



**Rhode Island Department of Health**  
**Division of Infectious Disease Epidemiology**  
**Norovirus Surveillance: Epidemiologic Report, November 1, 2011 – October 31, 2012**

*Purpose: To monitor the epidemiology, incidence and geographic distribution of norovirus for early detection and prevention of human transmission.*

Report at a glance:

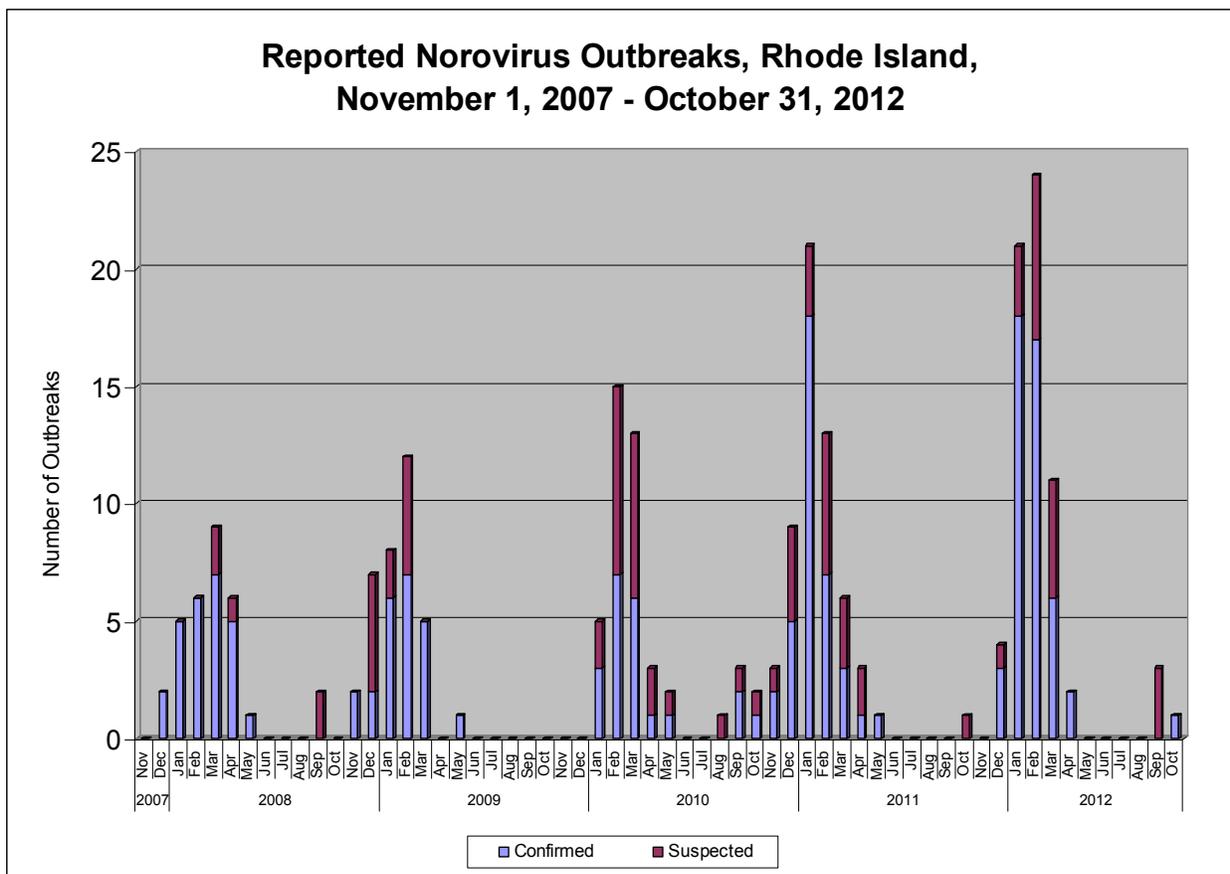
- From November 1<sup>st</sup>, 2011 through October 31<sup>st</sup>, 2012, the Division of Infectious Disease Epidemiology (IDE) received reports on 66 suspected or confirmed outbreaks caused by norovirus.
- Of the 66 reported outbreaks, 47 (71%) were confirmed to be caused by norovirus (at least one positive human norovirus test associated with the outbreak) through testing at the HEALTH Laboratory, while 19 (29%) of the outbreaks were suspected to be caused by norovirus (no positive human norovirus tests associated with the outbreak).
- Of the 66 reported outbreaks, 58 (88%) were reported by long-term care facilities, 5 (8%) were reported by schools, 2 (3%) were associated with restaurants and 1 (2%) was associated with a dance competition.
- Of the 58 reported outbreaks from long-term care facilities, 54 were reported from nursing homes and 4 were reported from hospitals.
- From the 54 nursing homes that reported outbreaks, 2,013 residents (32.5% of exposed residents) and 1,050 staff members (14.7% of exposed staff) became ill.
- As part of CaliciNet\*, the HEALTH Laboratory submits specimens to the Wadsworth Center, New York State Department of Health, routinely. Specimens from 12 confirmed norovirus outbreaks that occurred between December 24, 2011 and February 10, 2012 were analyzed for detailed DNA sequencing. GII.4 New Orleans (7 outbreaks) and GII.4 Minerva (5 outbreaks) were the two strains identified from these outbreaks.

