



Indiana State Department of Health

Epidemiology Resource Center

2011 Indiana Report of Infectious Diseases

All incidence rates throughout the report are per 100,000 population based on the U.S. Census Bureau's population data as of July 1, 2010.

Data for counties reporting fewer than five disease cases are not included to protect the confidentiality of the cases.

Data for fewer than 20 reported disease cases are considered statistically unstable.

References

American Academy of Pediatrics. In: Pickering LK, Baker CJ, Long SS, McMillan JA, eds. *Red Book: 2006 Report of the Committee on Infectious Diseases*. 27th ed. Elk Grove Village, IL: American Academy of Pediatrics; 2006.

Centers for Disease Control and Prevention. *Manual for the Surveillance of Vaccine-Preventable Diseases*. Centers for Disease Control and Prevention, Atlanta, GA, 2008.

Centers for Disease Control and Prevention. *Epidemiology and Prevention of Vaccine-Preventable Diseases*. Atkinson W, Wolfe S, Hamborsky J, McIntyre L, eds. 11th ed. Washington DC: Public Health Foundation, 2009.

Heyman, D.L. (2008). *Control of Communicable Diseases Manual (19th ed.)*. American Public Health Association.

Websites

www.cdc.gov



The **Indiana National Electronic Disease Surveillance System (I-NEDSS)** is a web based application that promotes the collection, integration and sharing of data at federal, state and local levels. The purpose of I-NEDSS is to electronically report infectious diseases to the state and local health departments. Benefits of I-NEDSS include an increase of speed, accuracy, and accountability in our disease surveillance. This will be accomplished by having all reporting and investigation forms accessed, completed, and submitted electronically through I-NEDSS. I-NEDSS is part of a national electronic disease reporting system that not only links healthcare providers and state and local public health agencies within Indiana, but also provides data to the U.S. Centers for Disease Control and Prevention. This system is currently in use by 98% of the local health agencies in the state and nearly 130 hospitals to report infectious diseases.

SHIGELLOSIS

Shigellosis is a contagious diarrheal illness caused by *Shigella* bacteria. There are four species of *Shigella* bacteria: *sonnei*, *flexneri*, *boydii*, and *dysenteriae*. *Shigella sonnei* is the most common species identified in the US and Indiana; other species are most often associated with travel to endemic countries. *Shigella* bacteria are found mainly in humans, and the infection is very easily passed from person to person. Shigellosis is very serious in babies, the elderly, and people with weakened immune systems.

People become infected with *Shigella* by having contact with stool from an infected person (fecal-oral route). Infection may be transmitted in several ways:

- Consuming food or beverages prepared by an infected person.
- Hand-to-mouth exposure to the stool or vomit of an infected person, such as:
 - Handling or cleaning up stool or vomit.
 - Touching a contaminated surface or object.
 - Having close contact with an ill household member.
 - Engaging in sexual activity that involves contact with stool.

Public Health Significance

Symptoms of shigellosis include diarrhea, sudden stomach pain, cramps, fever, and vomiting. Symptoms usually begin 24-72 hours (range of 12 hours to 5 days) after exposure and last about 4-7 days. Some people may have no symptoms but can still spread the infection to others. Antibiotics are usually used to treat shigellosis. However, some strains of *Shigella* bacteria are resistant to certain antibiotics.

Persons who work in certain occupations, such as food handlers, daycare providers, and health care providers, have a greater risk of transmitting infection to others. *Shigella* bacteria are not naturally found in foods of animal origin.

In general, shigellosis can be prevented by strictly adhering to the following guidelines:

- Practice good hygiene:
 - Thoroughly wash hands with soap and water after using the restroom; after assisting someone with diarrhea and/or vomiting; after swimming; and before, during, and after food preparation.
 - Clean food preparation work surfaces, equipment, and utensils with soap and water before, during, and after food preparation.
- Eat safe foods and drink safe water:
 - Wash all produce before eating raw or cooking.
 - Use treated water for washing, cooking, and drinking.
- Protect others:
 - Persons with diarrhea and/or vomiting should not prepare food or provide health care for others and should limit direct contact with others as much as possible.
 - Persons with diarrhea and/or vomiting should not attend a daycare facility or school.

Reporting Requirements

According to the Communicable Disease Reporting Rule for Physicians, Hospitals and Laboratories, 410 IAC 1-2.3, [http://www.in.gov/isdh/files/comm_dis_rule\(1\).pdf](http://www.in.gov/isdh/files/comm_dis_rule(1).pdf), hospitals and healthcare providers must report shigellosis immediately to the local health department or the ISDH. Laboratories are also required to report positive results of Shigellosis weekly to the ISDH.

Healthy People 2020 Goal

There is no Healthy People 2020 Goal for shigellosis.

