



Public Health  
England

Protecting and improving the nation's health

# National Norovirus and Rotavirus Bulletin

## Routine norovirus and rotavirus surveillance in England, 2021 to 2022 season

Week 32 report: data to week 30 (1 August 2021)

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## Main messages

1. Public Health England (PHE) launched this National Norovirus and Rotavirus Bulletin in December 2020 to provide an overview of activity in England and temporarily replace the suspended **Official Statistics national norovirus and rotavirus** report. This monthly bulletin covers the 4 week period between 5 July and 1 August 2021 (reporting weeks 27 to 30) and is the first 2021/2022 season bulletin<sup>1</sup>.
2. In England, decreased activity across all surveillance indicators continued through the first half of 2021, particularly for norovirus. The reasons for these reductions are considered to be multifactorial. The coronavirus (COVID-19) pandemic has led to many changes which have likely had a negative impact on surveillance indicators, but which have likely also resulted in reduced norovirus and rotavirus transmission.
3. However, reported norovirus activity increased in week 25 of 2021 and this increase has been sustained up to week 30. The total number of reported enteric virus (EV) outbreaks has been steadily increasing since week 14, 2021, notably in educational settings and since week 21, 2021 most are reported in nurseries. A similar trend was observed in childcare facilities in New South Wales, Australia following relaxation of non-pharmaceutical interventions at an equivalent point in their norovirus season<sup>2</sup>. Up to week 30 of the 2021/22 season the cumulative number of EV outbreaks reported is 43% higher than the average of the previous 5 seasons prior to the emergence of COVID-19. It is possible that unusual or out of season increases in norovirus activity could be seen in the coming months<sup>3</sup>. Therefore, the National Norovirus Surveillance Team will continue to closely monitor all available surveillance data to ensure early detection of any unusual norovirus activity, including potential novel strain emergences or replacement events.
4. PHE's **Enteric Virus Unit (EVU)** provides a **norovirus characterisation service** to support national surveillance and monitor the diversity of circulating strains. To enable effective molecular surveillance during this period it is crucial that samples are obtained from suspected norovirus cases or outbreaks for laboratory confirmation and then norovirus-positive samples are referred on to EVU for characterisation.

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<sup>1</sup> In order to capture the winter peak of activity in reporting period the norovirus season runs from week 27 in year 1 to week 26 in year 2, that is, week 27 2020 to week 26 2021, July to June.

<sup>2</sup> '**Communicable Diseases Weekly Report**'. NSW Government, Australia

<sup>3</sup> Douglas A, Sandmann FG, Allen DJ, Celma CC, Beard S, Larkin L. '**Impact of COVID-19 on national surveillance of norovirus in England and potential risk of increased disease activity in 2021**'. Journal of Hospital Infection. 2021 Mar 11:S0195-6701(21)00101-8. doi: 10.1016/j.jhin.2021.03.006.

## Data summary

Data reported here provide a summary of norovirus and rotavirus activity (including EV outbreaks) in England up to reporting week 30 of the 2021/2022 season.

Throughout the 2020/2021 season until week 24, reported norovirus activity has been substantially lower than the 5-season average for the same period (2014/2015 to 2018/2019, [Figure 1](#)). However, since week 25 of the 2020/2021 and during the 2021/2022 season to date, activity was comparable to that in the same period in the 5 seasons prior to the emergence of COVID-19, with a notable increase in under 5s.

Rotavirus laboratory reports have remained lower than the 5-season average of the same period throughout the 2020/2021 season and this trend continues into the 2021/2022 season. ([Figure 2](#)).

During the 2020/21 season the number of reported EV outbreaks was lower than the 5-season average calculated from 2014/2015 to 2018/2019 until week 25 (83% lower over the entire 2020/21 season, [Figure 3](#)). Up to week 30 of the 2021/2022 season the cumulative number of EV outbreaks reported is 43% higher than the average of the previous 5 seasons prior to the emergence of COVID-19 (257 versus 180).

