



WASHINGTON

**Integrated Food Safety  
Center of Excellence**

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## Norovirus Outbreak Detection and Case Definition

### Detecting a Norovirus Outbreak

All outbreaks of gastrointestinal illness should be immediately reported to the local health department. The local health department can conduct an investigation to determine the cause of the outbreak, identify risk factors for infection, identify and confirm the strain of norovirus, provide guidance on outbreak management and control, and educate the public on how to prevent further infections.

An outbreak of gastrointestinal illness is defined as: more persons with vomiting or diarrhea than would usually be expected for that time of year.

A **foodborne outbreak** is defined as an incident in which (1) two or more persons experience a similar illness after exposure to the same food source and (2) epidemiologic evidence implicates food as the likely source of the illness.

### Norovirus Case Definitions

During an outbreak of gastrointestinal illness, it is important to use specific criteria to determine which persons will be counted as norovirus “cases.” The following case definitions are recommended:

- *Confirmed:* Person with norovirus detected in a laboratory specimen.
- *Suspected:* Person with vomiting and/or diarrhea (three or more loose stools in a 24-hour period) with symptom onset since (specified date) and whose symptoms have no other apparent cause.\*

\*The use of a new medication or laxative, or other pre-existing health conditions, can cause norovirus-like symptoms.

### Norovirus Etiology Classifications

The etiology of an outbreak of norovirus may be classified as “confirmed” or “suspected.”

- *Confirmed:* The signs and symptoms of illness are consistent with norovirus infection; and norovirus is detected in laboratory specimens from two or more ill persons.
- *Suspected:* The signs and symptoms of illness are consistent with norovirus infection; however, stool specimens were not collected, stool was not tested for norovirus, norovirus was detected in only one specimen, or norovirus was not detected at all.

In situations when it is not possible to get laboratory confirmation, an outbreak is likely due to norovirus if all four Kaplan criteria are met:

1. Mean (or median) illness duration of 12 to 60 hours;
2. Mean (or median) incubation period of 24 to 48 hours;
3. More than 50% of people with vomiting; and

4. No bacterial agent found.

However, about 30% of norovirus outbreaks do not meet the Kaplan criteria. Lively et al have proposed the following alternate set of criteria that are more specific for norovirus and often more available than the Kaplan criteria:

1. A greater proportion of cases with vomiting than with fever;
2. Bloody diarrhea in less than 10% of cases; and
3. Vomiting in greater than 25% of cases.

For more information, see the Centers for Disease Control and Prevention's [Responding to Norovirus Outbreaks](#) webpage and [Guide to Confirming Foodborne Disease Outbreak Etiologies](#) webpage.