

OUTBREAK SUMMARIES

Starting in 2009, the categories for outbreak reporting changed (see Ohio Administrative Code [Chapter 3701-03](#)). The categories for outbreak reporting are: community outbreak, foodborne outbreak, healthcare-associated outbreak, institutional outbreak, waterborne outbreak and zoonotic outbreak. These outbreaks are Class C reportable diseases and must be reported by the end of the next business day.

In 2010, the Outbreak Response and Bioterrorism Investigation Program (ORBIT) assisted local health jurisdictions in Ohio in the investigation of 278 outbreaks. These outbreaks were detected in 48 of 88 counties throughout the state. The number of Ohioans known to be ill from these outbreaks was 5,136. The outbreaks were classified as: community (47), foodborne (69), healthcare-associated (68), institutional (82), waterborne (10) and zoonotic (2). Causative agents identified during the outbreak investigations included: *Acinetobacter baumannii*, *Bordetella pertussis*, *Clostridium difficile*, Coxsackie virus, *Cryptosporidium* spp., *Enterococcus faecalis*, *Escherichia coli* O145, *Escherichia coli* O157, *Giardia* spp., Hepatitis A virus, *Legionella pneumophila*, Mumps virus, *Neisseria meningitidis*, Norovirus, *Pediculus capitis* (head louse), *Pseudomonas aeruginosa*, *Ralstonia pickettii*, *Salmonella* spp., *Sarcoptes scabiei* (scabies mite), *Shigella sonnei*, *Staphylococcus aureus*, *Streptococcus pneumoniae* and Varicella Zoster virus.

This is the first year that Norovirus sequencing data has been available in the annual summary. Viral sequencing, as well as most serotyping, was performed at the Ohio Department of Health Laboratory.

Details on selected types of 2010 outbreaks are discussed below.

COMMUNITY OUTBREAKS

In 2010, 47 community outbreaks were reported from a variety of settings. Thirty-two of these outbreaks were confirmed, with the causative agent as follows: *B. pertussis* (14), *Giardia* spp. (1), Hepatitis A virus (1), Mumps virus (1), Norovirus (8), *P. capitis* (head louse) (3), *S. scabiei* (1) and methicillin-resistant *S. aureus* (3).

The confirmed vaccine-preventable community outbreaks of 2010 are listed in Table 1.

Table 1: Confirmed Vaccine-Preventable Community Outbreaks, Ohio, 2010

Month of Onset	Causative Agent	County	# Ill
April 2010	<i>Bordetella pertussis</i>	Allen	15
April 2010	<i>Bordetella pertussis</i>	Allen	15
April 2010	<i>Bordetella pertussis</i>	Portage	5
April 2010	<i>Bordetella pertussis</i>	Morgan	4
April 2010	<i>Bordetella pertussis</i>	Stark	49
May 2010	<i>Bordetella pertussis</i>	Franklin	2
June 2010	<i>Bordetella pertussis</i>	Franklin	3
June 2010	<i>Bordetella pertussis</i>	Franklin	6

Month of Onset	Causative Agent	County	# Ill
June 2010	<i>Bordetella pertussis</i>	Franklin	2
July 2010	<i>Bordetella pertussis</i>	Lucas	8
July 2010	<i>Bordetella pertussis</i>	Franklin	2
August 2010	<i>Bordetella pertussis</i>	Lucas	2
August 2010	Mumps virus	Multi-county	18
October 2010	<i>Bordetella pertussis</i>	Allen	8
November 2010	<i>Bordetella pertussis</i>	Scioto	6

Source of outbreak data: Ohio Disease Reporting System.

The confirmed other community outbreaks reporting during 2010 are shown in Table 2.

