



Public Health
England

Protecting and improving the nation's health

National Norovirus and Rotavirus Bulletin

Routine Norovirus and Rotavirus Surveillance in England, 2020 to 2021 Season

Week 5 report: data to week 3 (24 January 2021)

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Key messages

1. PHE launched this National Norovirus and Rotavirus Bulletin in December 2020 to provide an overview of activity in England during the 2020/2021 winter. This publication temporarily replaces the suspended **Official Statistics national norovirus and rotavirus** report and the next bulletin will be published on 18 February 2021.
2. The COVID-19 pandemic has led to many changes which may have impacted on norovirus and rotavirus transmission but have also reduced ascertainment through all 4 of the surveillance systems PHE routinely uses for national surveillance. The decreased reporting of activity across all surveillance indicators has continued into 2021 and with the current national lockdown it is likely that reporting will remain low in the coming weeks.
3. The reasons for the reduction are considered to be multifactorial and not wholly attributable to a reduction in virus transmission. Therefore, it is particularly important that suspected and confirmed outbreaks occurring in both healthcare and community settings continue to be reported via the relevant systems (see **data sources** for further details).
4. A similar reduction in reporting of norovirus cases and gastroenteritis outbreaks has been seen in other high-income countries, such as the USA and Germany, which also coincided with the implementation of measures aimed at interrupting the transmission of COVID-19¹.
5. PHE's **Enteric Virus Unit (EVU)** provides a **norovirus characterisation service** to support national surveillance and monitor the diversity of circulating strains so the emergence of novel variants, which could lead to a strain replacement event, are detected as early as possible. To enable effective molecular surveillance during this period it is crucial that samples are obtained from suspected norovirus cases or outbreak for laboratory confirmation and then norovirus-positive samples are referred on to EVU for characterisation.

¹ USA- Centers for Disease Control and Prevention (CDC); <https://www.cdc.gov/norovirus/reporting/calicienet/data.html>.; Germany- Robert Koch-Institut (RKI); https://www.rki.de/DE/Content/Infekt/EpidBull/Archiv/2020/Ausgaben/50_20.pdf;jsessionid=6290A77D193879F7231C3B6B7E790907.internet102?__blob=publicationFile; Australia- NSW Government.; <https://www.health.nsw.gov.au/Infectious/Reports/Publications/cdwr/2020/cdwr-week-48-2020.pdf>;

Data summary

Data reported here provide a summary of norovirus and rotavirus activity (including EV outbreaks) in England up to reporting week 3 of the 2020/2021 season.

Since week 12 of the 2019/20 season, and throughout the 2020/21 season, reported norovirus activity has been substantially lower than the 5-season average for the same period (2015/16 to 2019/20, [Figure 1](#)).

After a decrease during week 12, 2020 rotavirus laboratory reports were lower than the 5-season average of the same period and have remained lower during the 2020/21 season ([Figure 2](#)).

The number of reported EV outbreaks dropped in week 12 of the 2019/20 season and remains lower than the 5-season average (cumulative total to week 3 in 2020/21 season is 88% lower, [Figure 3](#)). During weeks 2 and 3, 2021 the majority of reported EV outbreaks have occurred in care home settings (75%, [Figure 4](#)). While a small number of outbreaks are occurring in educational settings, most educational settings have been closed or have had only very small numbers of students attending since week 52, 2020.