The total number of EV outbreaks reported in the 4 week period between weeks 27 to 30, 2021 was 18% higher than the number reported in the previous 4 weeks, 23 to 26, 2021. During the 4 week period between weeks 27 and 30, 2021 the majority of reported EV outbreaks have occurred in educational and care home settings, 67% and 25% respectively ([Figure 4](#)), which is the reverse of that observed during the same period in the 5 seasons prior to the emergence of COVID-19; 23% in educational settings and 59% in care homes. Overall, during those 4 weeks 92% of reported EV outbreaks in educational settings were in nurseries or childcare facilities.

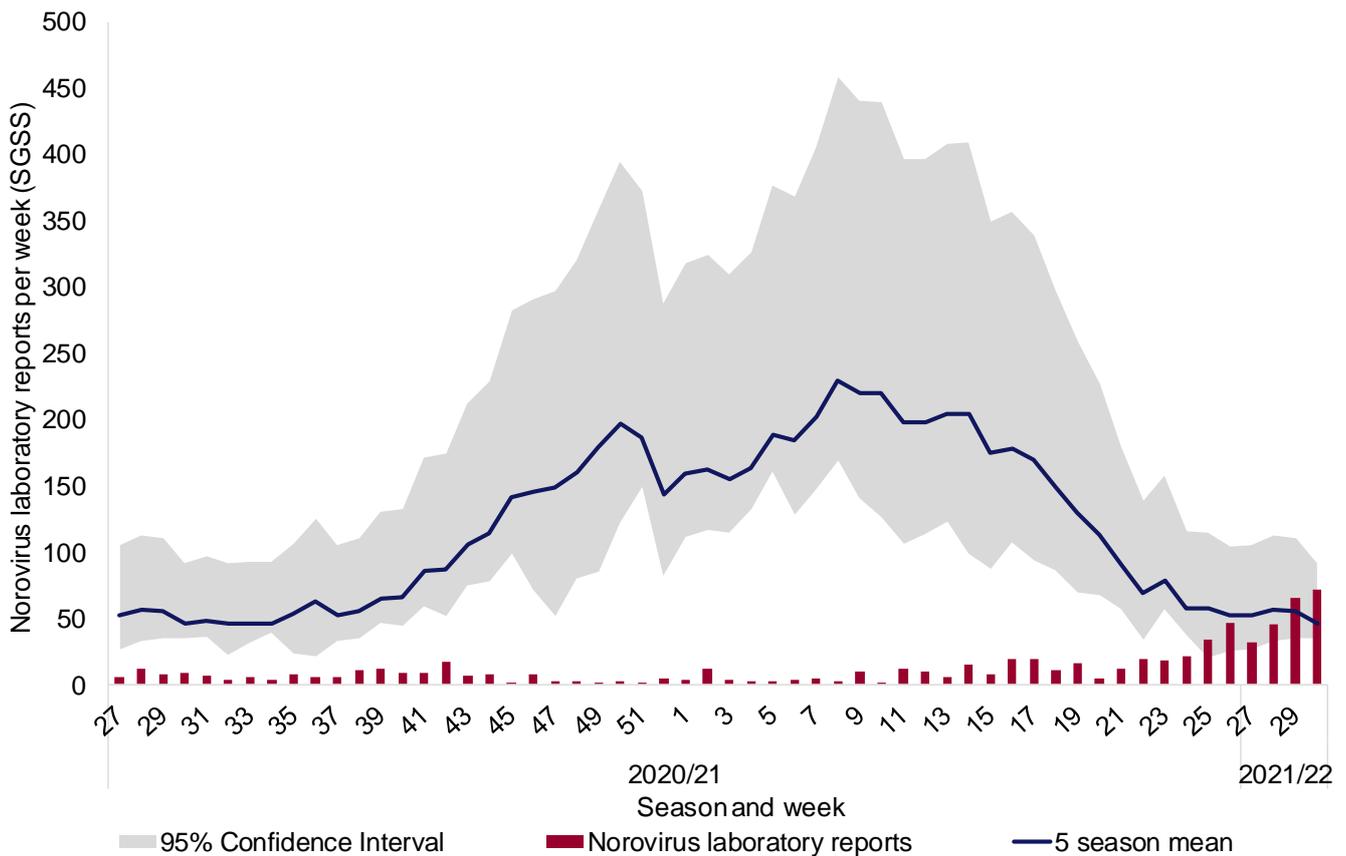
Throughout the 2020/2021 and 2021/2022 seasons to date, reports of suspected and confirmed norovirus outbreaks in hospitals have been substantially lower than the 5-season average (cumulative total to week 30 in 2021/2022 season is 82% lower, [Figure 5](#)).

