
Annual Summary of *REPORTABLE DISEASES* 2009

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Introduction

Communicable diseases are illnesses caused by microorganisms, such as bacteria, viruses and parasites, and are transmitted from an infected person/animal and/or contaminated food or water source to another person or animal. Most communicable diseases spread from direct contact with the bacteria or viruses that are carried in bodily fluids (e.g., blood) or expelled into the air (in the form of respiratory droplets) by an infected person. Some diseases can be spread only indirectly through contaminated food and water sources. Other diseases are introduced into the body by animals or insects carrying the infectious agent.

This annual summary represents the 2009 communicable diseases that were diagnosed among residents of Columbus City and Franklin County and were reported to Ohio and local public health agencies as required by Ohio Administrative Code 3701-3-02. Only selected communicable diseases determined to be of public health significance are reportable; therefore, the data presented here do not represent all cases of communicable disease that occur in Columbus and Franklin County. Additionally, only confirmed cases of disease have been analyzed for this summary. The data are considered provisional but provide valuable insight into these diseases.

The summary is intended to be a resource for individuals and our public health partners for whom communicable diseases are of concern. Further information on communicable disease may be obtained by contacting either Columbus Public Health (CPH) or Franklin County Public Health (FCPH).

For over ten years, the Columbus and Franklin County Health Departments have joined forces to make the reporting, tracking and investigation of communicable disease cases easier and more convenient through the Communicable Disease Reporting System (CDRS). This provides early identification of potential outbreaks and new trends in infectious diseases. The Communicable Disease staff ensures proper investigation, timely case follow-up of all reports and preventive interventions to reduce secondary cases.

KEY FINDINGS ARE SUMMARIZED BELOW:

- In 2009, a total of 2,172 cases of communicable disease (excluding sexually transmitted infections and tuberculosis) were reported and confirmed among Franklin County residents.
- Franklin County's total rate of confirmed communicable diseases decreased significantly to 188.8 cases per 100,000 in 2009 from 254.0 cases per 100,000 in 2008.
- A total of 40 confirmed cases of Novel 2009 Influenza A (H1N1) were reported.
- Two Influenza Associated Pediatric deaths were reported during 2009 H1N1 pandemic.
- The rate of aseptic meningitis increase significantly to 10.9 cases per 100,000 in 2009 from 5.5 cases per 100,000 in 2008.
- The rate of shigellosis decreased significantly to 21.7 cases per 100,000 in 2009 from 56.9 cases per 100,000 in 2008.
- The incidence rates of sexually transmitted infections (e.g., gonorrhea, chlamydia, and syphilis) and Hepatitis C rank high among all the counties in the state.

Know Your ABCs: A Quick Guide to Reportable Infectious Diseases in Ohio

from the Ohio Administrative Code Chapter 3701-3; Effective January 1, 2009

Class A Diseases of major public health concern because of the severity of disease or potential for epidemic spread - report by telephone immediately upon recognition that a case, a suspected case, or a positive laboratory result exists

Anthrax	Influenza A - novel virus	Rabies, human	Smallpox
Botulism, foodborne	Measles	Rubella (not congenital)	Tularemia
Cholera	Meningococcal disease	Severe acute respiratory syndrome (SARS)	Viral hemorrhagic fever (VHF)
Diphtheria	Plague		Yellow fever

Any unexpected pattern of cases, suspected cases, deaths or increased incidence of any other disease of major public health concern, because of the severity of disease or potential for epidemic spread, which may indicate a newly recognized infectious agent, outbreak, epidemic, related public health hazard or act of bioterrorism.

Class B (1) Diseases of public health concern needing timely response because of potential for epidemic spread - report by the end of the next business day after the existence of a case, a suspected case, or a positive laboratory result is known

Arboviral neuroinvasive and non-neuroinvasive disease: Eastern equine encephalitis virus disease LaCrosse virus disease (other California serogroup virus disease) Powassan virus disease St. Louis encephalitis virus disease West Nile virus infection Western equine encephalitis virus disease Other arthropod-borne disease	Chancroid Coccidioidomycosis Cyclosporiasis Dengue <i>E. coli</i> O157:H7 and other enterohemorrhagic (Shiga toxin-producing) <i>E. coli</i> Granuloma inguinale <i>Haemophilus influenzae</i> (invasive disease) Hantavirus Hemolytic uremic syndrome (HUS) Hepatitis A	Hepatitis B, perinatal Influenza-associated pediatric mortality Legionnaires' disease Listeriosis Malaria Meningitis, aseptic (viral) Meningitis, bacterial Mumps Pertussis Poliomyelitis (including vaccine-associated cases) Psittacosis Q fever	Rubella (congenital) Salmonellosis Shigellosis <i>Staphylococcus aureus</i> , with resistance or intermediate resistance to vancomycin (VRSA, VISA) Syphilis Tetanus Tuberculosis, including multi-drug resistant tuberculosis (MDR-TB) Typhoid fever
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Class B (2) Diseases of significant public health concern - report by the end of the work week after the existence of a case, a suspected case, or a positive laboratory result is known

Amebiasis Botulism, infant Botulism, wound Brucellosis Campylobacteriosis Chlamydia infections (urethritis, epididymitis, cervicitis, pelvic inflammatory disease, neonatal conjunctivitis, pneumonia, and lymphogranuloma venereum (LGV)) Creutzfeldt-Jakob disease (CJD) Cryptosporidiosis	Cytomegalovirus (CMV) (congenital) Ehrlichiosis/Anaplasmosis Giardiasis Gonococcal infections (urethritis, cervicitis, pelvic inflammatory disease, pharyngitis, arthritis, endocarditis, meningitis, and neonatal conjunctivitis) Hepatitis B, non-perinatal Hepatitis C Hepatitis D (delta hepatitis)	Hepatitis E Herpes (congenital) Influenza-associated hospitalization Leprosy (Hansen disease) Leptospirosis Lyme disease Mycobacterial disease, other than tuberculosis (MOTT) Rocky Mountain spotted fever (RMSF) Streptococcal disease, group A, invasive (IGAS)	Streptococcal disease, group B, in newborn Streptococcal toxic shock syndrome (STSS) <i>Streptococcus pneumoniae</i> , invasive disease (ISP) Toxic shock syndrome (TSS) Trichinosis Typhus fever Varicella Vibriosis Yersiniosis
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Class C Report an outbreak, unusual incidence, or epidemic (e.g., histoplasmosis, pediculosis, scabies, staphylococcal infections) by the end of the next business day

Outbreaks:

- Community
- Foodborne
- Healthcare-associated
- Institutional
- Waterborne
- Zoonotic



NOTE: Cases of AIDS (acquired immune deficiency syndrome), AIDS-related conditions, HIV (human immunodeficiency virus) infection, perinatal exposure to HIV, and CD4 T-lymphocytes counts <200 or 14% must be reported on forms and in a manner prescribed by the Director.

