EPI-LOG

Communicable Disease and Epidemiology News
Published continuously since 1961
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Vol. 52, No. 7 July-August 2012

- **UPDATES ON PERTUSSIS, SUSPECTED RABIES EXPOSURES, AND VIBRIOSIS**
- **COMMON FOODBORNE BACTERIAL TOXINS**

Communicable Disease Updates

- *Pertussis*
  - As of 8/1/12, 566 confirmed cases of pertussis have been reported to Public Health this year, with no deaths reported. Infants and children aged 10-13 years have the highest rates. Pertussis activity has decreased since the end of May 2012, but remains significantly above baseline. In the previous five years, on average fewer than 5 confirmed cases were reported each week. This number peaked at 40 reports in a week in May, and decreased to 19-23 reports per week in July. Weekly surveillance updates are available at www.kingcounty.gov/health/pertussis.
  - An article on the pertussis epidemic in Washington State was published in the July 20, 2012 issue of *Mortality and Morbidity Weekly Report* (www.cdc.gov/mmwr).
  - **To protect you and your staff, have coughing patients don surgical masks when they enter your facility, and observe droplet precautions (including a mask over your nose and mouth) when examining patients with suspected pertussis.**
- *Suspected rabies exposures*— With the summer weather, bat exposure reports have increased. This year 21 King County residents have received rabies postexposure prophylaxis (PEP) because of exposure to bats. **After a bat exposure, the need for PEP can usually be avoided by safely capturing and testing the bat.** Nineteen bats have been tested for rabies at the Washington Department of Health Public Health Laboratories this year after potential human exposure to rabies, and all but one were negative. Raccoon bite reports have also risen in recent weeks. **Raccoon bites occurring in King County are considered low-risk for rabies and need not be reported unless the animal was rabid acting or there were other unusual circumstances that increase the suspicion for rabies**. For guidelines and resources see: www.kingounty.gov/health/cd.
- *Vibriosis*- Three confirmed *Vibrio parahaemolyticus* cases were reported in July, for a total of 4 confirmed and 1 probable case of non-cholera *Vibrio* reported in 2012. One was a man who was infected by raw oysters he had harvested from the Hood Canal, which was later closed to harvesting due to high levels of *Vibrio.* Consider vibriosis and obtain a stool culture when evaluating patients with gastrointestinal illness after eating raw or undercooked shellfish (e.g. clams, mussels, oysters). To help expedite public health prevention measures, please document restaurant or purchase dates and locations, and beach locations for recreationally-harvested shellfish.

Picnic Puzzler

Picnic season is finally here! But with the warm weather comes the challenge of keeping foods at proper temperatures between cooking and dining. Here's a puzzler that illustrates what can go awry.

Public Health received a report that an outdoor picnic attended by approximately 500 people had more than 200 people fall ill with diarrhea and cramps within 24 hours after the picnic. The main course and side dishes were catered by a single restaurant. Public Health's Environmental Health (EH) team inspected the restaurant and found that the hot foods for the picnic (a bread dish, a rice dish, and two curry dishes) had been prepared two to four hours before serving, and after delivery was held without being kept at proper temperatures. The Communicable Disease Epidemiology team (CD-EPI) investigation included interviews with ill picnic attendees to get information about foods eaten and symptoms experienced, and an online survey to all picnic attendees. 120 attendees responded to the survey. The ill respondents (n=104, 87%) reported experiencing either diarrhea or cramps, and 73% of ill persons reported both. The median incubation period was 7 hours (range 1-24), and the median duration of illness was 24 hours. People who ate spinach curry were significantly more likely to be ill. The picnic organizers had kept some of the left-over food, which was submitted to the Washington State Public Health Lab for testing. Stool samples from three attendees were also tested. Cultures from the spinach curry dish and stool identified the organism responsible for the outbreak. On follow up visits to the restaurant, ongoing problems with improper temperature control were identified. The restaurant was closed until the critical issues were resolved, and was restricted from further event catering.

Which of the following organisms is most likely to have caused this outbreak: A) Norovirus; B) *Staphylococcus aureus;* C) *Salmonella*; D) *Clostridium perfringens ?* *(Answer on next page)*

Picnic puzzler answer

The answer is: D) *Clostridium perfringens.* Samples of spinach curry as well as stool samples from the ill attendees grew sufficient levels of the bacteria to confirm it was the cause of the outbreak.