Table 2: Confirmed Other Community Outbreaks, Ohio, 2010

Month of Onset	Causative Agent	County	# Ill
December 2009	Norovirus GII.4	Franklin	10
January 2010	Norovirus GII.12	Delaware	2
March 2010	Norovirus GII.12	Franklin	108
March 2010	Norovirus GII.4	Franklin	15
May 2010	MRSA*	Mercer	2
May 2010	MRSA*	Mercer	2
June 2010	MRSA*	Fulton	3
August 2010	Hepatitis A virus	Lake	6
August 2010	<i>Pediculus capitis</i>	Greene	37
September 2010	<i>Sarcoptes scabiei</i>	Tuscarawas	5
September 2010	<i>Giardia</i> spp.	Ashland	4
October 2010	Norovirus GI.3B	Richland	42
October 2010	<i>Pediculus capitis</i>	Richland	4
October 2010	<i>Pediculus capitis</i>	Hamilton	10
October 2010	Norovirus GI.3B	Auglaize	87
November 2010	Norovirus GII	Lake	5
December 2010	Norovirus GII.4	Medina	22

* Methicillin-resistant *Staphylococcus aureus*.

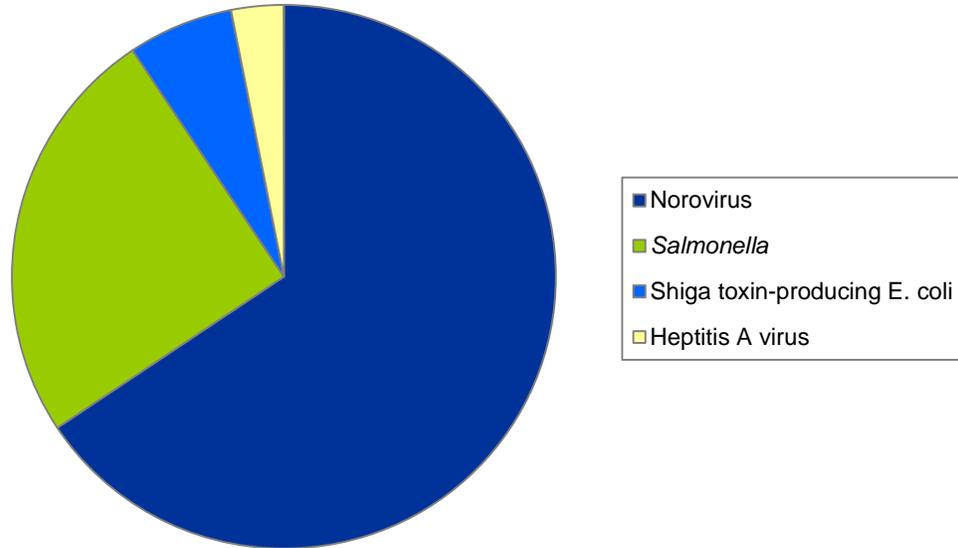
Source of outbreak data: Ohio Disease Reporting System.

FOODBORNE OUTBREAKS

In 2010, 32 of the 69 foodborne outbreaks reported in Ohio were confirmed. These 69 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 32 confirmed outbreaks also met the agent-specific [criteria for confirmation](#) of outbreaks. As shown in Figure 1, for these 32 foodborne outbreaks, the causative agent was distributed as follows: Norovirus (21), *Salmonella* spp. (8), *E. coli* O145 (1), *E. coli* O157

(1) and Hepatitis A virus (1). There were no cases or outbreaks of foodborne botulism in Ohio in 2010.

Figure 1: Confirmed Foodborne Outbreaks by Etiologic Agent, Ohio, 2010



Source of outbreak data: Ohio Disease Reporting System.

The 32 confirmed foodborne outbreaks are detailed in Table 3.