Due to the low number of samples submitted for characterisation we are unable to comment on the diversity of norovirus strains currently circulating.

# Laboratory data

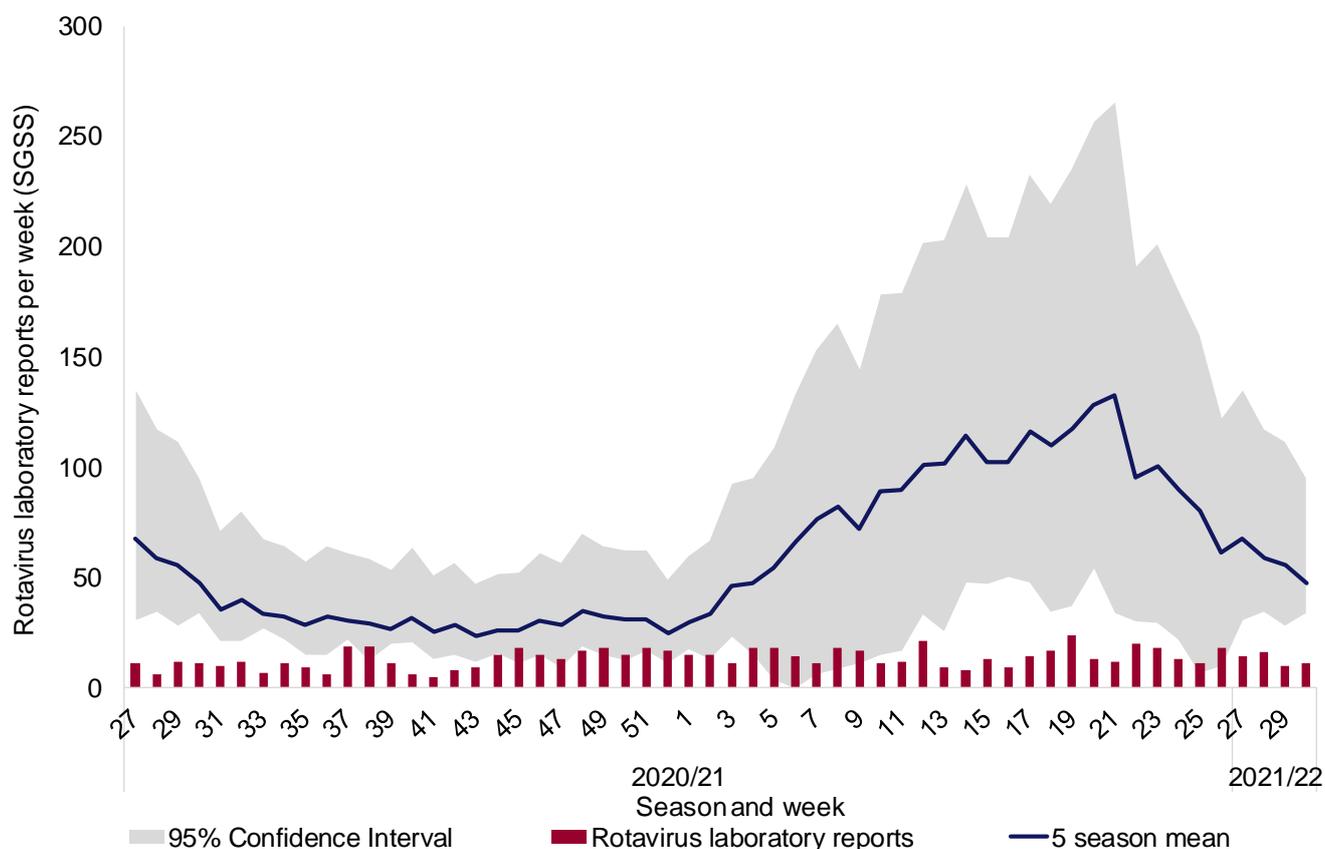
Please see [data sources and caveats section](#) for more information and for guidance on interpretation of trends and the impact of COVID-19.

