



State of California—Health and Human Services Agency
Department of Health Services



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Investigation of Acute Viral Gastroenteritis (Norovirus) Outbreaks in Residential Facilities

Outbreaks of acute viral gastroenteritis (VGE) have been increasingly reported over the past few years. These outbreaks have been reported primarily from skilled nursing facilities, retirement communities, and a variety of other congregate living facilities. A similar increase was noted worldwide during winter 2002-3 that was associated with a new norovirus variant (Lancet 2004; 363:682-8). In 2003, the California Department of Health Services (DHS), Division of Communicable Disease Control (DCDC) received over 180 reports of VGE outbreaks in California. A guideline for managing outbreaks of acute VGE in long-term care facilities is available at <http://www.dhs.ca.gov/ps/dc/dc/disb/disbindex.htm> and has been reported to be useful in managing such outbreaks in a variety of institutional settings.

Local public health and environmental health departments frequently request DCDC's advice on whether to investigate these outbreaks and how to coordinate activities with agencies that license and regulate facilities. Because the frequency of VGE outbreaks often precludes conducting on-site investigations of every outbreak, the following recommendations may help local agencies to prioritize outbreak investigations and improve interagency coordination.

1. Determine the nature of the outbreak.

When an outbreak is reported, the local health department investigator should ask the facility for a simple line-listing or description of cases including the date and time of illness onset, and signs and symptoms, for both residents and staff.

Norovirus gastroenteritis typically presents as predominantly vomiting, often sudden in onset, which may be accompanied by headache, abdominal cramps, diarrhea, aches, and low-grade or no fever. Unless complicated by underlying illness, age, or dehydration, the illness is generally mild and most acute symptoms resolve or improve within 1-2 days. Most outbreaks in residential settings are the result of person-to-person transmission, with small numbers of cases occurring in the first few days. Depending on the extent of infection control measures implemented by the facility, only a few cases may be identified over a 3-5 day period or the number may increase abruptly. If a large number of cases have onset of symptoms during a single day, particularly within hours of each other, ask about incidents of vomiting in public areas such as living/social rooms, dining rooms, and hallways during the 2 days preceding the date of onset for these illnesses. Transmission via contaminated food is another possible, although rare, means for a large number of VGE cases to occur within a 24-hour period. Foodborne norovirus outbreaks likely originate from an ill foodhandler.

2. Determine the nature of the facility and the licensing agency, if any; contact the appropriate office of that agency and determine if they were aware of the outbreak; determine the role each agency will play.

CDHS Regulated Facilities

Skilled nursing facilities (SNF, “nursing homes”) are the most common setting for residential norovirus outbreaks. They are licensed by the DHS Licensing and Certification Program (L&C). Each facility is the responsibility of one of 17 district offices (jurisdiction and contact information at <http://www.dhs.ca.gov/lnc/org/default.htm>). There are approximately 1200 licensed SNFs in California. L&C also licenses 452 acute care hospitals, which are rarely sites of outbreaks of VGE in the U.S., and approximately 1100 intermediate care facilities for the developmentally disabled (plus a variety of non-residential health care facilities).

Regulations require that licensed healthcare facilities report ALL outbreaks to an L&C district office AND to the local health department, but in practice they often report to only one, if they report at all. L&C has roles, responsibilities, and expertise that complement those of the local health departments. While L&C is an enforcement agency, it can only cite a facility for failing to comply with an established requirement. For example, it cannot require a facility to be closed to new admissions or implement specific control measures, although the facility may be cited for failing to protect residents from a recognized hazard. While many L&C surveyors are nurses with knowledge of infection control, they lack the expertise in infectious disease epidemiology that public health nurses and communicable disease controllers possess. L&C surveyors are likely to be familiar with the facility where the outbreak is occurring and to know their ability to deal with it. However, as with local health departments, multiple concurrent outbreaks and other competing demands can limit the L&C resources available to respond to a given outbreak. While it is usually unnecessary for both L&C and local health departments to initiate on-site investigations following an outbreak, they should discuss a mutual plan of action (see below) and ensure that the facility provides daily reports on the outbreak to both agencies. The DHS guideline Control of Viral Gastroenteritis Outbreaks in California Long-term Care Facilities has been distributed to each L&C office in addition to every licensed healthcare facility in the State.

DSS Regulated Facilities

The Department of Social Services (DSS) licenses a variety of community care facilities that have been sites of outbreaks.