Table 3: Confirmed Foodborne Outbreaks, Ohio, 2010

Month of Onset	Causative Agent	County	# Ill	Food Vehicle	Event / Setting
December 2009	<i>Salmonella</i> Enteritidis	Montgomery	3	Unknown	Home
January 2010	Norovirus GII.12	Richland	10	Unknown	Restaurant
January 2010	Norovirus GII.12	Lake	6	Unknown	Home
January 2010	Norovirus GII.2	Defiance	5	Suspect salad	Catered lunch
January 2010	Norovirus GII.12	Montgomery	25	Unknown	Catered party
March 2010	Norovirus GI	Cuyahoga	18	Unknown	Home
March 2010	Norovirus GII.12	Richland	85	Unknown	Catered party
March 2010	Norovirus GII.4	Delaware	3	Salad	Restaurant
March 2010	Norovirus GII	Summit	2	Unknown	Restaurant
April 2010	Norovirus GII.4	Summit	2	Unknown	Restaurant
April 2010	<i>Escherichia coli</i> O145	Franklin	11	Romaine lettuce	Restaurant
April 2010	Norovirus GII.4	Clermont	42	Unknown	Church
April 2010	<i>Salmonella</i> Enteritidis	Athens	56	Chili rellenos	Restaurant
May 2010	Norovirus GII.12	Sandusky	9	Salad	Restaurant
May 2010	Norovirus GII.4	Franklin	9	Unknown	Restaurant

Month of Onset	Causative Agent	County	# Ill	Food Vehicle	Event / Setting
May 2010	<i>Salmonella</i> Baildon	Multi-state	6	Unknown	Unknown
May 2010	<i>Salmonella</i> Enteritidis	Lucas	3	Unknown	Restaurant
May 2010	<i>Salmonella</i> Hartford	Multi-state	14	Unknown	Restaurant
June 2010	<i>Salmonella</i> Typhimurium, var Copenhagen	Hamilton	64	Pulled pork	Church
June 2010	Norovirus GII.12	Cuyahoga	95	Suspect lemon/lime	Catered banquet
July 2010	<i>Escherichia coli</i> O157	Butler	8	Unknown	Restaurant
August 2010	Norovirus GII.4	Franklin	6	Unknown	Restaurant
September 2010	Norovirus GI	Franklin	10	Suspect salad	Restaurant
October 2010	<i>Salmonella</i> (I) 4,5,12:i:-	Lorain	33	Unknown	Pot luck
November 2010	Norovirus GII	Lake	66	Unknown	Banquet
November 2010	Norovirus GII	Cuyahoga	39	Unknown	Catered party
November 2010	<i>Salmonella</i> Heidelberg	Allen	6	Turkey	Home
December 2010	Norovirus GII.4	Logan	31	Suspect salad	Unlicensed home-style restaurant
December 2010	Norovirus GII.4	Greene	11	Raw oysters	Restaurant
December 2010	Norovirus GI.3B	Delaware	8	Cheese, veggie dips	Home
December 2010	Norovirus GII	Richland	7	Unknown	Home

Source of outbreak data: Ohio Disease Reporting System.

The *E. coli* O145 outbreak of April 2010 occurred on a Franklin County college campus. This was a multi-state outbreak with clusters also reported from Michigan and New York. A case-control study was conducted by means of an electronic questionnaire administered to students on part of the campus. The case-control study found that consumption of shredded romaine lettuce was associated with illness. The multi-state investigation led to a [recall](#) of shredded romaine lettuce.

HEALTHCARE-ASSOCIATED OUTBREAKS

There were 68 healthcare-associated outbreaks reported in 2010, 37 of which were confirmed as shown in Table 4.