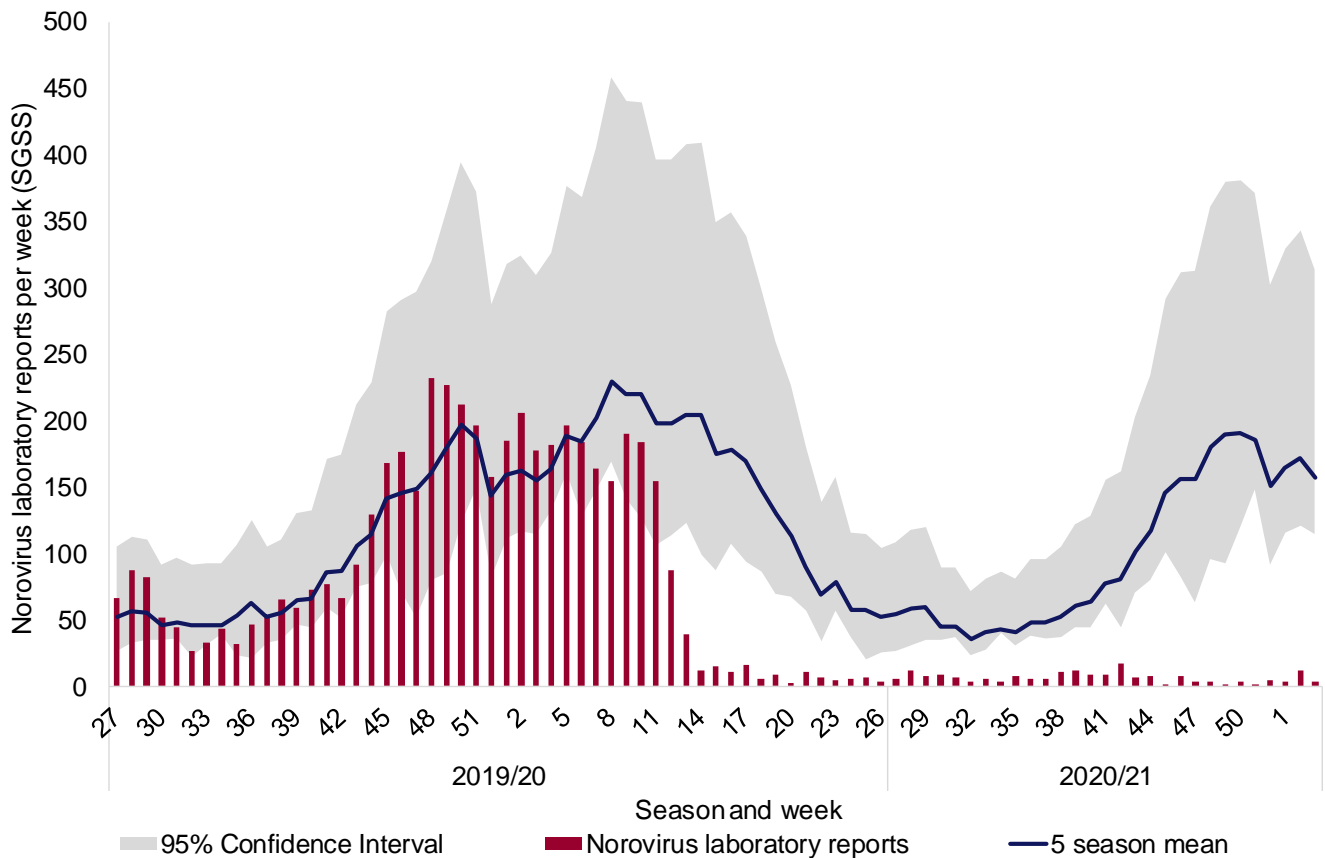
Since a decline in week 12, 2020, reports of suspected and confirmed norovirus outbreaks in hospitals have been substantially lower than the 5-season average (cumulative total to week 3 in 2020/21 season is 94% lower, [Figure 5](#)).

