

Foodborne Hepatitis A Outbreaks in the U.S. Are Well-documented; Vaccine Provides Lifetime Protection

Hepatitis A can be spread by exposure to fecal material, through household or sexual contact with an infected person or by consuming hepatitis A virus-contaminated food or water. People who get infected with the hepatitis A virus can become extremely ill, and sometimes die of fulminant (overwhelming) infection.

The Centers for Disease Control and Prevention operates a reporting system for foodborne outbreaks due to bacteria, viruses, fungi, parasites, and chemical and toxin contamination. Summary information about these outbreaks is available from the Foodborne Outbreak Online Database.* This database includes startling information about foodborne hepatitis A outbreaks in the United States from 1997 through 2011.

Summary of hepatitis A outbreaks

- Total number of foodborne hepatitis A outbreaks, 1998–2011: 81 (average of 6 outbreaks per year, range 1 to 12 outbreaks per year)
- Total number of outbreak-associated illnesses: 2,202[†] (average of 28 illnesses per outbreak)
- Number of states reporting foodborne hepatitis A outbreaks: 27 (2 outbreaks involved more than 1 state)
- Largest outbreaks: Pennsylvania, 2003 (565 cases[‡]), and Georgia, 2003 (297 cases[§])
- Outbreak-associated hospitalizations: 290
- Outbreak-associated deaths: 8
- Most common food products implicated in hepatitis A transmission: vegetables (often salads) and fruit. Fresh produce can become contaminated during cultivating, harvesting, processing, or distribution. Many other types of food were also implicated in outbreaks, including seafood, ice, milk products, and sandwiches.
- Most common setting of outbreaks: restaurants (including fast food and sit-down types), private homes, workplaces, picnics, and schools. Most reported hepatitis A foodborne outbreaks have been related to hepatitis A-infected food handlers.

Three outbreaks illustrate the potential magnitude of foodborne hepatitis A outbreaks

- In 2013, at least 162 people in 10 states became ill with hepatitis A after consuming products containing pomegranate seeds from Turkey. At least 71 people were hospitalized. It has not yet been determined how the pomegranate seeds became contaminated with hepatitis A virus.**
- Beginning in late August 2005, at least 10 clusters of hepatitis A illnesses, totaling 39 people, occurred in 4 states among restaurant patrons who ate raw oysters. Hepatitis A virus was detected in multiple recalled samples, indicating that as many as 1 in every 15 oysters from this source was contaminated.^{††}
- In 1997, a multi-state outbreak of hepatitis A was associated with consumption of frozen strawberries. The outbreak involved 242 persons from five states and included children from 36 schools.^{‡‡}

Foodborne outbreaks of hepatitis A are unpredictable. They can be caused by many different types of food (particularly foods eaten raw or minimally cooked) and in any food service setting. These outbreaks can result in serious illness, hospitalization, and death. Unlike most other types of foodborne illnesses, those caused by hepatitis A virus can be prevented by vaccination. Two doses of hepatitis A vaccine separated by 6 months can provide lifelong protection against this dangerous virus infection.

SOURCES

* Available at www.cdc.gov/foodborneoutbreaks. Accessed June 4, 2014.

[†] The 2002 reported outbreak-associated illnesses underestimates the true number of infections since many people (particularly children) infected with hepatitis A will not have symptoms and may not be reported as part of an outbreak.

[‡] The 2003 Pennsylvania outbreak was traced to green onions served in a single chain restaurant's salsa. The green onions were grown in Mexico and had most likely been contaminated during growing, harvesting, packing, or distribution; green onions require extensive handling and their surface is complex and vulnerable to contamination.

[§] Green onions were also implicated in the Georgia outbreak. Molecular epidemiology indicated the source of the contaminated produce to the same area in northern Mexico as the Pennsylvania outbreak.

** Available at www.cdc.gov/hepatitis/Outbreaks/2013/A1b-03-31. Accessed June 4, 2014.

^{††} Shieh YC, Khudyakov YE, Xia G, et al. Molecular confirmation of oysters as the vector for hepatitis A in a 2005 multistate outbreak. *J Food Prot* 2007; 70(1):145–50.

^{‡‡} Hutin YJ, Pool V, Cramer EH, et al. A multi-state, foodborne outbreak of hepatitis A. *N Engl J Medicine* 1999 Feb 25; 340(8):595–602.