

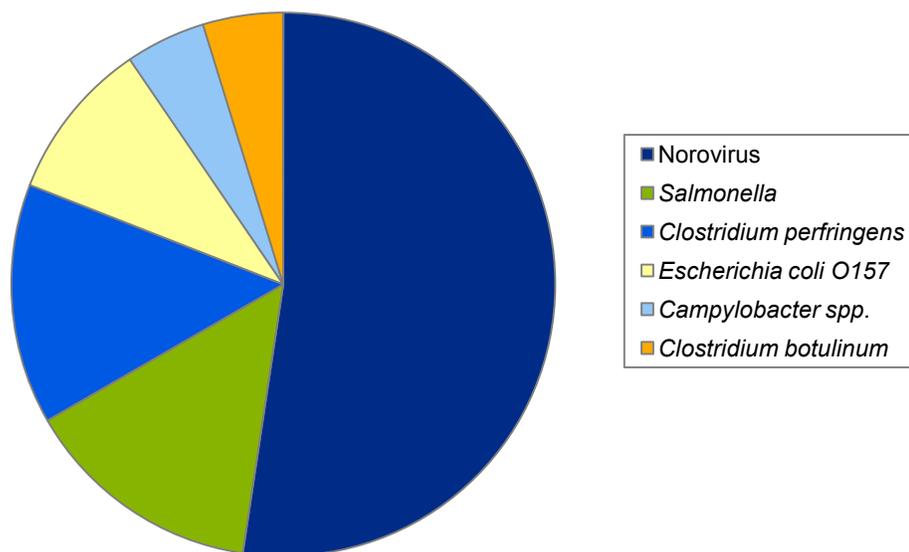
An unusual outbreak occurred in late February 2009. It affected about 70 out of 700 children at an event during which face paint was used. Some who used the face paint developed a red, itchy rash. The Food and Drug Administration (FDA) subsequently [recalled](#) this imported product, which was in nationwide distribution. An FDA Lab reported finding significant microbial contamination in most of the products tested.

The largest outbreak of pertussis in 2009 was a community outbreak occurring in Muskingum and Guernsey counties. A total of 86 persons became ill.

FOODBORNE OUTBREAKS

In 2009, 21 of the 56 foodborne outbreaks reported in Ohio were confirmed foodborne disease outbreaks. These 56 outbreaks met the general [definition of a foodborne outbreak](#): “An incident in which two or more persons experience a similar illness after ingestion of a common food, and epidemiologic analysis implicates the food as the source of the illness.” The 21 confirmed outbreaks also met the agent-specific [criteria for confirmation](#) of outbreaks. For these 21 foodborne outbreaks, the causative agent was distributed as follows: Norovirus (11), *Salmonella* spp. (3), *C. perfringens* (3), *E. coli* O157 (2), *Campylobacter* spp. (1) and *C. botulinum* (1) (see Figure 1).

Figure 1: Confirmed Foodborne Outbreaks by Etiologic Agent, Ohio, 2009



Source of outbreak data: Ohio Disease Reporting System.

Brief summaries of these confirmed foodborne outbreaks follow:

***Campylobacter* spp.:** There was a foodborne outbreak of *Campylobacter* in Clark County in June in which two people were ill; the food vehicle could not be identified.

***Clostridium botulinum*:** There was a single case of type B foodborne botulism in Cuyahoga County in January 2009. Home-canned mustard greens were implicated.

***Clostridium perfringens*:** There were three confirmed outbreaks of *C. perfringens* in 2009 as shown in Table 1 below.

Table 1: Foodborne *Clostridium perfringens* Outbreaks, Ohio, 2009

Month of Onset	County	# Ill	Implicated Food Vehicle
January 2009	Butler	8	Ground beef taco meat
May 2009	Medina	23	Chicken
December 2009	Cuyahoga	17	Roast beef

Source of outbreak data: Ohio Disease Reporting System.

Escherichia coli O157:H7: There were two confirmed foodborne outbreaks of *E. coli* O157:H7 in Ohio in 2009.

In April 2009, four cases of *E. coli* O157 occurred in Cuyahoga and Lake Counties. Pulsed field gel electrophoresis (PFGE) comparison of isolates revealed they were the same strain. Epidemiologic investigation found that three cases ate the same brand of ground beef as a hamburger at two different restaurants; the fourth case was acquired through secondary transmission. One patient developed hemolytic uremic syndrome (HUS) and died. This investigation resulted in a nationwide [recall of ground beef from Valley Meats](#) (USDA FSIS recall number 022-2009). Approximately 95,898 pounds of ground beef were recalled from nationwide distribution.

In August 2009, four PFGE-matching isolates from cases of *E. coli* O157 were identified in participants of a birthday party in Darke County. Two patients developed HUS, and a total of 11 people were ill. The epidemiologic investigation found that illness was associated with consumption of homemade ice cream. The source of contamination for the ice cream could not be determined.

Norovirus: There were 11 confirmed foodborne outbreaks attributed to norovirus in 2009. Ten were due to norovirus genotype GII, and one was due to norovirus genotype GI. They occurred throughout the year. A suspected food vehicle was identified in five outbreaks: salad (1), various sandwiches (3) and pizza (1). The median number of people affected was 15 (range 3-70). Norovirus reverse transcriptase polymerase chain reaction (RT-PCR) was utilized by ODH Laboratory to confirm these outbreaks.

Salmonella: There were three confirmed foodborne outbreaks of salmonellosis in 2009, as shown in Table 2 below.