Reportable Diseases for Franklin County, Ohio

Table 1: Annual Counts and Rates, 2007-2009

Population		2007		2008		2009	
		1,118,107		1,129,067		1,150,122	
DISEASE NAME		# of Cases	Case Rate*	# of Cases	Case Rate*	# of Cases	Case Rate*
B (1)	HIV/AIDS*	259	23.2	184	16.3	269	23.4
B(2)	Amebiasis	16	1.4	9	0.8	5	0.4
A	Anthrax	0	0	0	0	0	0
A	Botulism (foodborne)	0	0	0	0	0	0
B(2)	Botulism (infant)	0	0	0	0	0	0
B(2)	Brucellosis	0	0	0	0	2	0.2
B(2)	Campylobacteriosis	73	6.5	93	8.2	88	7.7
B(2)	Chlamydia*	6,276	561.3	7,255	642.6	7,754	693.5
A	Cholera	0	0	0	0	0	0
B(2)	Cryptosporidiosis	27	2.4	313	27.7	21	1.8
B(2)	Cytomegalovirus	5	0.4	1	0.1	5	0.4
B (1)	Dengue	0	0	0	0	0	0
A	Diphtheria	0	0	0	0	0	0
B (1)	<i>E. coli</i> _O157:H7	6	0.5	29	2.6	14	1.2
B (1)	<i>E. coli</i> Unspecified	2	0.2	4	0.4	5	0.4
B (1)	<i>E. coli</i> Not O157	0	0	0	0	3	0.3
B (1)	Encephalitis, (primary viral)	1	0.1	0	0	0	0
B (1)	Encephalitis, West Nile	0	0	0	0	0	0
B(2)	Ehrlichiosis	1	0.1	0	0	0	0
B(2)	Giardiasis	112	10.0	167	14.8	181	15.7
B(2)	Gonorrhea*	3,817	341.4	3,478	308.0	2,933	262.3
B (1)	<i>Haemophilus influenzae</i> (invasive)	3	0.3	5	0.4	10	0.9
B (1)	Hantavirus	0	0	0	0	0	0
B (1)	Hemolytic uremic syndrome	0	0	1	0.1	2	0.2
B (1)	Hepatitis A	10	0.9	10	0.9	7	0.6
B(2)	Hepatitis B (acute)*	10	0.9	14	1.2	19	1.7
B(2)	Hepatitis B (chronic)*	110	9.8	74	6.6	68	5.9
B(1)	Hepatitis B (perinatal)*	0	0	0	0	0	0
B(2)	Hepatitis C (chronic)*	1,000	89.4	739	65.5	525	45.6
B (1)	Herpes (congenital)	1	0.1	0	0	0	0
B(2)	Influenza-Associated Hospitalization	-	-	-	-	517	45.0
B (1)	Influenza-Associated Pediatric Mortality	0	0	0	0	2	0.17
A	Influenza A-Novel Virus	-	-	-	-	37	3.2
**	Kawasaki Disease	2	0.2	0	0	0	0
B (1)	Legionellosis	38	3.4	65	5.8	58	5.0
B(2)	Leprosy	0	0	0	0	0	0
B(2)	Leptospirosis	0	0	0	0	0	0
B (1)	Listeriosis	6	0.5	2	0.2	1	0.1

Reportable Diseases for Franklin County, Ohio

Table 1: Annual Counts and Rates, 2007-2009

Population		2007		2008		2009	
		1,118,107		1,129,067		1,150,122	
DISEASE NAME		# of Cases	Case Rate*	# of Cases	Case Rate*	# of Cases	Case Rate*
B(2)	Lyme disease	2	0.2	1	0.1	7	0.6
B (1)	Malaria	8	0.7	16	1.4	14	1.2
A	Measles	0	0	0	0	0	0
B (1)	Meningitis, aseptic (viral)	74	6.6	62	5.5	125	10.9
A	Meningococcal disease (<i>N. meningitidis</i>)	5	0.4	3	0.3	4	0.3
B (1)	Meningitis (bacterial)	0	0	6	0.5	3	0.3
B (1)	Mumps	0	0	0	0	1	0.1
B(2)	Mycobacterial Disease, other than tuberculosis (MOTT)	146	13.1	100	8.9	204	17.7
B (1)	Pertussis	300	26.8	159	14.1	198	17.2
A	Plague	0	0	0	0	0	0
B (1)	Polio	0	0	0	0	0	0
B (1)	Psittacosis	0	0	0	0	0	0
A	Rabies	0	0	0	0	0	0
B(2)	Rocky Mountain Spotted Fever (RMSF)	0	0	0	0	0	0
A	Rubella	0	0	0	0	0	0
B (1)	Rubella (congenital)	0	0	0	0	0	0
B (1)	Salmonellosis	120	10.7	131	11.6	145	12.8
A	Severe Acute Respiratory Syndrome (SARS)	0	0	0	0	0	0
B (1)	Shigellosis	15	1.3	642	56.9	250	21.7
A	Smallpox	0	0	0	0	0	0
B(2)	Streptococcus pneumoniae, invasive	125	11.2	51	4.5	181	15.7
B(2)	Streptococcal disease-group A, invasive	35	3.1	38	3.4	31	2.7
B(2)	Streptococcal disease-group B (newborn)	6	0.5	8	0.7	2	0.2
B(2)	Streptococcal toxic shock syndrome (STSS)	2	0.2	0	0	0	0
B (1)	Syphilis*	195	17.4	280	24.8	108	9.7
B (1)	Tetanus	0	0	0	0	0	0
B (1)	Tuberculosis (TB)*	78	7.0	61	5.4	41	3.6
A	Tularemia	0	0	0	0	1	0.1
B (1)	Typhoid Fever	1	0.1	2	0.2	5	0.4
B(2)	Varicella	57	5.1	15	1.3	31	2.7
A	Viral hemorrhagic fever (VHF)	0	0	0	0	0	0
B(2)	Vibriosis	1	0.1	1	0.1	0	0
B(2)	Yersiniosis	8	0.7	4	0.4	4	0.3
A	Yellow Fever	0	0	0	0	0	0

***Notes on specific diseases and rates:**

- Disease totals and calculated disease rates are limited to confirmed cases. Suspects and probable cases are not included.
- Population estimates obtained from the United States Census Bureau for each year were used in annual rate calculations. Case rate is per 100,000 people.
- Influenza A-novel virus & Influenza Associated Hospitalization cases became reportable in 2009
- STDs, TB and HIV/AIDS data are from separate ODH sources. HIV/AIDS data are provisional and subject to change.
- Syphilis numbers include primary and secondary cases only.