Epidemiology and Trends

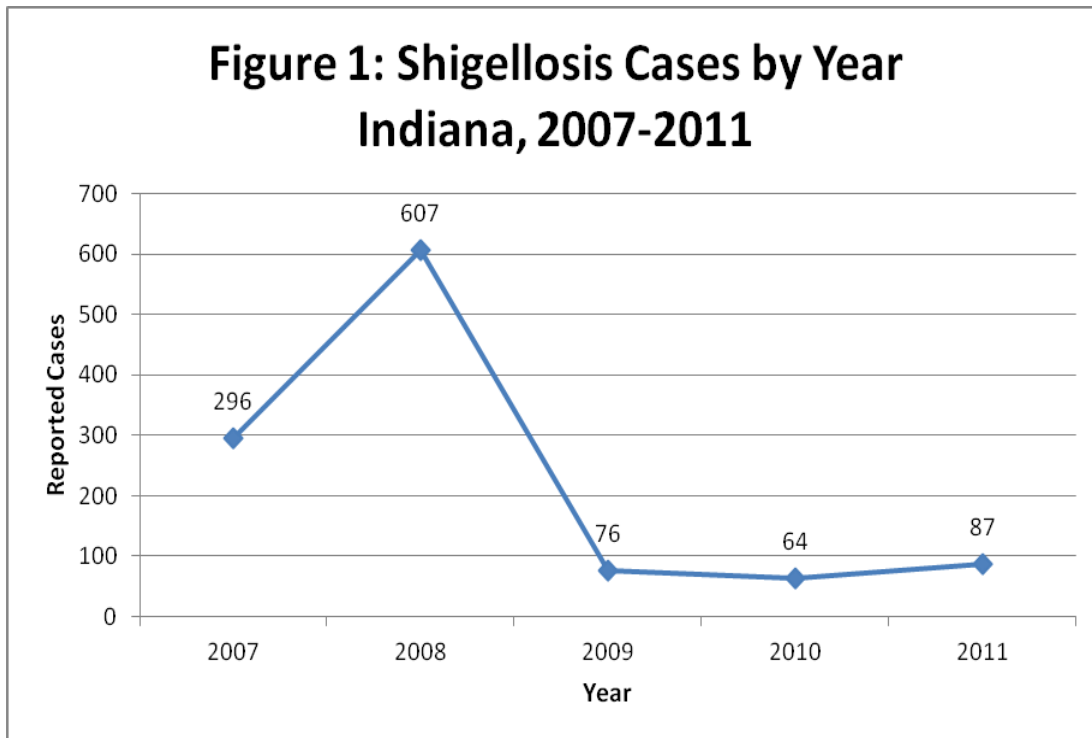
In 2011, 87 cases of shigellosis were reported in Indiana, for a case rate of 1.33 cases per 100,000 population (Table 1). Males (1.31) were less likely to be reported than females (1.36). The rate of illness among other races (3.59) was higher than the rate for blacks (2.29) and whites (0.81); however, 18 cases (20.7%) did not report race data.

Table 1: Shigellosis Case Rate by Race and Sex, Indiana, 2011

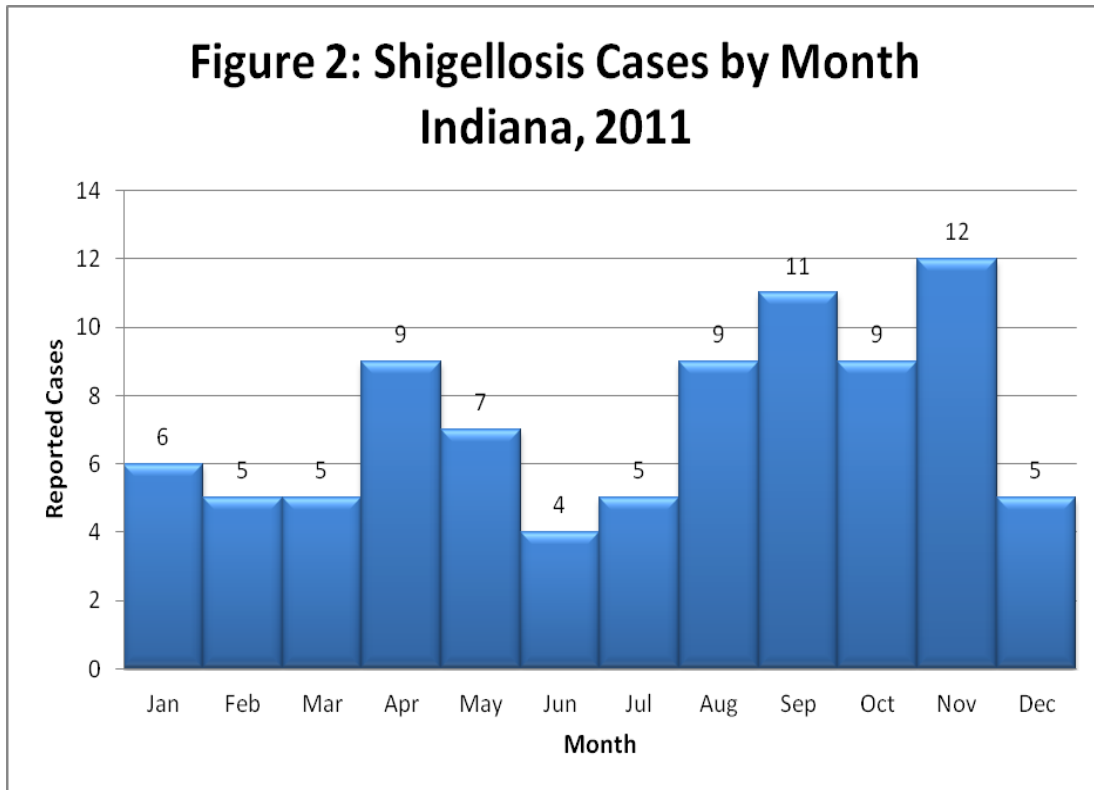
	Cases	Rate*	2006 - 2010 Total
Indiana	87	1.33	1130
Race			
Black	14	2.29	482
White	46	0.81	389
Other	9	3.59	54
Not Reported	18	-	205
Sex			
Female	45	1.36	628
Male	42	1.31	498
Unknown	0	-	4