**Figure 1. Norovirus laboratory reports in England by week during 2020/2021 and 2021/2022 seasons, compared to 5-season average\***



\* In order to capture the winter peak of activity in reporting period the norovirus season runs from week 27 in year 1 to week 26 in year 2, that is, week 27 2020 to week 26 2021, July to June. Week number is calculated from specimen date. Data are based on laboratory geography and are faecal and lower GI tract specimen types only. The 2020/2021 and 2021/2022 seasons are compared to the 5-season average calculated from the 5-season period of 2014/2015 to 2018/2019. The 2019/2020 season is not included in this calculation due to the adverse impact of the emergence of COVID-19 on surveillance part way through the 2019/2020 season. In years with a week 53 (2015 and 2020) data are combined with week 52 data to avoid distortion of the figure.

**Figure 2. Rotavirus laboratory reports in England by week during 2020/2021 and 2021/2022 seasons, compared to 5-season average\***

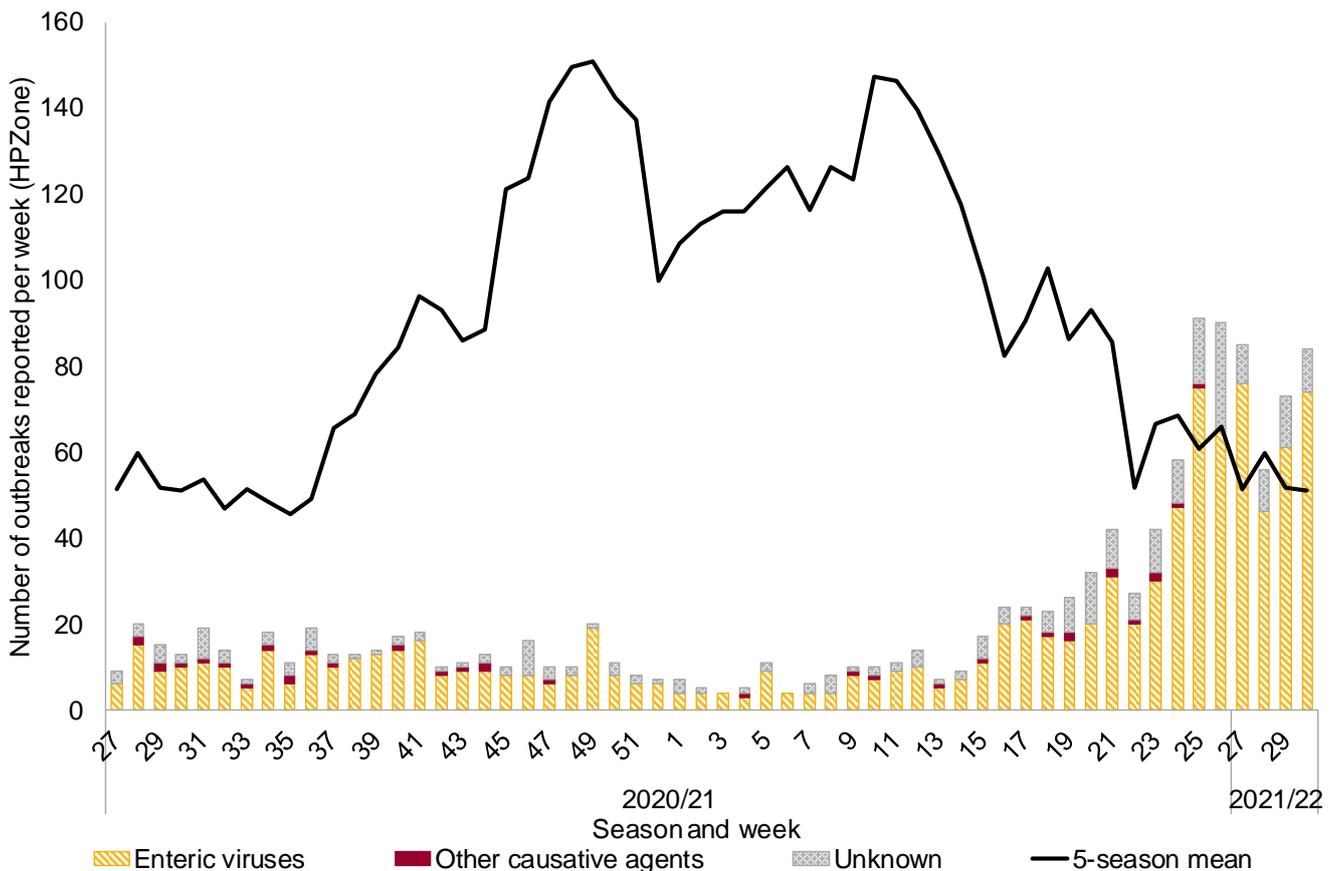


\* In order to capture the winter peak of activity in reporting period the rotavirus season runs from week 27 in year 1 to week 26 in year 2, that is, week 27 2020 to week 26 2021, July to June. Week number is calculated from specimen date for SGSS data. Data are based on laboratory geography. The 2020/2021 and 2021/2022 seasons are compared to the 5-season average calculated from the 5-season period of 2014/2015 to 2018/2019. The 2019/2020 season is not included in this calculation due to the adverse impact of the emergence of COVID-19 on surveillance part way through the 2019/2020 season. In years with a week 53 (2015 and 2020) data are combined with week 52 data to avoid distortion of the figure. Following the introduction of the rotavirus vaccine into the routine childhood immunisation schedule in July 2013, the total number of laboratory-confirmed rotavirus infections each season has remained low compared to the pre-vaccine period.