** These are not reportable conditions as of July 2011; however, the Ohio Department of Health receives frequent inquiries for information or they are of special interest.

Campylobacteriosis - 2009

BACKGROUND

Campylobacteriosis is the most common bacterial cause of diarrheal illness in the United States. Virtually all cases occur as isolated, sporadic events, not as part of recognized outbreaks. Many more cases go undiagnosed or unreported and the diarrheal illness is estimated to affect over 2 million persons every year. The disease occurs much more frequently in the summer months than in the winter.

Campylobacteriosis is an acute enteric disease characterized by diarrhea, malaise, abdominal pain, fever, nausea and vomiting. The disease, caused by *Campylobacter* bacteria, has an onset within two to five days after exposure to the organism and commonly lasts another two to five days. People can spread the disease for several days to several weeks after they are infected. However, the period of communicability can be shortened to a few days by providing effective antibiotic treatment, which may include rehydration and electrolyte replacement.

Transmission occurs most commonly by ingestion of the infectious agents in undercooked poultry and pork, and by contact with infected infants, pets, or farm animals. People can become infected with *Campylobacter* by handling raw chicken, eating undercooked poultry or drinking unpasteurized milk. Water streams and wells contaminated with animal feces may also pose a hazard.

Campylobacter contamination can be prevented by thoroughly cooking all animal-derived foods, especially those from poultry. Cross-contamination can be avoided by hand washing after handling animals or raw poultry and thoroughly washing cutting boards and utensils with soap after contact with food.

Number of cases

88

Franklin County rate

7.7 per 100,000

Age of cases

Mean: 30.8 years

Median: 31 years

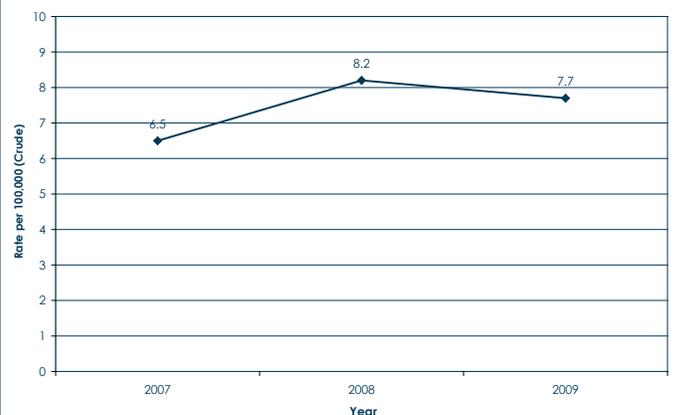
Range: 2 months – 71 years

Rate by sex

Female: 7.3 per 100,000

Male: 7.8 per 100,000

Figure 1
Campylobacteriosis Cases in Franklin County
Incidence Rates per 100,000, 2007-2009



Giardiasis - 2009

BACKGROUND

During the past two decades, giardiasis infections have become recognized as one of the most common causes of waterborne disease (found in both drinking and recreational water) in humans in the United States. Infection rates have been known to go up in the late summer. In the United States, the known cases of giardiasis were twice as high between June-October as they were between January-March.

Giardiasis is a diarrheal illness caused by a one-celled, microscopic parasite, *Giardia lamblia*. Once an animal or person has been infected, the most common symptoms are chronic diarrhea, abdominal cramps, bloating, and loose, pale, greasy stools. These symptoms may lead to weight loss and dehydration. However, not everyone infected has symptoms. Symptoms appear 1-3 weeks after exposure to the protozoan. Asymptomatic infections and prolonged shedding in the feces are common.

Several prescription drugs are available to treat giardiasis. Although *Giardia* can infect all people, young children and pregnant women may be more susceptible to dehydration resulting from diarrhea and should, therefore, drink plenty of fluids while ill.

Giardia is found in soil, food, water, or surfaces that have been contaminated with the feces from infected humans or animals. The principal modes of spread include transmission through the fecal-oral route, person-to-person, especially in institutions and day care centers, and animal-to-person.

Giardiasis can be prevented by washing hands with soap and water after using the toilet. Avoid water (drinking and recreational) that may be contaminated. Do not swallow water while swimming in pools, hot tubs, fountains, lakes, rivers, springs, ponds, streams or the ocean.

Number of cases

181

Franklin County rate

15.7 per 100,000

Age of cases

Mean: 17.1 years

Median: 12 years

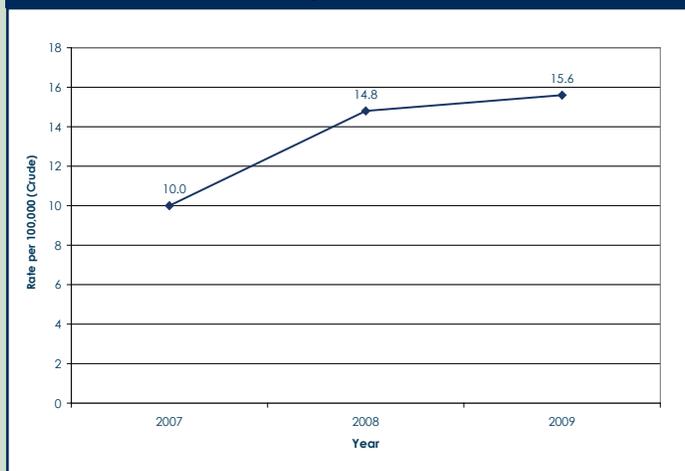
Range: 1 month – 94 years

Rate by sex

Female: 15.0 per 100,000

Male: 15.8 per 100,000

Figure 2
Giardiasis Cases in Franklin County
Incidence Rates per 100,000, 2007-2009



Meningitis, Aseptic (Viral) - 2009

BACKGROUND

Viral meningitis is serious but rarely fatal in people with normal immune systems. Most cases in the United States, particularly during the summer and fall months, are caused by enteroviruses. Most people who are infected with enteroviruses either have no symptoms or only get a cold, rash, or mouth sores with low-grade fever. So, only a small number of people with enterovirus infection develop meningitis.

