

“Please be kind...report on time!”

It's the season for

NOROVIRUS OUTBREAKS

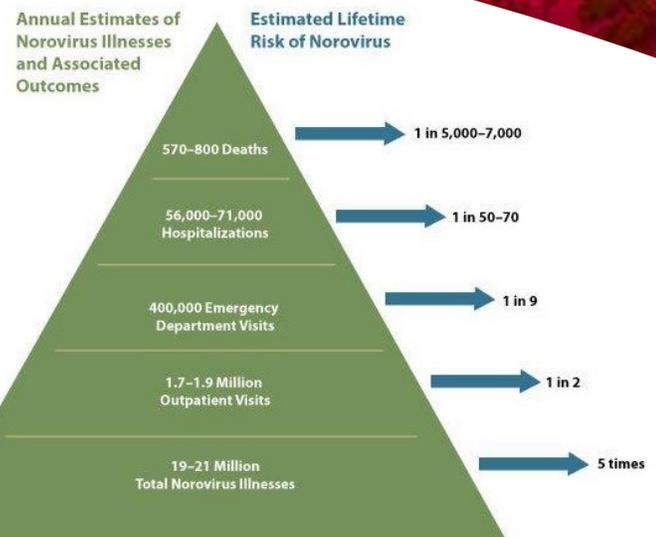
Temperatures are dropping; people are crowding indoors; the holiday season is approaching; the feasts are being prepared....it's time for norovirus, “the 24 hour stomach bug,” to make its seasonal assault.

The CDC estimates that each year, in the United States, norovirus causes 19 to 21 million cases of acute gastroenteritis, 56,000 to 71,000 hospitalizations, and 570 to 800 deaths. Annually, norovirus accounts for 50% of foodborne disease outbreaks. Norovirus outbreaks typically occur in winter months and when a new strain appears. Closed communities, including nursing homes, hospitals, military installations, correctional facilities and cruise ships, are especially vulnerable to norovirus outbreaks. Most reported outbreaks in the United States occur in nursing homes and hospitals—having a significant impact on the most vulnerable populations.

Noroviruses are extremely contagious, requiring less than 20 viral particles to cause infection. An infected person can shed billions of viral particles during their illness. Norovirus is primarily spread through close, personal contact with an infected person, fecal-oral route when a person consumes contaminated food or water, or by touching surfaces contaminated with the viral particles.

Persons exposed to norovirus usually develop symptoms within 12 to 48 hours of exposure. Typical symptoms include nausea, acute-onset of vomiting, and watery, non-bloody diarrhea with abdominal cramping. Some individuals may have low-grade fever, headaches, and body aches. Symptoms usually last for 24 to 72 hours. The majority of people completely recover, but norovirus can lead to serious complications in infants, young children, and older adults due to severe dehydration. Immunocompromised individuals are also at higher risk for serious illness. Hospitalizations and deaths can and do occur as a result of norovirus infections.

There are three norovirus genogroups that infect humans with more than 25 genotypes within the groups that have been



Burden of Norovirus in the United States. Estimates of the annual number of illnesses and associated outcomes for norovirus disease in the U.S., across all age groups. Lifetime risks of disease are based on a life expectancy of 79 years of age.
Source: CDC: <http://www.cdc.gov/norovirus/php/illness-outbreaks-figure.html>

identified. Therefore persons can be infected multiple times during their lifetime. Immunity to specific genotypes may occur but duration of immunity is unknown. No vaccine is available, though there is current research toward developing an effective vaccine.

Report Norovirus Outbreaks!

Norovirus in and of itself is not a reportable condition, but norovirus outbreaks are reportable. Healthcare providers, school nurses, nursing home administrators, hospital infection control preventivists, and correctional facility medical units should report all outbreaks of acute gastroenteritis, including suspected outbreaks of norovirus, to the appropriate local or regional state health department. Health departments will provide guidance for specimen collection, laboratory testing, and implementation of control measures to lessen the spread of illness.