# Outbreak data

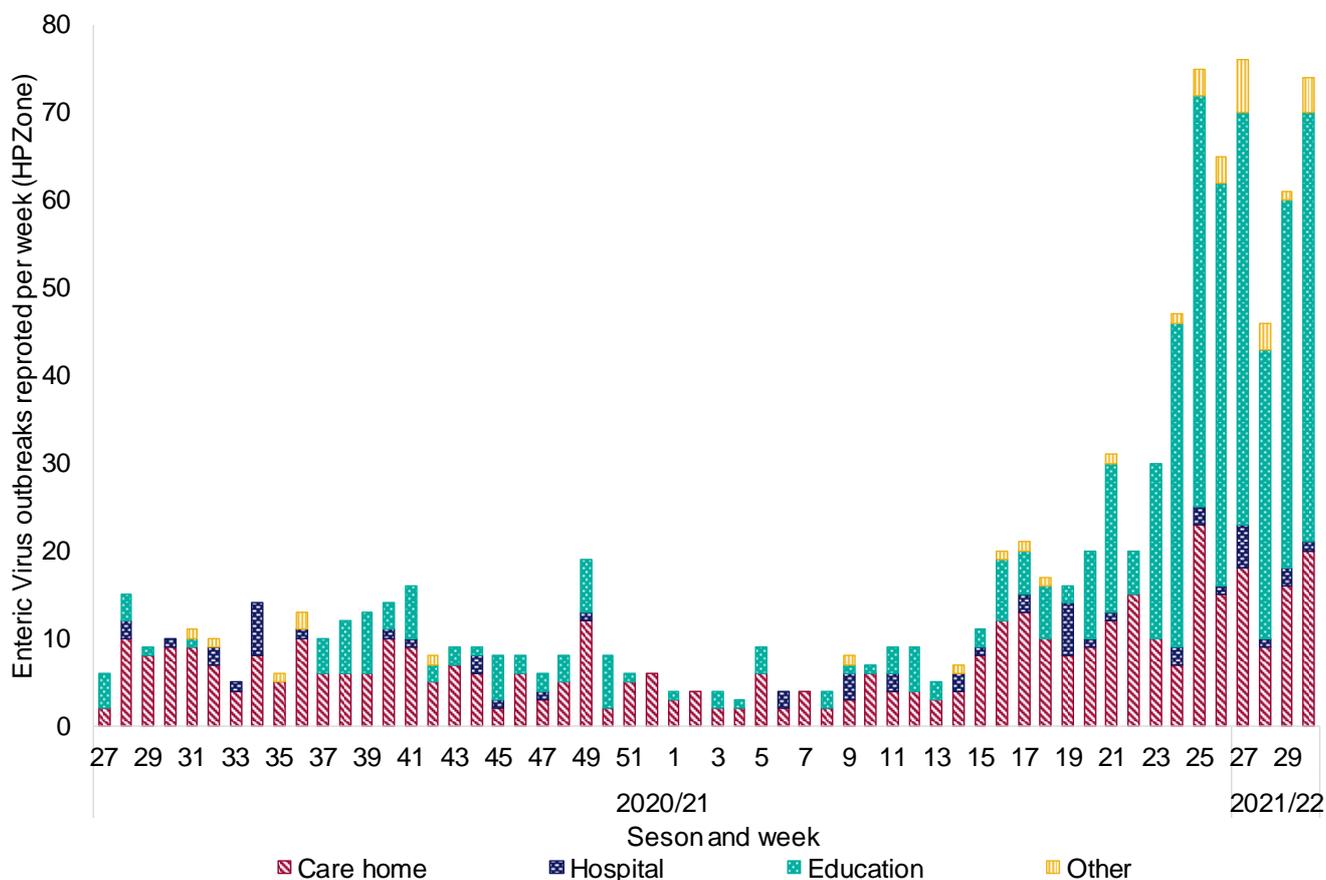
Please see [data sources and caveats section](#) for more information and for guidance on interpretation of trends and the impact of COVID-19.

**Figure 3. Gastroenteritis outbreak reports by causative agent and week of declaration in England, 2020/2021 and 2021/2022 seasons compared to the 5-season average of total reported outbreaks\***