Usually, the symptoms last from 7 to 10 days and the patient recovers completely. Symptoms can appear quickly or they can also take several days to appear, usually after a cold or runny nose, diarrhea, vomiting, or other signs of infection show up.

There is no specific treatment for viral meningitis. Most patients completely recover on their own within 2 weeks. Doctors often will recommend bed rest, plenty of fluids, and medicine to relieve fever and headache.

Enteroviruses, the most common cause of viral meningitis in the United States, are most often spread through direct contact with an infected person's stool. Enteroviruses can also be spread through direct or indirect contact with respiratory secretions (saliva, sputum, or nasal mucus) of an infected person. It is important to always practice good hygiene to help reduce chances of becoming infected with a virus or of passing one on to someone else.

Number of cases

125

Franklin County rate

10.9 per 100,000

Age of cases

Mean: 18.6 years

Median: 1 year

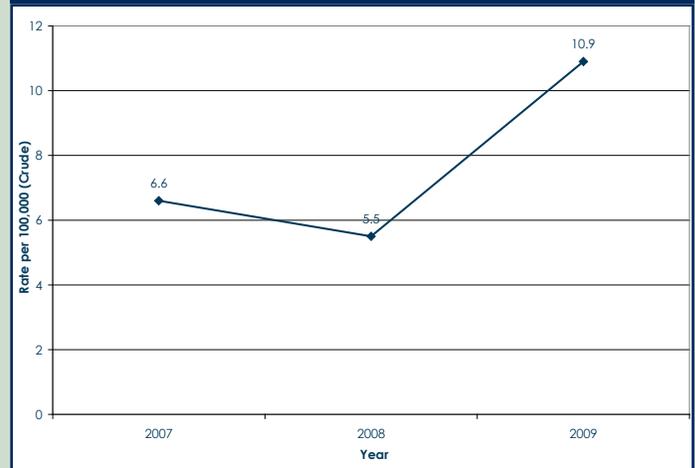
Range: 1 week – 75 years

Rate by sex

Female: 13.4 per 100,000

Male: 8.2 per 100,000

Figure 3
Viral Meningitis Cases in Franklin County
Incidence Rates per 100,000, 2007-2009



Pertussis - 2009

BACKGROUND

Pertussis, also known as whooping cough, is a highly contagious bacterial infection of the respiratory tract caused by the bacterium *Bordetella pertussis*. In the 20th century, pertussis was one of the most common childhood diseases and a major cause of childhood mortality in the United States. Before the availability of pertussis vaccine in the 1940s, more than 200,000 cases of pertussis were reported annually. Since widespread use of the vaccine began, incidence has decreased more than 80% compared with the pre-vaccine era. However, since the 1980s there has been an increase in the number of reported cases of pertussis, especially among 10 to 19 year olds and infants younger than 6 months of age. In 2008, more than 13,000 cases of pertussis were reported—and many more cases go unreported.

The disease begins as a mild upper respiratory infection. Initially, symptoms resemble those of a common cold, including sneezing, runny nose, low-grade fever and a mild cough. Within two weeks, the cough becomes more severe and is characterized by episodes of numerous rapid coughs followed by a crowing or high-pitched whoop. A thick, clear mucous may be discharged with the coughing. These episodes may recur for one to two months, and are more frequent at night.

Transmission of pertussis occurs primarily by aerosol droplet and is most easily transmitted in the period starting 7 days after exposure to three weeks after the onset of spasmodic coughing. Seventy to ninety percent of susceptible household and other close contacts of a person with pertussis will develop the disease within 7 to 14 days, commonly 5 to 10 days. The disease may last up to 3 months and be complicated by pneumonia, seizures, or encephalopathy.

Pertussis is generally treated with antibiotics and early treatment is very important. Treatment may make the infection less severe if it is started early, before coughing fits begin. Treatment can also help prevent spreading the disease to close contacts (people who have spent a lot of time around the infected person) and is necessary for stopping the spread of pertussis.

The best way to prevent pertussis (whooping cough) among infants, children, teens, and adults is to get vaccinated. Before 2005, the only booster available contained protection against tetanus and diphtheria (called Td), and was recommended for teens and adults every 10 years. Today there are boosters for pre-teens, teens and adults that contain protection against tetanus, diphtheria and pertussis (Tdap). Pre-teens going to the doctor for their regular check-up at age 11 or 12 years should get a dose of Tdap.

Number of cases

198

Franklin County rate

17.2 per 100,000

Age of cases

Mean: 9.5 years

Median: 9 years

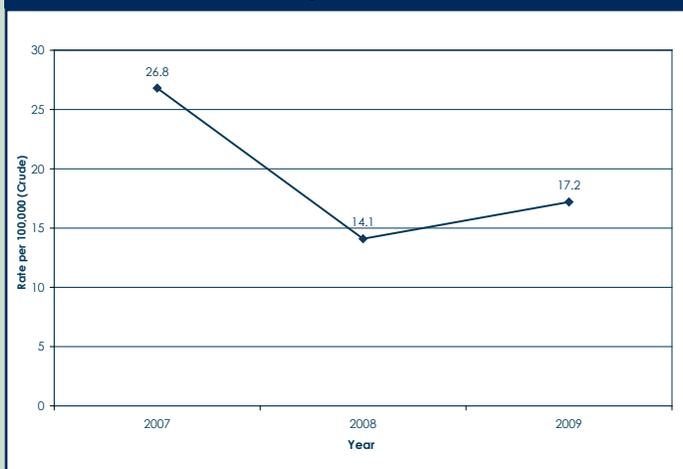
Range: 1 week – 75 years

Rate by sex

Female: 16.3 per 100,000

Male: 18.1 per 100,000

Figure 4
Pertussis Cases in Franklin County
Incidence Rates per 100,000, 2007-2009



Salmonellosis - 2009

BACKGROUND

Salmonellosis is an infection caused by the bacterium, *Salmonella*. *Salmonella* germs have been known to cause illness for over 100 years. They were discovered by an American scientist named Salmon, for whom they are named. Every year, approximately 40,000 cases of salmonellosis are reported in the United States. Because many milder cases are not diagnosed or reported, the actual number of infections may be thirty or more times greater.