Table 4: Confirmed Healthcare-Associated Outbreaks, Ohio, 2010

Month of Onset	Causative Agent	# Ill	Event / Setting
December 2009	Norovirus GII	145	Long term care facility
January 2010	Norovirus GII.4	18	Hospital
January 2010	Norovirus GII.4J	29	Long term care facility
January 2010	Norovirus GII.12	49	Long term care facility
February 2010	Norovirus GII.4	74	Long term care facility
February 2010	<i>Enterococcus faecalis</i>	3	Hospital
March 2010	Norovirus GII.4	42	Long term care facility
March 2010	Norovirus GII.12	41	Long term care facility
March 2010	<i>Sarcoptes scabiei</i>	28	Long term care facility
March 2010	<i>Streptococcus pneumoniae</i>	3	Long term care facility
March 2010	Norovirus GII.4	32	Hospital
March 2010	Norovirus GII	32	Long term care facility
March 2010	Norovirus GII.4	28	Long term care facility
March 2010	Norovirus GII	49	Hospital
May 2010	Norovirus GII.4	12	Rehab facility
May 2010	<i>Acinetobacter baumannii</i>	6	Hospital
June 2010	<i>Sarcoptes scabiei</i>	6	Drug treatment facility
June 2010	MRSA*	3	Dialysis center
July 2010	<i>Sarcoptes scabiei</i>	2	Long term care facility
July 2010	Conjunctivitis	4	Long term care facility
August 2010	<i>Sarcoptes scabiei</i>	12	Long term care facility
August 2010	<i>Sarcoptes scabiei</i>	5	Long term care facility
September 2010	<i>Salmonella</i> Poona	14	Long term care facility
October 2010	<i>Sarcoptes scabiei</i>	5	Long term care facility
October 2010	<i>Ralstonia pickettii</i>	3	Dialysis center
October 2010	Norovirus GII	42	Long term care facility
November 2010	Norovirus GII.4	72	Long term care facility
November 2010	Norovirus GII	37	Long term care facility
November 2010	Norovirus GI.3B	39	Long term care facility
November 2010	<i>Clostridium difficile</i>	3	Hospital
November 2010	Norovirus GII	70	Long term care facility
December 2010	Norovirus GII.4	62	Long term care facility
December 2010	Norovirus GII.4	25	Hospital
December 2010	Norovirus GII	12	Long term care facility
December 2010	Norovirus GII.4	38	Long term care facility
December 2010	Norovirus GII.4 and GI.3B	27	Hospital
December 2010	Norovirus GII.4	36	Long term care facility

* Methicillin-resistant *Staphylococcus aureus*.

Source of outbreak data: Ohio Disease Reporting System.

INSTITUTIONAL OUTBREAKS

In 2010, 82 institutional outbreaks were reported. Of these, 55 were confirmed. See Table 5 below for the confirmed vaccine-preventable institutional outbreaks.

Table 5: Confirmed Vaccine-Preventable Institutional Outbreaks, Ohio, 2010

Month of Onset	Causative Agent	County	# Ill	Setting
December 2009	Varicella Zoster virus	Hamilton	6	School
February 2010	Varicella Zoster virus	Franklin	6	School
March 2010	<i>Bordetella pertussis</i>	Franklin	5	School
March 2010	Varicella Zoster virus	Henry	5	School
March 2010	Varicella Zoster virus	Washington	5	School
April 2010	<i>Bordetella pertussis</i>	Franklin	2	School
April 2010	Varicella Zoster virus	Portage	13	School
April 2010	Varicella Zoster virus	Union	25	School
August 2010	<i>Bordetella pertussis</i>	Franklin	4	School
August 2010	<i>Bordetella pertussis</i>	Franklin	3	School
August 2010	<i>Bordetella pertussis</i>	Franklin	7	School
August 2010	<i>Bordetella pertussis</i>	Franklin	7	School
September 2010	<i>Bordetella pertussis</i>	Franklin	10	School
September 2010	<i>Bordetella pertussis</i>	Franklin	2	Day care center
September 2010	<i>Bordetella pertussis</i>	Franklin	3	Day care center
September 2010	<i>Bordetella pertussis</i>	Franklin	12	School
September 2010	<i>Bordetella pertussis</i>	Franklin	6	School
September 2010	<i>Bordetella pertussis</i>	Franklin	2	School
September 2010	<i>Bordetella pertussis</i>	Franklin	2	School
October 2010	<i>Bordetella pertussis</i>	Allen	13	School
October 2010	<i>Bordetella pertussis</i>	Lorain	2	School
October 2010	<i>Bordetella pertussis</i>	Franklin	3	School
October 2010	<i>Bordetella pertussis</i>	Franklin	2	School
October 2010	<i>Bordetella pertussis</i>	Franklin	2	School
October 2010	<i>Bordetella pertussis</i>	Franklin	3	School
October 2010	<i>Bordetella pertussis</i>	Franklin	5	School
October 2010	<i>Bordetella pertussis</i>	Franklin	4	School
November 2010	<i>Bordetella pertussis</i>	Franklin	8	School
November 2010	<i>Bordetella pertussis</i>	Franklin	8	School
November 2010	<i>Bordetella pertussis</i>	Franklin	2	School
December 2010	<i>Bordetella pertussis</i>	Franklin	5	School

Source of outbreak data: Ohio Disease Reporting System.