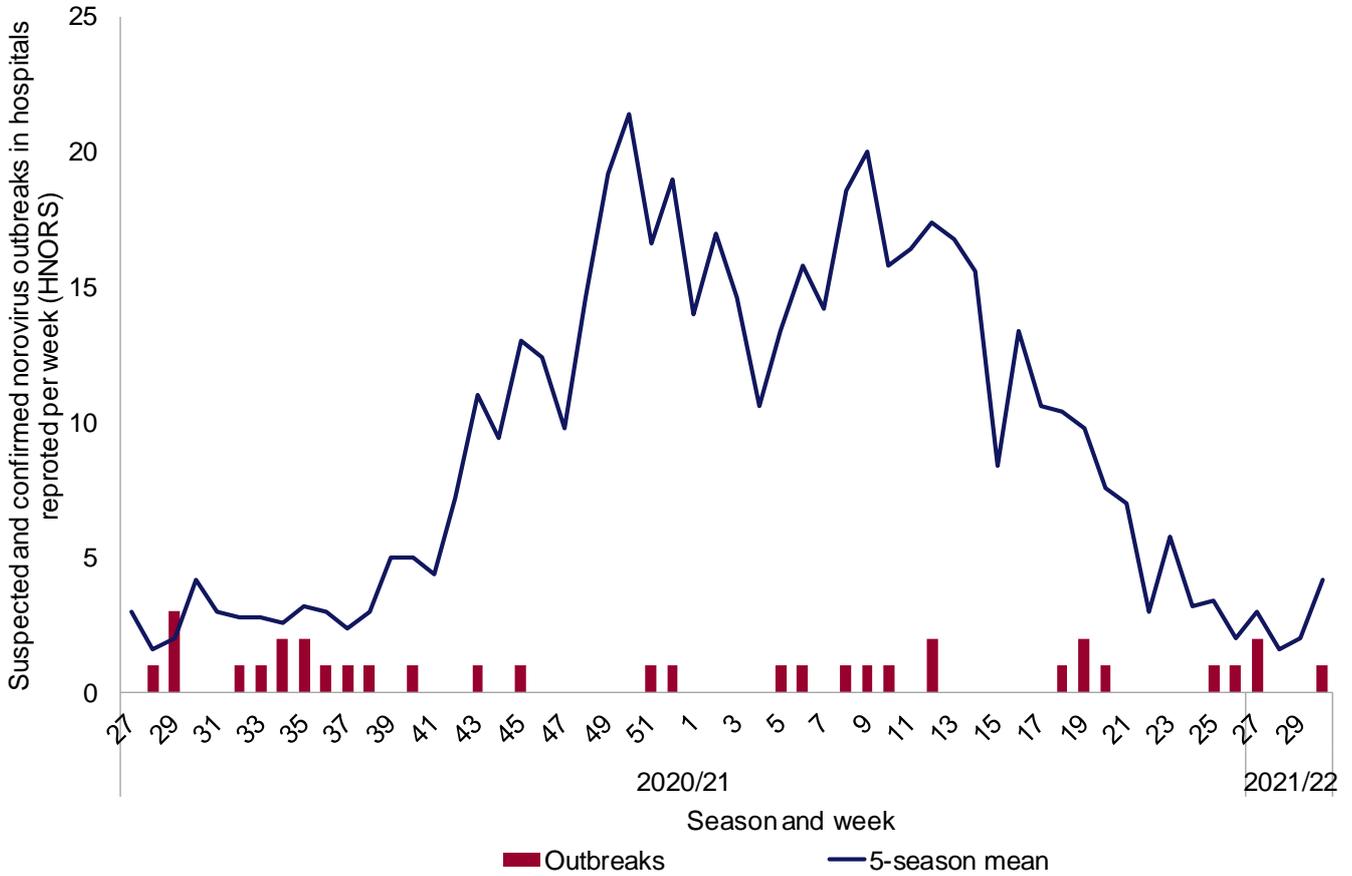
\* Week number is calculated from date of outbreak declaration on PHE’s case management system HPZone. The 2020/2021 and 2021/2022 seasons are compared to the 5-season average calculated from the 5-season period of 2014/2015 to 2018/2019. The 2019/2020 season is not included in this calculation due to the adverse impact of the emergence of COVID-19 on surveillance part way through the 2019/2020 season. In years with a week 53 (2015 and 2020) data are combined with week 52 data to avoid distortion of the figure. Over the 5 seasons of 2014/2015 to 2018/2019 an average of 86.1% of gastroenteritis outbreaks reported to HPZone were attributed to EVs (norovirus, rotavirus, sapovirus and astrovirus), 1.8% to other causative agents and 12.0% were of unknown cause. Of the outbreaks attributed to EVs, 98.4% were reported as suspected and confirmed norovirus outbreaks.

**Figure 4. Enteric virus outbreaks reported to HPZone in England by setting during the 2020/2021 and 2021/2022 seasons (to week 30, 2021)**



\*During the previous 5 seasons (2014/2015 to 2018/2019) 62.7% of all reported outbreaks attributed to EVs (norovirus, rotavirus, sapovirus and astrovirus), occurred in care home settings, 18.7% in educational settings, 13.0% in hospital settings and 5.6% in 'other' settings. Of the outbreaks attributed to EVs, 98.4% were reported as suspected and confirmed norovirus outbreaks. Only 13.7% of reported EV outbreaks were laboratory confirmed as norovirus during the previous 5 seasons.