Most persons infected with *Salmonella* develop diarrhea, fever, and abdominal cramps 12 to 72 hours after infection. The illness usually lasts 4 to 7 days, and most persons recover without treatment. However, in some persons, the diarrhea may be so severe that the patient needs to be hospitalized. In these patients, the *Salmonella* infection may spread from the intestines to the blood stream, and then to other body sites and can cause death, unless the person is treated promptly with antibiotics. The elderly, infants, and those with impaired immune systems are more likely to have a severe illness.

Salmonella live in the intestinal tracts of humans and other animals, including birds. The majority of human infections are thought to result from the ingestion of fecally contaminated food or water. Contaminated foods usually look and smell normal. Contaminated foods are often of animal origin, such as beef, poultry, milk or eggs, but any thorough cooking kills *Salmonella*.

There is no vaccine to prevent salmonellosis. *Salmonella* infections usually resolve in 5-7 days and often do not require treatment other than oral fluids. Persons with severe diarrhea may require rehydration with intravenous fluids. Antibiotics are not usually necessary unless the infection spreads from the intestines.

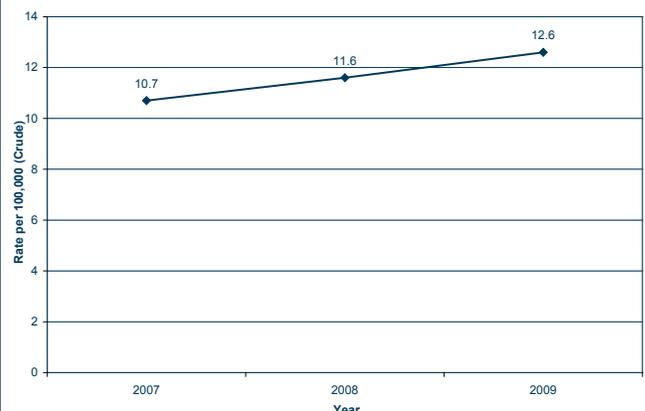
Cross-contamination can be avoided by hand washing after handling animals or raw poultry and thoroughly washing cutting boards and utensils with soap after contact with food. People should wash their hands after contact with animal feces. A wide range of domestic and wild animals are carriers of *Salmonella*, including poultry, swine, cattle, rodents, iguanas, tortoises, turtles, terrapins, chicks, dogs and cats. Because reptiles are particularly likely to have *Salmonella*, and it can contaminate their skin, everyone should immediately wash their hands after handling reptiles. Reptiles (including turtles) are not appropriate pets for small children and should not be in the same house as an infant. *Salmonella* carried in the intestines of chicks and ducklings contaminates their environment and the entire surface of the animal. Children can be exposed to the bacteria by simply holding, cuddling, or kissing the birds. Children should not handle baby chicks or other young birds. Everyone should immediately wash their hands after touching birds, including baby chicks and ducklings, or their environment.

Number of cases
145
Franklin County rate
12.6 per 100,000

Age of cases
Mean: 29.8 years
Median: 27 years
Range: 1 month – 87 years

Rate by sex
Female: 11.9 per 100,000
Male: 13.3 per 100,000

Figure 5
Salmonella Cases in Franklin County
Incidence Rates per 100,000, 2007-2009



Shigellosis - 2009

BACKGROUND

Shigellosis is an infectious disease caused by a group of bacteria called *Shigella*. Every year, about 14,000 cases of shigellosis are reported in the United States. Because many milder cases are not diagnosed or reported, the actual number of infections may be twenty times greater. Shigellosis is particularly common and causes recurrent problems in settings where hygiene is poor and can sometimes sweep through entire communities. It is more common in summer than winter. Children, especially toddlers aged 2 to 4, are the most likely to get shigellosis. Many cases are related to the spread of illness in child-care settings, and many are the result of the spread of the illness in families with small children.

Most people who are infected with *Shigella* develop diarrhea, fever, and stomach cramps starting a day or two after they are exposed to the bacteria. The diarrhea is often bloody. Shigellosis usually resolves in 5 to 7 days. A severe infection with high fever may be associated with seizures in children less than 2 years old. However, persons with shigellosis in the United States rarely require hospitalization. Some persons who are infected may have no symptoms at all, but may still pass the *Shigella* bacteria to others.

The *Shigella* bacteria pass from one infected person to the next. *Shigella* are present in the diarrheal stools of infected persons while they are sick and for a week or two afterwards. Most *Shigella* infections are the result of the bacterium passing from stools or soiled fingers of one person to the mouth of another person. This happens when basic hygiene and hand washing habits are inadequate. *Shigella* infections may be acquired from eating contaminated food. Contaminated food may look and smell normal. Food may become contaminated by infected food handlers who forget to wash their hands with soap after using the bathroom.

Shigellosis can usually be treated with antibiotics. The antibiotics commonly used for treatment are ampicillin, trimethoprim/sulfamethoxazole, nalidixic acid or ciprofloxacin. Appropriate treatment kills the *Shigella* bacteria that may be present in the patient's stools and shortens the illness.

There is no vaccine to prevent shigellosis; however, the spread of *Shigella* from an infected person to other persons can be stopped by frequent and careful hand washing with soap and water. Frequent and careful hand washing is important among all age groups. Frequent, supervised hand washing of all children should be followed in child care centers and in homes with children who are not completely toilet-trained (including children in diapers).