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

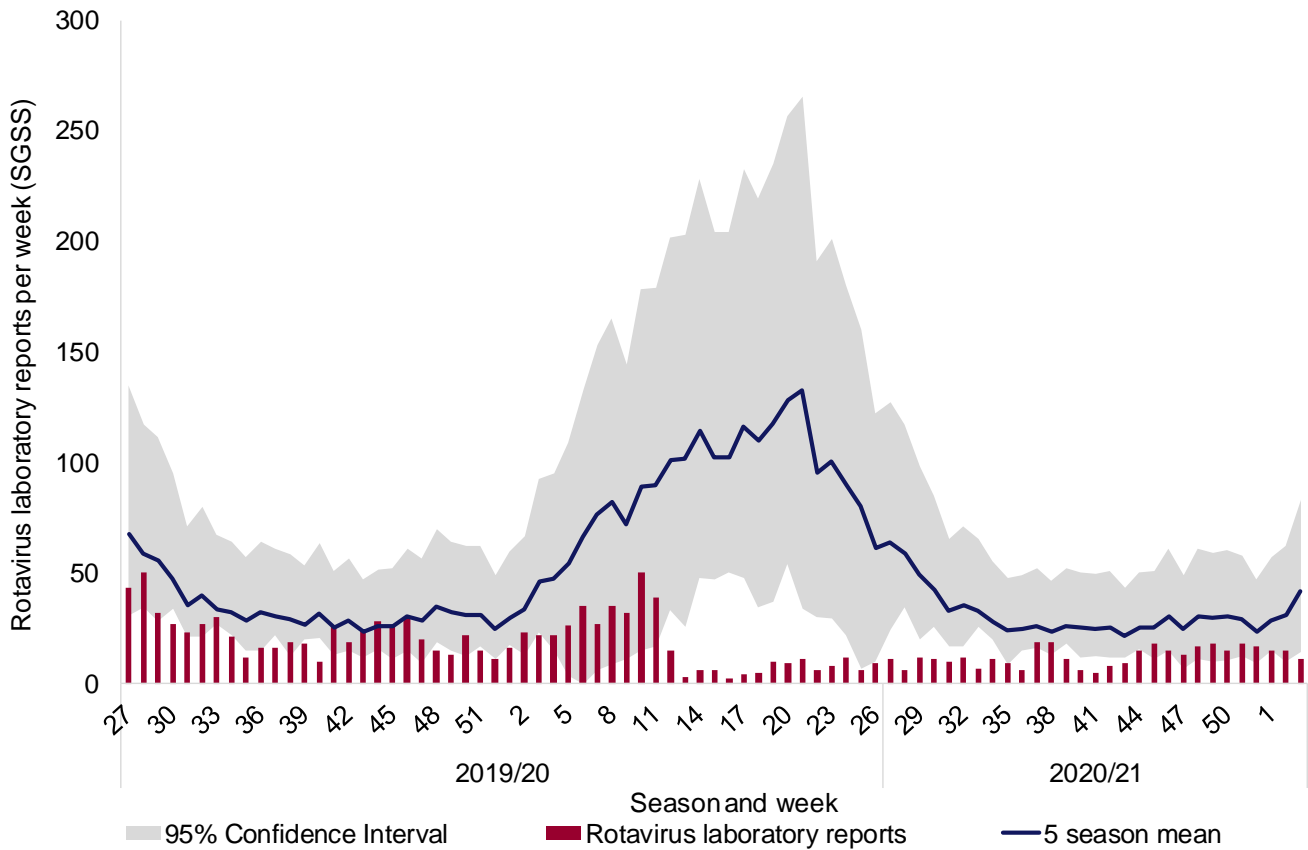
Please see [data sources and caveats section](#) for more information and for guidance on interpretation of trends and the impact of COVID-19.

Figure 1. Norovirus laboratory reports in England by week during 2019/20 and 2020/21 seasons, compared to 5-season averages*



* 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 2019 to week 26 2020, 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. Five-season averages for 2019/20 and 2020/21 seasons are calculated from the 5-season periods of 2014/15 to 2018/19, and 2015/16 to 2019/20, respectively. 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 2019/2020 and 2020/2021 seasons, compared to 5-season average (2014/15 to 2018/19 and 2015/16 to 2019/20)*