**Figure 5. Suspected and confirmed norovirus outbreaks reported to HNORS in England by week of occurrence during the 2020/2021 and 2021/2022 seasons compared to the 5-season average\***



\*Week number is calculated from date of first case onset for HNORS data. The 2020/2021 and 2021/2022 seasons are compared to the 5-season average calculated from the 5-season period of 2014/2015 to 2018/2019. The 2019/2020 season is not included in this calculation due to the adverse impact of the emergence of COVID-19 on surveillance part way through the 2019/2020 season. In years with a week 53 (2015 and 2020) data are combined with week 52 data to avoid distortion of the figure. During the previous 5 seasons (2014/2015 to 2018/2019) 73.6% of outbreaks reported to HNORS were laboratory confirmed as norovirus.

# Data sources and caveats

## Data sources

1. Second-Generation Surveillance System (SGSS) is the national laboratory reporting system, recording positive reports of norovirus and rotavirus.
2. **Hospital Norovirus Outbreak Reporting System (HNORS)** is a web-based scheme for reporting suspected and confirmed norovirus outbreaks in Acute NHS Trust hospitals, and captures information on the disruptive impact these outbreaks have in hospital settings.
3. HPZone is a web-based case and outbreak management system used by Health Protection Teams (HPTs) to record outbreaks they are notified of and investigate. In England, suspected and confirmed Enteric Virus (EV) outbreaks (norovirus, rotavirus, astrovirus and sapovirus) are reported as 'Gastroenteritis' outbreaks.
4. Norovirus characterisation data is produced by the Enteric Virus Unit and is used to monitor the diversity of circulating strains of norovirus in England.

## Data caveats

Trends for the 2020/2021 season should be interpreted with caution. It is likely that the interventions implemented to control COVID-19 have led to a reduction in enteric virus transmission. However, when considering the surveillance data reported here, the magnitude of the reduction is unlikely to be wholly attributable to these control measures alone. It will include other factors such as, but not limited to, changes in ascertainment, access to health care services and capacity for testing.

Under-ascertainment is a recognised challenge in enteric virus surveillance with sampling, testing and reporting criteria known to vary by region. Additionally, samples for microbiological confirmation are collected in a small proportion of community outbreaks. Therefore, this report provides an overview of enteric virus activity across England and data should be interpreted with caution.

All surveillance data included in this report are extracted from live reporting systems, are subject to a reporting delay, and the number reported in the most recent weeks may rise further as more reports are received. Therefore, data pertaining to the most recent 2 weeks are not included.

HNORS reporting is voluntary and variations may reflect differences in ascertainment or reporting criteria by region.

National guidance recommends closure of the smallest possible unit in hospitals. Therefore, not all outbreaks reported to HNORS result in whole ward closure (some closures are restricted to bays only) and not all suspected cases are tested.

From May to October 2019 and during February 2020 the HNORS website was temporarily offline. The reliance on manual data collation during this period may have negatively impacted ascertainment so trends should be interpreted with caution.

## Further information

Official Statistics ‘National norovirus and rotavirus reports’ can be found at [Norovirus and rotavirus: summary of surveillance reports](#).

Further information about norovirus surveillance can be found at [Norovirus: guidance, data and analysis](#).

Further information about rotavirus surveillance can be found at [Rotavirus: guidance, data and analysis](#).

## Acknowledgements

We are grateful to all who provided data used in this report, including NHS Infection Control and Prevention staff (HNORS users), PHE local (HPTs) and PHE regional teams (Field Services) and PHE Regional Public Health and Collaborating Laboratories.

This report was produced by the Gastrointestinal Pathogens Unit, PHE, any queries or comments can be directed to: [NoroOBK@phe.gov.uk](mailto:NoroOBK@phe.gov.uk).

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