\* The CDC developed CaliciNet in 2009. It is a network of public health and food regulatory laboratories that submit norovirus DNA sequences identified from outbreaks into a national database. The information is used to link norovirus outbreaks that may be caused by common sources (such as food), monitor trends, and identify emerging norovirus strains.

## Seasonality

During the 2012 season, IDE received its initial report of a potential norovirus outbreak on December 7, 2012. This outbreak could not be confirmed through laboratory testing, but in late December the HEALTH Laboratory was able to confirm the occurrence of three norovirus outbreaks in long-term care facilities. Shortly thereafter, the number of reported outbreaks grew rapidly, increasing from a total of 4 reported outbreaks in December, to 21 in January. The number of reported outbreaks peaked in February with 24 and from there fell to 11 in March. April 7, 2012 marked the last report to IDE of a confirmed or suspected norovirus outbreak from a long-term care facility until September 2012.

The gradual increase in the number of reported norovirus outbreaks over the past five years is likely due to improved reporting to IDE rather than a true increase in the number of outbreaks, but yearly differences due varying circulating strains cannot be excluded.

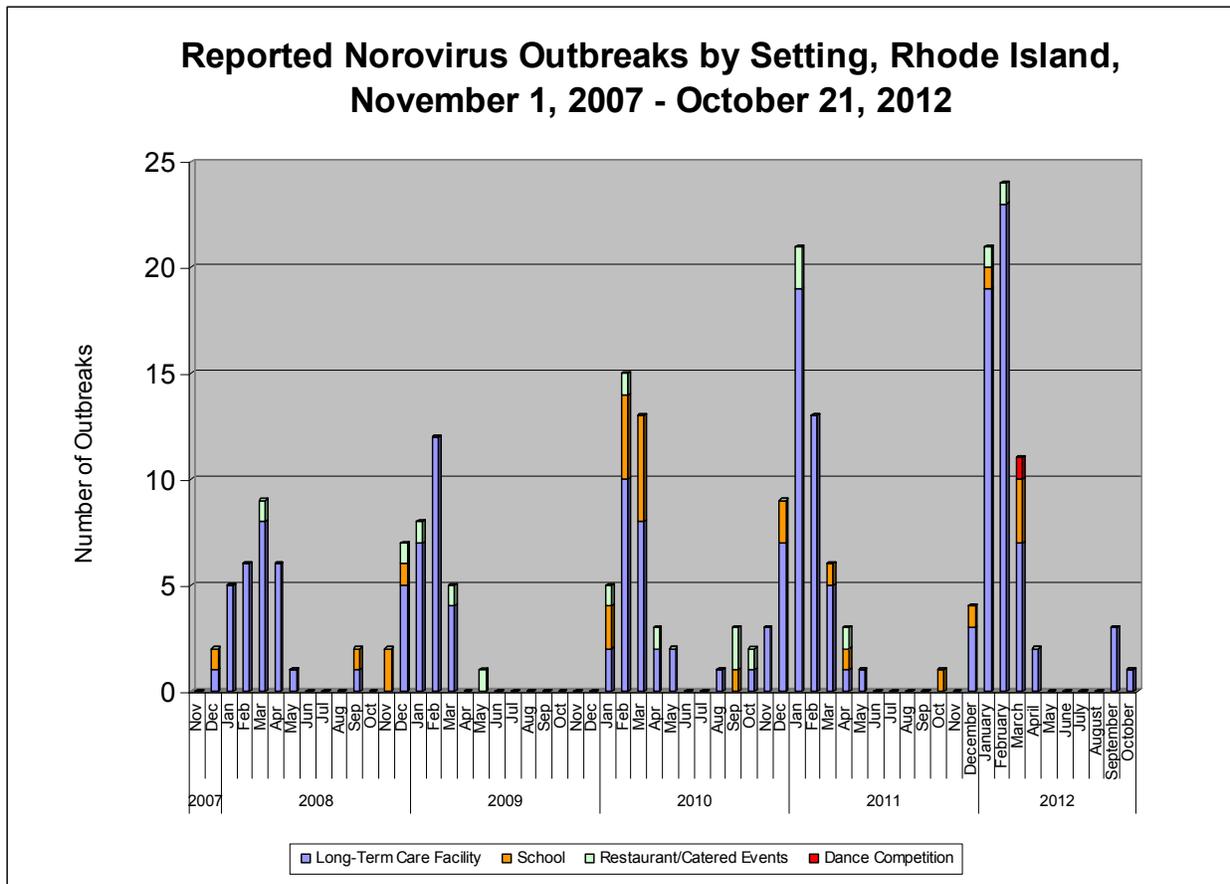


### Figure Notes:

- A norovirus outbreak is considered confirmed when there is at least one positive test for norovirus in an individual associated with the outbreak.
- The illness onset date of the first case(s) associated with an outbreak is used to designate the month of occurrence.
- In 2008, there were 6 outbreaks with an unknown onset date.
- In 2010, there was 1 outbreak with an unknown onset date.

## Setting

During the 2012 season, IDE received 66 reports of norovirus outbreaks from various settings. The highest percentage were reported from long-term care facilities (88%, 58 of 66 outbreaks reported) and the majority of those were reported from nursing homes (54 of 58 reports from long-term care facilities). The remaining 4 reported outbreaks from long-term care facilities were from hospitals. Of the remaining 8 reported outbreaks, 5 (8%) were reported from schools, 2 (3%) were associated with restaurants/catered events and 1 (2%) was associated with a dance competition.