Table 2: Foodborne Salmonella Outbreaks, Ohio, 2009

Month of Onset	County	# Ill	Serotype	Implicated Food Vehicle
July 2009	Mahoning	7	<i>Salmonella</i> serotype Typhimurium	Chicken
September 2009	Lake	22	<i>Salmonella</i> serotype Enteritidis	Baked ziti
November 2009	Franklin	4	<i>Salmonella</i> serotype Enteritidis	Not identified

Source of outbreak data: Ohio Disease Reporting System.

HEALTHCARE-ASSOCIATED OUTBREAKS

There were 55 healthcare-associated outbreaks reported in 2009, 32 of which were confirmed as shown in Table 3 below.

Table 3: Healthcare-Associated Outbreaks, Ohio, 2009

Month of Onset	Setting	Causative Agent	# Ill
August 2008	Hospital	<i>Pseudomonas aeruginosa</i>	8
November 2008	Dialysis center	Methicillin-resistant <i>Staphylococcus epidermidis</i>	9
November 2008	Long term care facility	Hepatitis A virus	4
November 2008	Long term care facility	<i>Sarcoptes scabiei</i>	23
December 2008	Long term care facility	Norovirus GII	19
January 2009	Long term care facility	Norovirus	103
January 2009	Long term care facility	Norovirus GII	34
January 2009	Hospital	Norovirus	18
January 2009	Assisted living facility	Norovirus GII	11
February 2009	Hospital	Coagulase-negative <i>Staphylococcus</i>	13
February 2009	Long term care facility	<i>Sarcoptes scabiei</i>	2
February 2009	Long term care facility	<i>Sarcoptes scabiei</i>	2
February 2009	Assisted living facility	Norovirus GII	25
February 2009	Assisted living facility	Norovirus GII	51
March 2009	Long term care facility	Norovirus GII	18
March 2009	Hospital	Norovirus GII	15
March 2009	Assisted living facility	Norovirus GII	36
March 2009	Rehabilitation facility	<i>Sarcoptes scabiei</i>	23
March 2009	Long term care facility	<i>Sarcoptes scabiei</i>	5
March 2009	Hospital	Vancomycin-resistant <i>Enterococcus faecium</i>	3
April 2009	Hospital	Norovirus	26
April 2009	Long term care facility	<i>Sarcoptes scabiei</i>	3
April 2009	Long term care facility	<i>Sarcoptes scabiei</i>	25
May 2009	Long term care facility	<i>Sarcoptes scabiei</i>	6
May 2009	Hospital	<i>Streptococcus salivarius</i>	2
June 2009	Hospital	<i>Pseudomonas aeruginosa</i>	11
June 2009	Hospital	<i>Acinetobacter baumannii</i>	4
July 2009	Hospital	<i>Sarcoptes scabiei</i>	5
July 2009	Hospital	Group B <i>Streptococcus</i> in newborns	3
October 2009	Rehabilitation facility	<i>Sarcoptes scabiei</i>	5
October 2009	Long term care facility	<i>Sarcoptes scabiei</i>	14
December 2009	Hospital	Methicillin-resistant <i>Staphylococcus aureus</i>	6

Source of outbreak data: Ohio Disease Reporting System.

INSTITUTIONAL OUTBREAKS

In 2009, 64 institutional outbreaks were reported. Of these, 44 were confirmed. See table 4 below for the distribution of outbreaks by agent, setting, number ill and number of outbreaks.

Table 4: Institutional Outbreaks, Ohio, 2009

Causative Agent	Setting	# Ill Individuals (# Outbreaks)
<i>Bordetella pertussis</i>	School	16 (2)
<i>Histoplasma capsulatum</i>	College/university	3 (1)
Methicillin-resistant <i>Staphylococcus aureus</i>	Correctional facility	25 (4)
Norovirus	Day care center	128 (3)
Norovirus	Hotel/motel	19 (1)
Norovirus	MRDD facility	17 (1)
Norovirus	School	70 (1)
<i>Shigella sonnei</i>	Day care center	195 (23)
<i>Shigella sonnei</i>	School	11 (1)
<i>Streptococcus pyogenes</i>	MRDD facility	19 (1)
Varicella Zoster virus	School	55 (6)

Source of outbreak data: Ohio Disease Reporting System.

WATERBORNE OUTBREAKS

In 2009, two waterborne outbreaks were reported. One was an outbreak of *Pseudomonas* dermatitis in 23 people using a hotel pool and hot tub. The other consisted of two cases of legionellosis associated with a long term care facility. The exact source of their exposure could not be identified.

ZOONOTIC OUTBREAKS

In 2009, nine confirmed zoonotic outbreaks were reported. Six were due to *Salmonella* and three were due to *Cryptosporidium* as summarized in Table 5 below. The multistate outbreaks were recognized by PFGE.

Table 5: Zoonotic Outbreaks, Ohio, 2009

Causative Agent	Month of Onset	# Ill	Setting	Source
<i>Salmonella</i> serotype Montevideo*	October 2008	1	Farm	Mail-order chicks
<i>Cryptosporidium</i>	January 2009	4	Farm	Calves
<i>Salmonella</i> serotype Typhimurium, var Copenhagen*	February 2009	1	Pet store	Mice
<i>Salmonella</i> serotype (I) 4,[5],12:i- *	March 2009	2	Private home	Snake
<i>Salmonella</i> serotype Paratyphi B	April 2009	2	Private home	Fish tank
<i>Cryptosporidium</i>	May 2009	3	Farm	Calves
<i>Cryptosporidium</i>	May 2009	3	Farm	Goat
<i>Salmonella</i> serotype Typhimurium, var Copenhagen*	August 2009	2	Private home	Aquatic frogs
<i>Salmonella</i> serotype Typhimurium*	September 2009	4	Private home	Baby poultry

* Multistate outbreak.

Source of outbreak data: Ohio Disease Reporting System.