The confirmed other institutional outbreaks of 2010 are listed in Table 6.

Table 6: Confirmed Other Institutional Outbreaks, Ohio, 2010

Month of Onset	Causative Agent	County	# Ill	Setting
November 2008	<i>Neisseria meningitidis</i> Group B	Athens	10	College/university
January 2010	Norovirus GII.12	Washington	235	College/university
February 2010	MRSA*	Allen	2	Correctional facility
March 2010	Norovirus GII	Cuyahoga	22	Day care center
March 2010	<i>Shigella sonnei</i>	Hamilton	2	Day care center
April 2010	<i>Shigella sonnei</i>	Hamilton	20	Day care center
April 2010	Norovirus GI	Cuyahoga	17	Shelter
May 2010	<i>Shigella sonnei</i>	Hamilton	2	Day care center
May 2010	<i>Shigella sonnei</i>	Hamilton	13	Day care center
May 2010	<i>Shigella sonnei</i>	Hamilton	2	Day care center
May 2010	<i>Shigella sonnei</i>	Hamilton	3	Day care center
June 2010	<i>Shigella sonnei</i>	Hamilton	4	Day care center
June 2010	<i>Shigella sonnei</i>	Hamilton	12	Day care center
July 2010	Norovirus GI.3B	Madison	31	Assisted living facility
September 2010	<i>Pediculus capitis</i>	Lucas	17	School
September 2010	<i>Escherichia coli</i> O157	Franklin	6	Day care center
October 2010	<i>Pediculus capitis</i>	Lorain	21	School
October 2010	Coxsackie virus	Allen	4	Day care center
October 2010	<i>Sarcoptes scabiei</i>	Cuyahoga	5	Group home
October 2010	Norovirus GII.4	Cuyahoga	33	Assisted living facility
October 2010	Norovirus GII.4	Cuyahoga	48	Assisted living facility
December 2010	<i>Clostridium difficile</i>	Lucas	2	MRDD facility
December 2010	Norovirus GI.3B	Wood	93	School
December 2010	MRSA*	Madison	2	Sports team

* Methicillin-resistant *Staphylococcus aureus*.
Source of outbreak data: Ohio Disease Reporting System.

WATERBORNE OUTBREAKS

In 2010, 10 waterborne outbreaks were reported. These outbreaks are detailed in Table 7.

Table 7: Waterborne Outbreaks, Ohio, 2010

Month of Onset	Status	Causative Agent	County	# Ill	Setting
February 2010	Confirmed	<i>Legionella pneumophila</i>	Franklin	3	Long term care facility
March 2010	Probable	Chloramines suspected	Wood	4	Pool
March 2010	Confirmed	<i>Pseudomonas aeruginosa</i>	Gallia	17	Pool and spa
June 2010	Probable	Harmful algal bloom	Auglaize – Mercer	8	Lake
July 2010	Probable	Microcystin (harmful algal bloom)	Logan	19	Lake
July 2010	Confirmed	<i>Cryptosporidium</i> spp.	Delaware	23	Water park
July 2010	Probable	Harmful algal bloom	Athens	7	Lake
July 2010	Probable	Harmful algal bloom	Ottawa	9	Lake
August 2010	Probable	Harmful algal bloom	Jackson	2	Lake
August 2010	Probable	Harmful algal bloom	Madison	3	Lake

Source of outbreak data: Ohio Disease Reporting System.

ZOONOTIC OUTBREAKS

In 2010, two confirmed zoonotic outbreaks were reported, as seen in Table 8.

Table 8: Confirmed Zoonotic Outbreaks, Ohio, 2010

Month of Onset	Causative Agent	County	# Ill	Type of Animal
March 2010	<i>Cryptosporidium</i> spp.	Fulton	2	Calves
May 2010	<i>Salmonella</i> Typhimurium	Delaware	3	Ducklings

Source of outbreak data: Ohio Disease Reporting System.