Residential Care Facilities for the Elderly (RCFE) provide care, supervision, and assistance with activities of daily living such as bathing and grooming. They may also provide incidental medical services. RCFEs may also be called assisted living facilities. RCFEs can range in size from six beds or less to over 100 beds (there is no capacity limit). Over 75 percent of the residents of an RCFE must be 60 years of age or older; any younger residents must have compatible needs. There are approximately 6,500 licensed RCFEs statewide with a total capacity of 154,490.

Adult Residential Facilities (ARF) are facilities of any capacity that provide 24-hour-per-day non-medical care and supervision to adults other than the elderly (defined as persons over the

age of 60). ARFs in California typically care for persons with developmental or mental disabilities. There are approximately 4,900 licensed ARFs statewide with a total capacity of 39,708.

Residential Care Facilities for the Chronically Ill (RCFCI) are any place, building, or housing arrangement that is maintained and operated to provide 24-hour-per-day care and supervision to any or all of the following: 1) adults with HIV disease or AIDS; 2) emancipated minors with HIV disease or AIDS; or 3) family units with adults or children, or both, with HIV disease or AIDS. There are 24 licensed RCFCIs statewide with a total capacity of 380.

Group Homes are facilities of any capacity that provide 24-hour-per-day care and supervision to children in a structured environment, with services provided at least in part by facility staff. Except when in-home health care is provided to a child as permitted by statute, the care and supervision provided by a group home is non-medical. There are 1,730 licensed group homes statewide with a total capacity of 16,950. Other smaller and/or less common licensed Residential Community Care Facilities include Social Rehabilitation Facility, Small Family Home, Certified Family Home, and Foster Family Home.

Although not a specific licensing category, a Continuing Care Retirement Community (CCRC) offers seniors long-term continuing care contracts that may encompass independent living, assisted living, and nursing services, usually in one location. CCRCs must have a “certificate of authority” and an RCFE license; CCRCs that offer skilled nursing must also have a license to operate a skilled nursing facility from DHS L&C. Outbreaks of VGE can affect any or all of the level-of-care specific areas in a CCRC.

While DSS-licensed facilities are required to report outbreaks to the appropriate regional office (http://cclld.ca.gov/RegionalOf_1829.htm), DSS personnel in those offices cannot be expected to have expertise in this area or to respond to such reports. Further, while healthcare facilities will, by their nature, have healthcare professionals on staff, DSS-licensed facilities commonly do not. When present, licensed healthcare professionals on staff at DSS-licensed facilities generally provide care limited to that permitted by DSS regulations. Therefore, local health departments should assume primary responsibility for the oversight or management of outbreaks in DSS-licensed facilities, while keeping the DSS regional office informed. DHS plans to develop a modified guideline for the recognition and control of VGE outbreaks appropriate for DSS facilities.

3. After the facility has received and reviewed Control of Viral Gastroenteritis Outbreaks in California Long-term Care Facilities, discuss the facility’s proposed control plan.

Quickly determine by telephone if facility personnel understand the nature of the outbreak and the principles for control. If they have difficulty understanding, an on-site visit may be needed. If they appear to understand, arrange to receive a daily report of new cases; an updated copy of the Case Log (as provided in the DHS guideline on control of VGE outbreaks) can be used.

4. Monitor the effectiveness of control through daily reports.

The identification of new VGE cases should diminish to no more than 1-2 per day within 24-48 hours of control measures being implemented, corresponding to the usual incubation period for norovirus infections. The continued occurrence of substantial numbers of cases 48 hours and more following institution of control suggests inadequate control measures or compliance with them. The number of cases that merit an on-site visit cannot be precisely defined; however, an on-site visit can reveal valuable information that is not evident in written and oral reports.

5. Investigation, epidemiologic and laboratory.

Investigation beyond one on-site visit to assess the adequacy of control measures, and what measures are possible, may not be needed for each VGE outbreak, especially if the outbreak appears typical for person-to-person transmission of norovirus. For gastroenteritis outbreaks where the clinical or epidemiologic picture suggests a bacterial agent or where the morbidity and mortality is concerning, further investigation may be indicated. Laboratory detection of norovirus by PCR in the DHS Viral and Rickettsial Disease Laboratory (VRDL) is available and is encouraged. However, control measures should be instituted based on clinical and epidemiologic information, since laboratory confirmation may take two days or more. It is probably not necessary to test specimens for bacterial pathogens or parasites as a routine, or for “completeness sake”, during outbreaks that are clinically and epidemiologically consistent with a viral etiology. Testing for bacterial pathogens may be considered if the clinical and epidemiologic data are suggestive, but testing for parasites (e.g., stools for O&P) is unnecessary, especially when illnesses tend to be short-lived.

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