Number of cases

250

Franklin County rate

21.7 per 100,000

Age of cases

Mean: 10.7 years

Median: 5 years

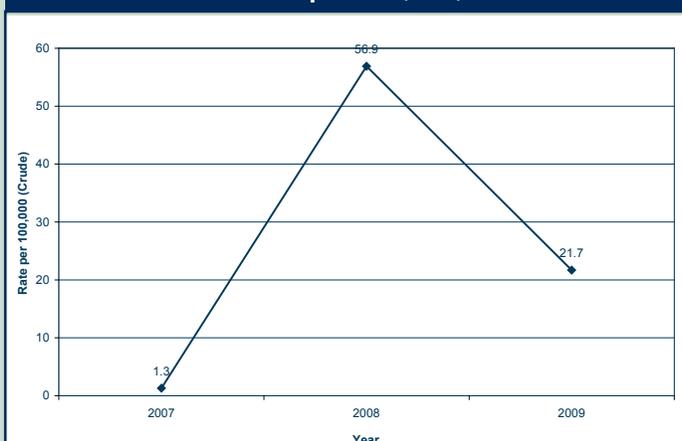
Range: 1 month – 71 years

Rate by sex

Female: 23.1 per 100,000

Male: 20.3 per 100,000

Figure 6
Shigellosis Cases in Franklin County
Incidence Rates per 100,000, 2007-2009



Columbus Public Health Shigella Taskforce 2009

During 2008, Columbus and Franklin County health departments began to investigate an increase in *Shigella sonnei* cases (N=519). Due to the large number of cases locally and nationally, Columbus Public Health formed a shigella task force in early 2009 with the purpose to implement measures to control and prevent the spread of the disease.

The task force consisted of:

- Project Manager
- Content Expert
- Case Investigation Workgroup
- Communication Workgroup
- Education and Outreach Workgroup
- Data Workgroup

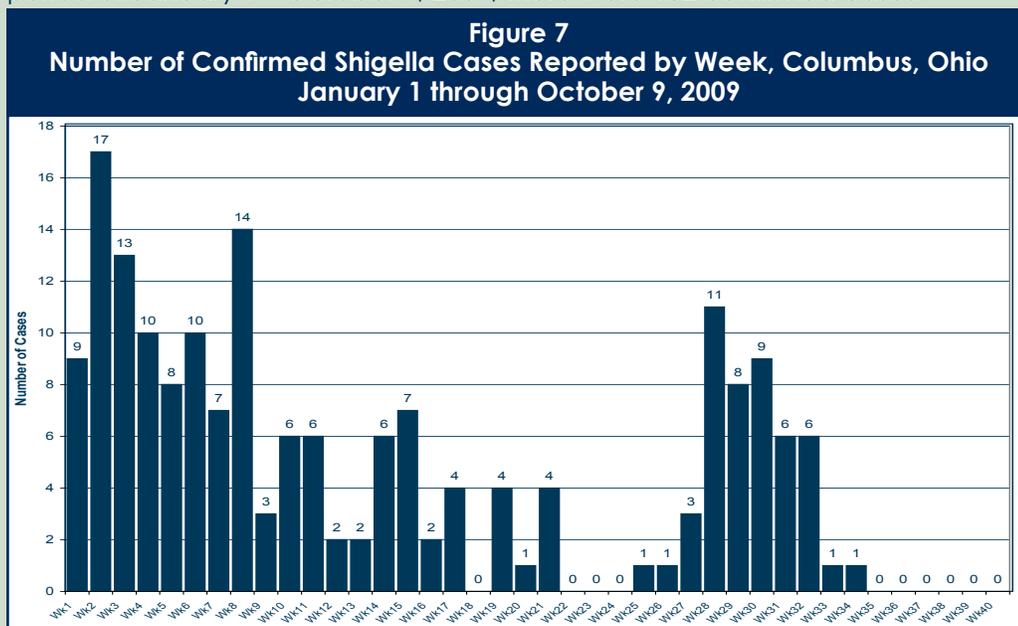
The objectives for the epidemiological response to the outbreak were to:

- Create and maintain daily a CPH line list for Shigella cases.
- Analyze Shigella data from line list daily.
- Provide analysis findings to assist with intervention strategies at least weekly.
- Establish baseline incidence of Shigella. Use this to determine end of outbreak and to evaluate.

The case definition:

- A resident of Columbus or Worthington with culture-confirmed *Shigella sonnei*, who is a child care center attendee or worker, or has close contact with a child care center attendee or worker reported since January 1, 2009
- A resident of Columbus or Worthington with culture-confirmed *Shigella sonnei*, who is not a child care center attendee or worker, or does not have close contact with a child care center attendee or worker reported since January 1, 2009

Based on historical data, the outbreak was considered resolved when the incidence of Shigella was ≤ 3 cases per week and sustained over 8 weeks. October 9, 2009 was considered the end of the outbreak. For the time period of January 1 – October 9, 2009, there were 182 confirmed cases.