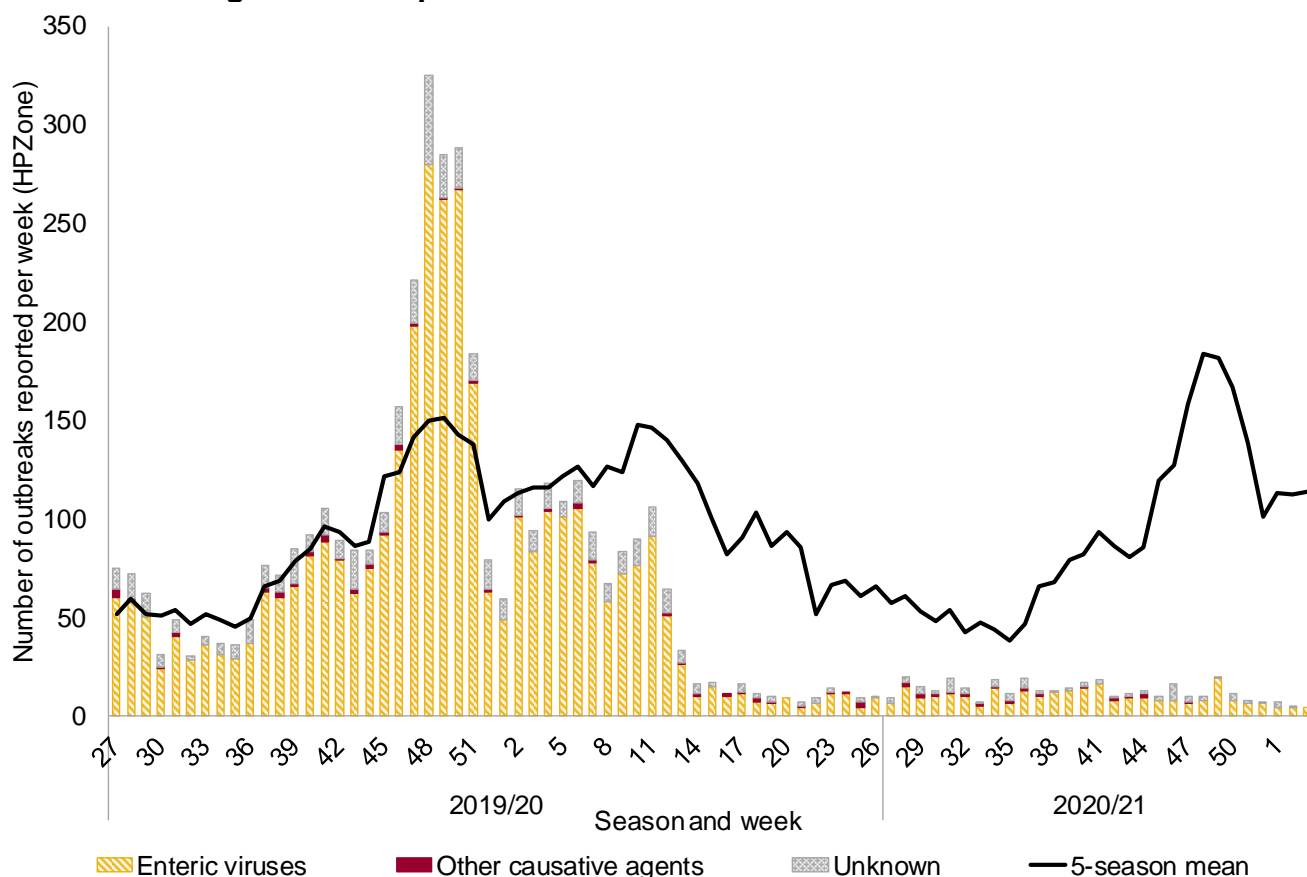


* In order to capture the winter peak of activity in reporting period the rotavirus season runs from week 27 in year 1 to week 26 in year 2, that is, week 27 2019 to week 26 2020, July to June. Week number is calculated from specimen date for SGSS data. Data are based on laboratory geography. Five-season averages for 2019/20 and 2020/21 seasons are calculated from the 5-season periods of 2014/15 to 2018/19, and 2015/16 to 2019/20, respectively. 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