Over the past five years, attack rates in nursing homes that had experienced a confirmed or suspected norovirus outbreak ranged from 26.7% to 32.5% in residents and 12.1% to 14.7% in staff. When compared to the previous four years, the 2012 season was particularly severe. The 2012 season saw the most nursing homes affected by norovirus (59.3% of registered nursing homes in Rhode Island), the longest average duration of outbreaks and the highest attack rates in residents of those nursing homes when comparing the past four years. Also during the 2012 season, twenty-seven residents of nursing homes (1.3% of reported ill residents) were reported to be hospitalized due to complications from norovirus infection. There were no reported deaths due to complications from norovirus infection in residents during the 2012 season.

### **Reported Norovirus Outbreaks in Nursing Homes, Rhode Island, November 1, 2007 – October 31, 2012**

	Number of Nursing Homes Affected	Percentage of Nursing Homes Affected (91 Total Nursing Homes in Rhode Island)	Average Duration of Outbreaks (Days)	Ill Residents	Exposed Residents	Attack Rate	Ill Staff	Exposed Staff	Attack Rate
November 1, 2007 – October 31, 2008	28	30.8%	13.3 days	968	3,450	28.1%	483	4,008	12.1%
November 1, 2008 – October 31, 2009	26	28.6%	11.0 days	684	2,544	26.9%	328	2,556	12.8%
November 1, 2009 – October 31, 2010	23	25.3%	10.3 days	595	2,009	29.6%	303	1,827	16.6%
November 1, 2010 – October 31, 2011	47	51.6%	13.7 days	1,339	5,018	26.7%	859	6,141	14.0%
November 1, 2011 – October 31, 2012	54	59.3%	18.6 days	2,013	6,191	32.5%	1,050	7,130	14.7%

From November 1, 2011 through October 31, 2012, the majority of the reported norovirus outbreaks in Rhode Island occurred in Providence County (40 reported outbreaks), followed by Kent County (11 reported outbreaks) and Washington County (9 reported outbreaks). Newport and Bristol County both had 3 reported outbreaks apiece.