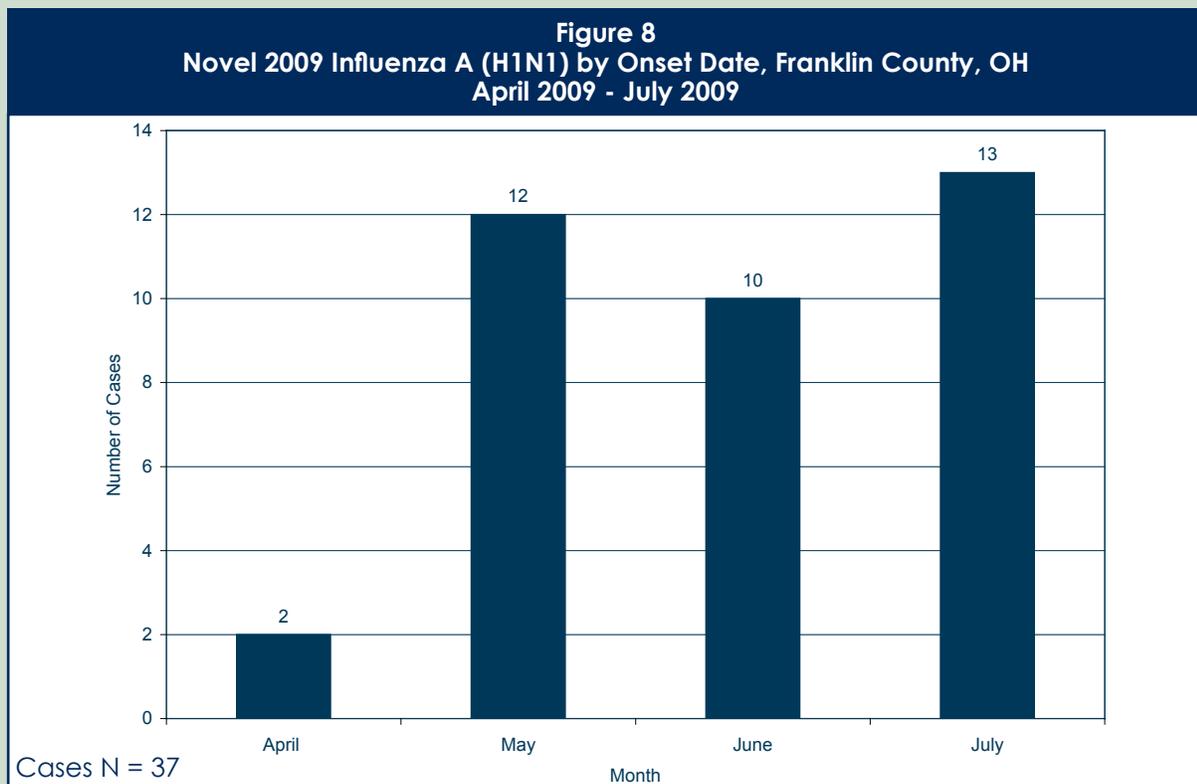
Novel Influenza – H1N1 Outbreak 2009

Novel 2009 Influenza A (H1N1) was first detected in the United States in April 2009. This virus was a unique combination of influenza virus genes never previously identified in either animals or people. The virus genes were a combination of genes most closely related to North American swine-lineage H1N1 and Eurasian lineage swine-origin H1N1 influenza viruses. Because of this, initial reports referred to the virus as a swine origin influenza virus. However, investigations of initial human cases did not identify exposures to pigs and quickly it became apparent that this new virus was circulating among humans and not among U.S. pig herds.

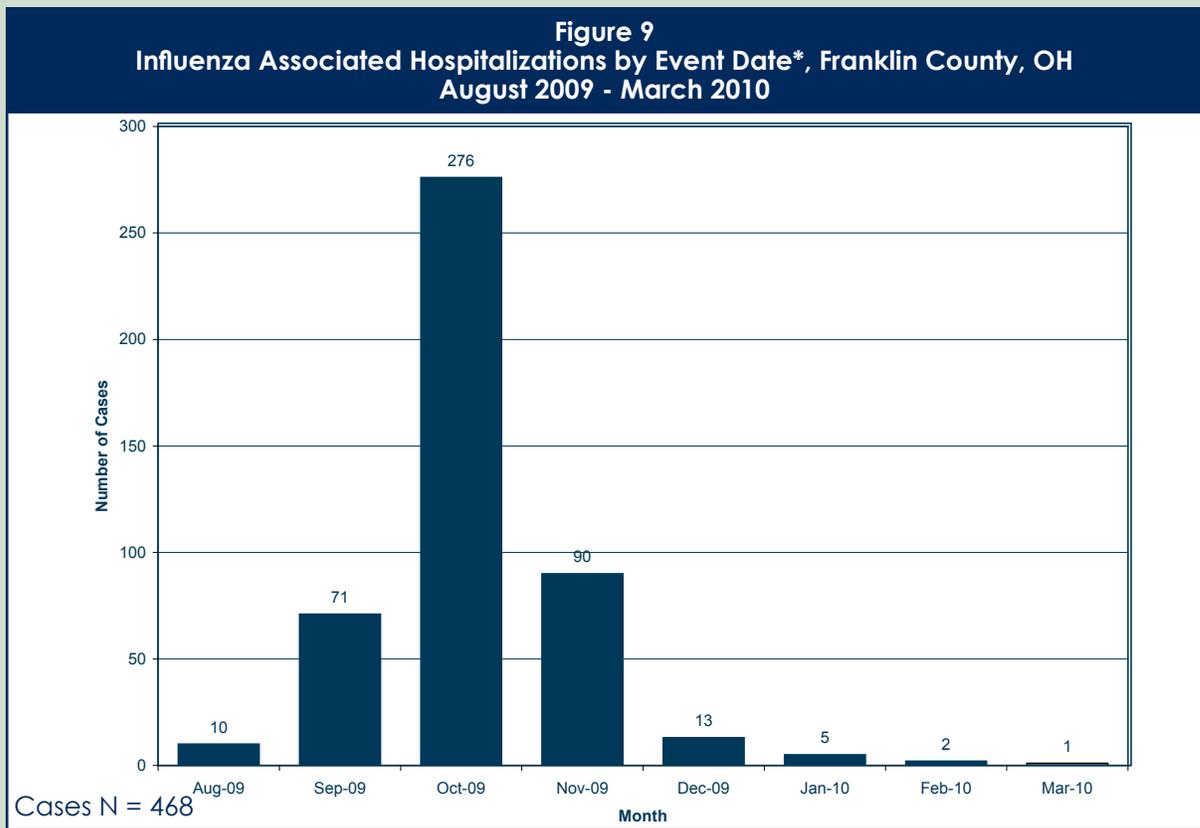
In Franklin County, starting April 28, 2009 to August 4, 2009, 37 confirmed individual cases of Novel 2009 Influenza A (H1N1) were reported. Of the 37 confirmed cases, 11 were hospitalized. On August 5, 2009, the Ohio Department of Health has announced that the H1N1 influenza virus is a non-novel influenza virus. Local public health surveillance for this virus was limited to outbreaks, influenza associated hospitalizations (IAH) and influenza-associated pediatric mortality.

From August 5, 2009 through April 26, 2010, 468 confirmed Influenza-Associated Hospitalization (IAH) were reported. Of the 468 cases, 273 were Influenza A (H1N1). There were 10 deaths among the IAH cases confirmed with H1N1 virus. Also, two Influenza-Associated Pediatric deaths were confirmed as H1N1.

Figure 8 below displays the H1N1 case count by month. 13 cases were reported in the month of July. Figure 9 displays influenza-associated hospitalization case counts to be highest in the month of October. A total of 276 cases were reported that month.



Novel Influenza – H1N1 Outbreak 2009 (continued)



* The event date is a default date in ODRS when an onset date is not available. The event date is the date closest to the illness onset date.

Timeliness of Disease Reports

According to the Ohio Infectious Disease Control Manual, "Surveillance is a comprehensive process which includes suspicion of an infectious disease, confirmation of disease, disease reporting, case investigation, prevention and control to limit the spread of disease. The ultimate goal of the process is to protect and improve the health of the public, using the knowledge of incident cases to prevent the spread of disease and ultimately, eliminate some diseases entirely."

Timeliness of disease reports is a key factor in achieving the goal. In order to reduce the burden of disease in our community and to implement appropriate interventions, the public health system relies on healthcare providers and laboratories for identification of infectious diseases. Timeliness requirements for each reportable disease vary based on the communicability and severity of the disease.