*Rate per 100,000 population based on U.S. Census Bureau's population data as of July 1, 2010

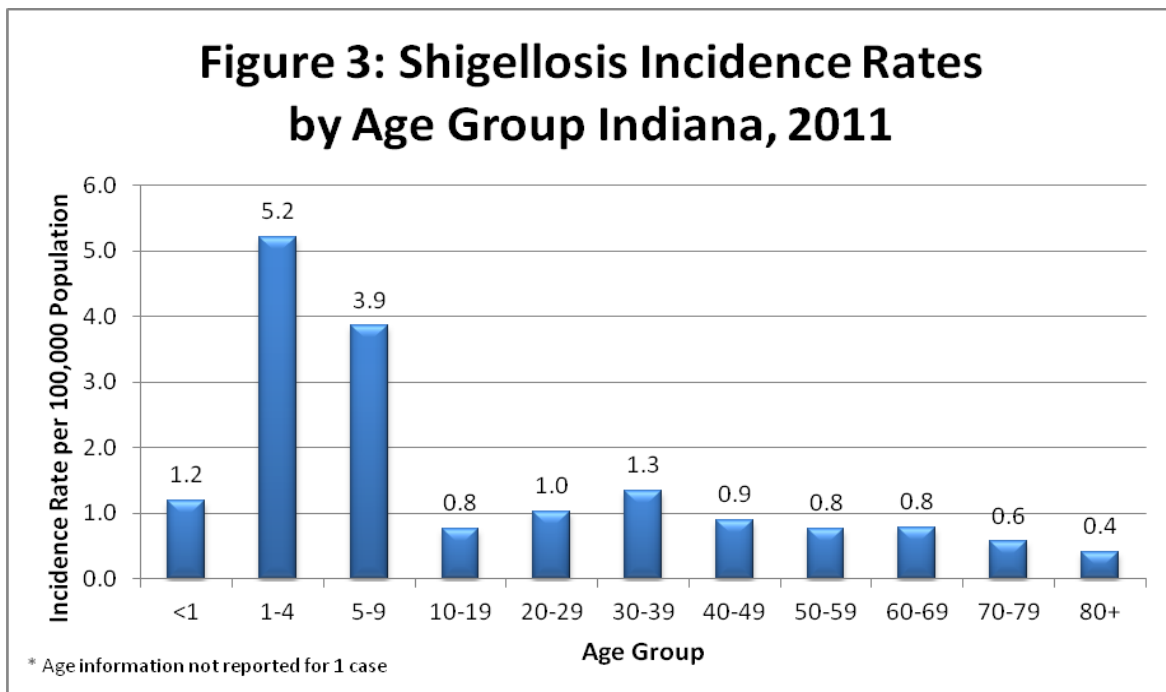
Figure 1 shows the number of reported cases per year for 2007-2011.



The incidence of shigellosis was highest during spring and late summer months (Figure 2).



As shown in Figure 3, age-specific rates were highest among preschoolers ages 1-4 years (5.21), followed by children ages 5-9 years (3.86), and infants less than one year old (1.19).



The incidence rate was highest in Allen (5.3), Clark (4.5), Hamilton (1.8), Lake (1.8), and Marion (1.2) among counties reporting five or more cases. [Figure 4](#) shows Indiana counties reporting five or more cases.

You can learn more about shigellosis by visiting the following Web sites:

<http://www.cdc.gov/nczved/divisions/dfbmd/diseases/shigellosis/>

<http://www.fda.gov/Food/FoodSafety/FoodborneIllness/FoodborneIllnessFoodbornePathogensNaturalToxins/BadBugBook/ucm070563.htm>