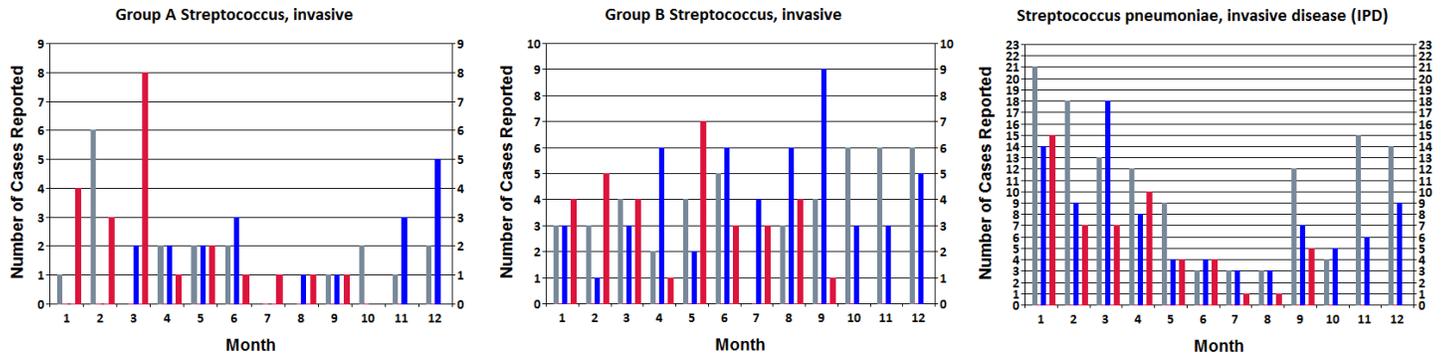
Sources: <http://www.cdc.gov/norovirus/php/index.html>

Chart 1: Select reportable conditions, including confirmed, probable, and suspect cases (as applicable) in DSHS HSR 1, including all public health jurisdictions, for the period January 01, 2011 through September 30, 2013 by Month/Year (Event Date).