In the Ohio Disease Reporting Systems (ODRS) application, it is possible to query the date when a healthcare provider diagnoses an illness and when the local health department was able to receive notification of the illness, i.e. the date a case was entered into ODRS.

Table 2 lists selected diseases and how long it took (using median and mean number of days) for a disease to be reported to the local health department after a healthcare provider diagnosis.

Table 2. Franklin County Reportable Disease Lag Time between the Healthcare Provider Diagnosis and Date Entered into ODRS for Selected Diseases, 2009

Reportable Condition	Reporting Requirement	Number of Confirmed Cases	Median (days)	Mean (days)	Missing Diagnosis Dates
E. coli O157:H7	By end of next business day	14	2.0	2.6	43%
Hepatitis A	By end of next business day	7	0	1.0	15%
Listeriosis	By end of next business day	1	3.0	3.0	100%
Measles	Immediately	0	n/a	n/a	n/a
Meningococcal disease	Immediately	4	1.5	4.8	25%
Mumps	By end of next business day	1	0.0	0.0	0%
Pertussis	By end of next business day	198	1.0	2.1	38%
Rubella	Immediately	0	n/a	n/a	n/a
Salmonellosis	By end of next business day	145	2.0	3.7	45%

*Notes: Reporting Lag = ODRS Entry Date – Diagnosis Date**

***"Diagnosis Date" defaulted to the following date fields (in order) if blank: lab specimen collect date, lab result date, onset date, ODH report date, created date. Also, if a diagnosis date occurred after the date reported to the local health department then the diagnosis date defaulted to next proxy as listed above.

Timeliness of Disease Reports (continued)

Analyses of the reporting lag (i.e., time between the diagnosis date and the ODRS entry date) show that reporting requirements were met for Hepatitis A, Meningococcal, Mumps and Pertussis. From 2008 to 2009, it should be noted that the median and mean lags for Franklin County improved for some diseases (E.coli O157:H7, Hepatitis A, Meningococcal, Pertussis and Salmonellosis). 2009 was the first year that lag time analysis for Listeriosis was completed.

As shown in the notes for Table 2, the reporting lag is defined as the difference between the diagnosis date and when the case was entered into ODRS. If the diagnosis date field was empty, a proxy date was used. These fields were used (in this order) as the proxy: lab specimen collect date, lab result date, onset date, date reported to ODH and date the records was created by the local health department. The diagnosis date field was blank (and a proxy date needed) for a minimum of 15% of cases up to a maximum of 45% of cases excluding the Listeriosis case.

CPH and FCPH will periodically monitor the reporting lag times for these diseases. Regular monitoring will help with two key issues: late reporters and missing data. If specific reporters are found to be contributing to longer lags, this information will be shared with them, challenges to timely reporting will be identified and addressed, and closer monitoring of reports will follow. Additionally, filling in missing or incorrect dates is easier if caught before a data year is finalized.

Technical Notes

The Ohio Administrative Code 3701-3-02, 3701-5-05, and 3701-3-12 requires by law that communicable diseases be reported to local health departments. Reportable diseases are grouped by class. All the diseases in this summary are class A and B, which is defined as: Disease of major public health concern because of the severity of disease or potential for epidemic spread.

Case criteria and definitions

For nationally reportable diseases, case definitions are determined by the Council of State and Territorial Epidemiologists (CSTE) in conjunction with the CDC and are published in the MMWR [1997; 46(RR-10)].

In Ohio, case definitions can be found in the Infectious Disease Control Manual (<http://www.odh.ohio.gov/healthResources/infectiousDiseaseManual.aspx>).

Diseases not included in the Table 1

There were no confirmed cases in Franklin County of the following Class B (1) & (2) reportable diseases; therefore, they were not included in the table: Chancroid, Coccidioidomycosis, Cyclosporiasis, Granuloma Inguinale, Q fever, Staph aureus (VRSA, VISA), Creutzfeldt-Jakob disease, Hepatitis D, Hepatitis E, Toxic shock syndrome (TSS) and Trichinosis. Class C reports are also not included in the table.

Notes on reporting systems

Data are from the Ohio Department of Health and the Communicable Disease Reporting system (CDRS, a joint effort between Columbus Public Health Department and the Franklin County Public Health). Cases of sexually transmitted diseases, tuberculosis, AIDS, and HIV have separate reporting systems. Cases may have been excluded due to the reporting time, onset date, or when the supplemental information was received.

The Ohio Disease Reporting System (ODRS) was developed as a web-based system to make disease reporting more timely and efficient for disease reporters (e.g. hospitals, laboratories and physicians), and to improve communication about infectious diseases between disease reporters, local health departments, and ODH. Currently, ODH, local health departments and infection control preventionists have the ability to enter and update case and laboratory reports into ODRS. The system uses patient's address to determine the correct local health jurisdiction in which to electronically send the report for follow-up and investigation. In addition, some laboratories have the ability to electronically up-load batches of reports via Electronic Laboratory Reporting (ELR) from their databases into ODRS, minimizing paperwork and re-entry. If a disease report is inadvertently assigned to an incorrect health jurisdiction, the health department receiving the report can re-direct it to the correct one. Updates to information can be made to the record in the database, and all fields in the ODH and CDC reporting forms are included in ODRS.

References

Centers for Disease Control and Prevention, Disease Factsheets A-Z.
<http://www.cdc.gov/az/a.html>

Centers for Disease Control and Prevention -National Center for Immunization and Respiratory Diseases, National Center for Emerging and Zoonotic Infectious Diseases, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention.
<http://www.cdc.gov/oid/centers.html>

Communicable Disease Reporting System, Disease Factsheets A-Z
http://www.cdrsinfo.org/diseases_a_z.html

Evaluation of Reporting Timeliness of Public Health Surveillance Systems for Infectious Diseases: Ruth Ann Jajosky 1 and Samuel L Groseclose2, 3 Published online at BioMed Central, 2004 July 26. doi: 10.1186/1471-2458-4-29. PMID: PMC50925

<http://www.biomedcentral.com/content/pdf/1471-2458-4-29.pdf>

The Ohio Department of Health Infectious Disease Control Manual:
<http://www.odh.ohio.gov/healthResources/infectiousDiseaseManual.aspx>