The relatively short incubation period and duration of symptoms suggested a toxin-mediated illness. Toxin-producing bacteria that frequently cause foodborne illness in the United States include *Clostridium perfringens, Staphylococcus aureus,* and *Bacillus cereus.*

- *C. perfringens* most commonly causes a mild gastroenteritis that consists of watery diarrhea and mild abdominal cramps. It produces toxin while sporulating in the gastrointestinal tract, unlike *S. aureus* and *B. cereus* which produce toxins in food prior to ingestion. Symptoms typically occur 6-24 hours after exposure. Spores of *C. perfringens* can survive high heat and can multiply rapidly after food is cooked. Gravies, stews, and meat products are important vehicles for *C. perfringens* foodborne illness. The bacteria may also be found on vegetables including spices and herbs.
- *S. aureus* can produce heat-stable enterotoxins that are not destroyed by cooking. *S. aureus* toxin can cause nausea, vomiting, abdominal cramps, and sometimes diarrhea within 1-7 hours of ingestion. A wide variety of meat, poultry, and egg products can serve as vehicles, particularly salads (e.g. chicken, egg, tuna, potato, etc.) and baked products with fillings (e.g. cream, custard).
- *B. cereus* produces toxins that can cause either a diarrheal illness or an emetic (vomiting) illness. The emetic toxin causes symptoms 30 minutes to 6 hours after ingestion, while the diarrheal illness typically starts 6 to 24 hours after ingestion. Emetic illness is often associated with rice products (particularly fried rice) and other starchy foods.

Take-home points:

- Suspect a toxin-mediated foodborne illness in persons who experience gastrointestinal symptoms within hours after a meal, particularly after eating foods that may have been held at improper temperatures for more than a couple hours prior to eating.
- In general, foodborne illnesses from bacterial toxins are mild to moderate and usually resolve within 24-36 hours. Severe abdominal pain, bloody diarrhea, and persistent symptoms should trigger consideration of other diagnoses, including Shiga toxin-producing *E. coli*, *Salmonella, Shigella,* and *Campylobacter* infections.
- Report suspected outbreaks of foodborne illness to Public Health by calling (206) 296-4774. Confirmatory testing may be considered for incidents involving facilities or large groups of people.
- For more information visit the CD-EPI website at www.kingcounty.gov/health/cd, and click on *F* for *Food borne illness.*

Disease Reporting

AIDS/HIV…… (206) 263-2000
STDS…… (206) 744-3954
TB…… (206) 744-4579
All Other Notifiable
Communicable Diseases ……..... (206) 296-4774
Automated reporting line for conditions
not immediately notifiable (24/7)……..... (206) 296-4782

Hotline

Communicable Disease……... (206) 296-4949

Online Resources

Home Page: www.kingcounty.gov/health/cd
The *EPI-LOG*: www.kingcounty.gov/health/epilog
Communicable Disease Listserv:
mailman.u.washington.edu/mailman/listinfo/phskc-info-x

Reported Cases of Selected Diseases, Seattle & King County 2012

	Cases Reported in July		Cases Reported Through July	
	2012	**2011**	**2012**	**2011**
Campylobacteriosis	56	46	238	228
Chlamydial infections	467	534	3731	3719
Cryptosporidiosis	1	0	14	3
Giardiasis	15	17	82	94
Gonorrhea	106	110	774	831
Hepatitis A	0	0	7	12
Hepatitis B (acute)	2	0	7	9
Hepatitis B (chronic)	56	37	390	310
Hepatitis C (acute)	0	1	3	4
Hepatitis C (not acute, includes current and past infection)	95	111	783	792
Herpes, genital (primary)	20	60	370	388
HIV and AIDS (includes only AIDS cases not previously reported as HIV)	21	26	186	185
Legionellosis	1	0	3	4
Listeriosis	0	1	5	5
Measles	0	0	0	0
Meningococcal Disease	0	0	3	7
Mumps	0	0	0	0
Pertussis	90	5	560	36
Rubella (including congenital rubella)	0	0	0	2
Salmonellosis	22	26	109	115
Shiga toxin producing *E. coli (STEC), including E. coli O157:H7 and non-O157)*	11	6	37	16
Shigellosis	9	3	44	27
Syphilis	11	20	200	227
Syphilis, congenital	0	0	2	0
Syphilis, late	4	12	54	77
Tuberculosis	10	11	66	67
Vibriosis	6	4	8	5
Yersiniosis	0	0	12	2

The *Epi-Log* is available in alternate formats upon request.