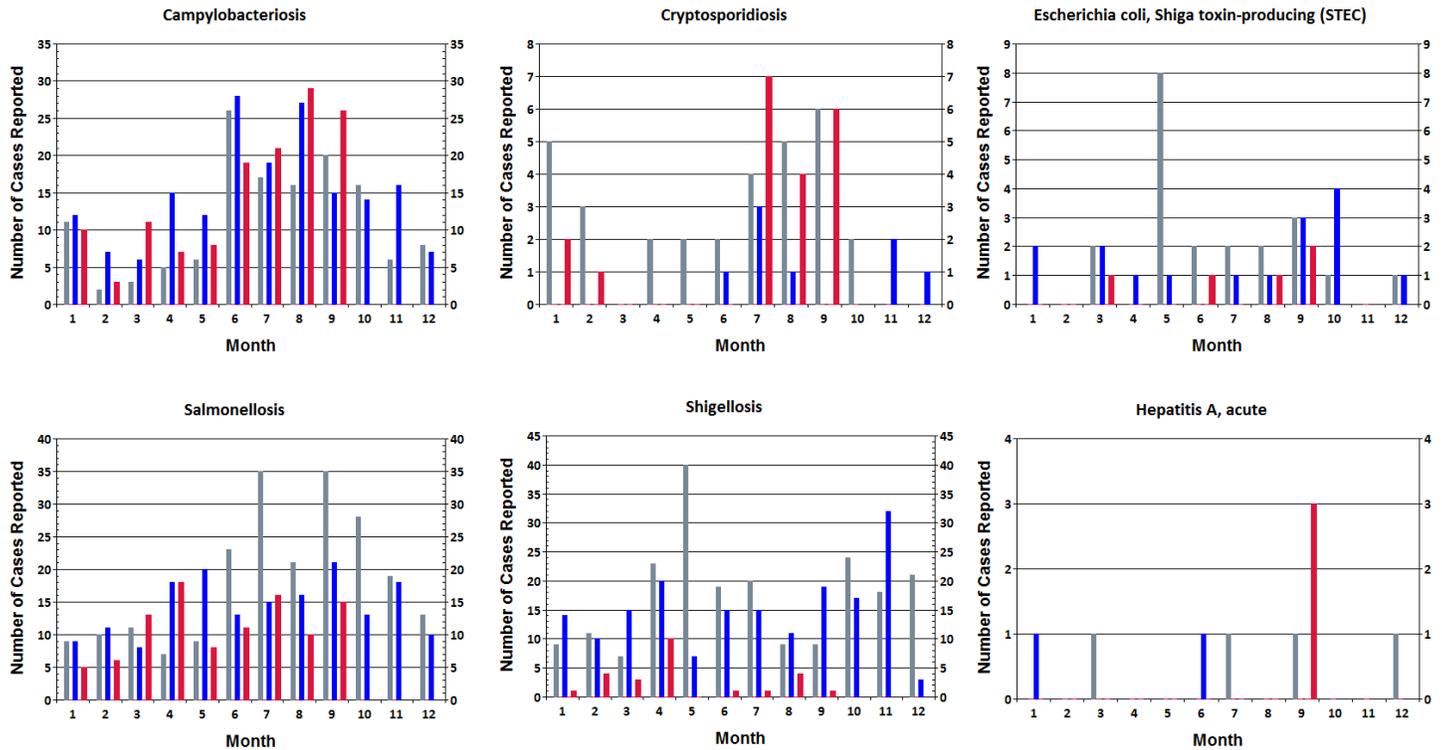
Data source: Texas NEDSS Database. Data extracted: 10/29/2013. These counts are generated by DSHS HSR1. 2013 data is preliminary and subject to change.



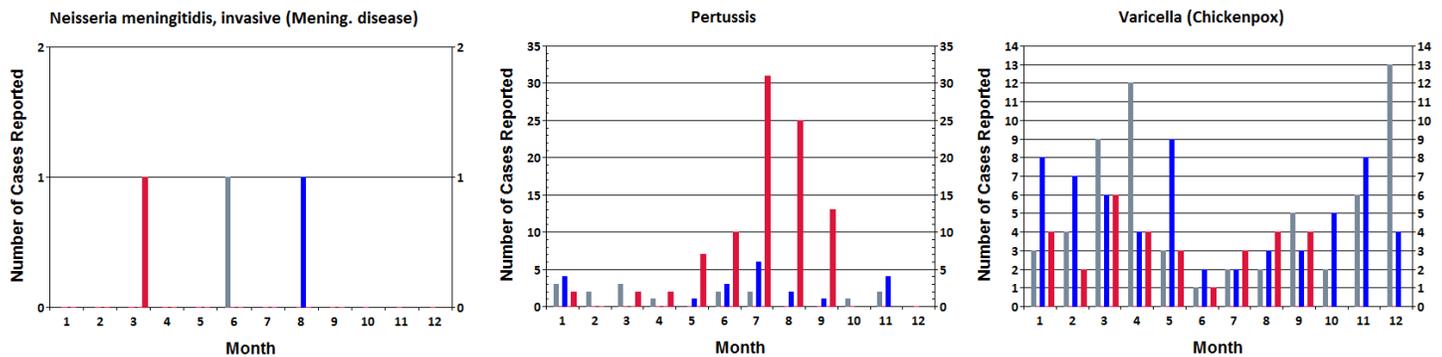
Invasive Streptococcal Disease



Foodborne/Waterborne Disease



Other Vaccine Preventable Disease



RESPONDING TO SUSPECTED NOROVIRUS OUTBREAKS IN HEALTHCARE SETTINGS

Report the suspected norovirus outbreak to your local or regional health department immediately. The health department will guide and assist in controlling the outbreak, requesting the following actions to be taken:

1. **Provide a line list of symptomatic individuals** including facility staff. The health department will provide a form for this purpose. The line list should be updated and submitted to the health department on a daily basis for the duration of the outbreak so the extent and severity of the outbreak can be assessed and to evaluate the effectiveness of control measures.
2. **Obtain stool specimens** for laboratory confirmation. The health department will assist in specimen collection and submission for testing as necessary. See the **LABORATORY CONFIRMATION** box to the right.
3. **Apply control measures** to minimize spread of disease. See **KEY CONTROL MEASURES FOR HEALTHCARE SETTINGS** box to the right.
4. **Clean and disinfect** potentially contaminated surfaces. See **ENVIRONMENTAL CLEANING** box below.
5. **Communicate** with your health department and healthcare providers, providing updates on the status of the outbreak, effectiveness of control measures taken, etc.

ENVIRONMENTAL CLEANING:

- Use EPA-registered products with label claims for use in healthcare
- Clean surfaces and patient equipment prior to application of disinfectant
- Increase frequency of cleaning and disinfection of patient care areas to twice daily (three times daily for frequently touched surfaces).
- When cleaning and disinfecting, start with the surfaces less likely to be contaminated, e.g., tray tables, countertops, moving to surfaces more likely to be heavily contaminated with norovirus, e.g., toilets, bathroom fixtures.
- Consider discarding all disposable patient-care items and laundry unused linens from person rooms suspected of having norovirus
- Use Standard Precautions when handling soiled patient-service items
- Handle soiled linens and clothing carefully, avoiding agitation to prevent dispersal of the virus
- Consider steam cleaning upholstered furniture/rugs/carpets upon discharge of a person suspected of having norovirus

LABORATORY CONFIRMATION

- If a norovirus outbreak is suspected, do not wait for negative bacterial/parasitic results before collecting specimens for norovirus.
- Whole, unpreserved stool specimens should be collected from a least five symptomatic individuals as early as possible, ideally, within 48-72 hours from onset of symptoms
- The specimen should be stored and shipped to the laboratory at refrigerated temperatures
- Polymerase Chain Reaction (PCR) for norovirus is the recommended method for detection. Most reference laboratories, including the Texas Department of State Health Services (DSHS) Laboratory, perform this test procedure.
- When a norovirus outbreak is suspected and it is not possible to get laboratory confirmation, i.e., PCR, the Kaplan Criteria can be used to determine if the outbreak is indeed caused by norovirus. See box below for **KAPLAN CRITERIA**.

KAPLAN CRITERIA

1. A mean or median illness duration of 12-60 hours
2. A mean or median incubation period of 24-78 hours
3. More than 50% of the affected individuals have vomiting as a symptom
4. No bacterial agent found from typical enteric culture.

If these criteria are met, the outbreak is likely caused by norovirus. However, not meeting these criteria does not rule out norovirus as 30% of norovirus outbreaks fail to meet these parameters.

KEY CONTROL MEASURES FOR HEALTHCARE SETTINGS:

- Exclude symptomatic staff, especially food handlers, from duty until a minimum of 48 hours **after** resolution of symptoms
- Place patients with suspected norovirus on Contact Precautions for a minimum of 48 hours after onset of symptoms
- Isolate/segregate patients with symptoms of norovirus from asymptomatic patients
- Minimize patient movement within a unit during norovirus outbreaks
- Close floors/wings/units to new admissions
- Limit transfers out of the facility if the receiving facility cannot maintain Contact Precautions
- Restrict symptomatic or recovering patients from leaving the patient care area
- Suspend group activities, including dining events
- Restrict non-essential visitors during the outbreak
- Promote adherence to hand hygiene for patients, staff, and visitors.
- Provide notification to staff and visitors that a norovirus outbreak is occurring