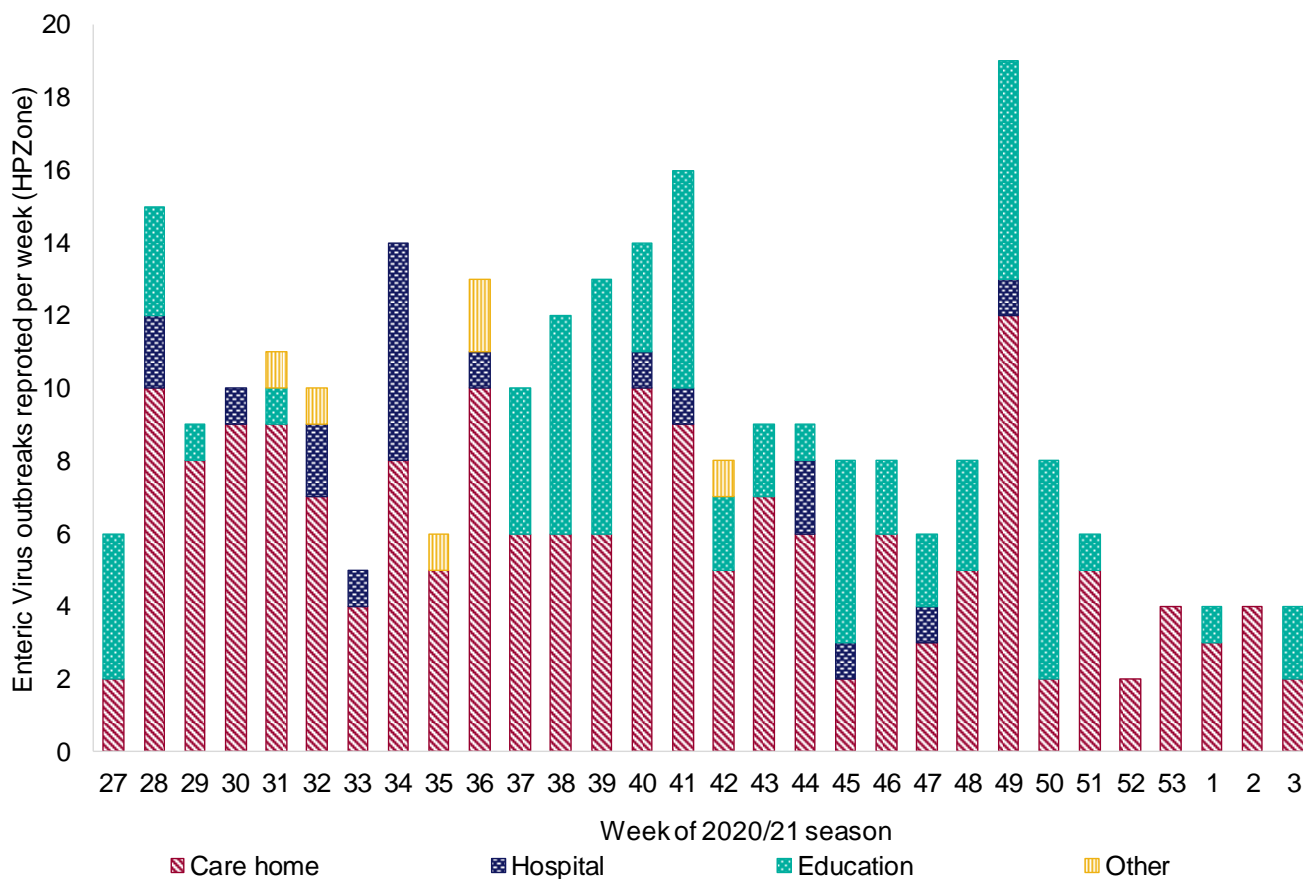
Please see [data sources and caveats section](#) for more information and for guidance on interpretation of trends and the impact of COVID-19.

Figure 3. 'Gastroenteritis' outbreak reports by causative agent and week of declaration in England, 2019/2020 and 2020/2021 seasons compared to the 5-season average of total reported outbreaks*



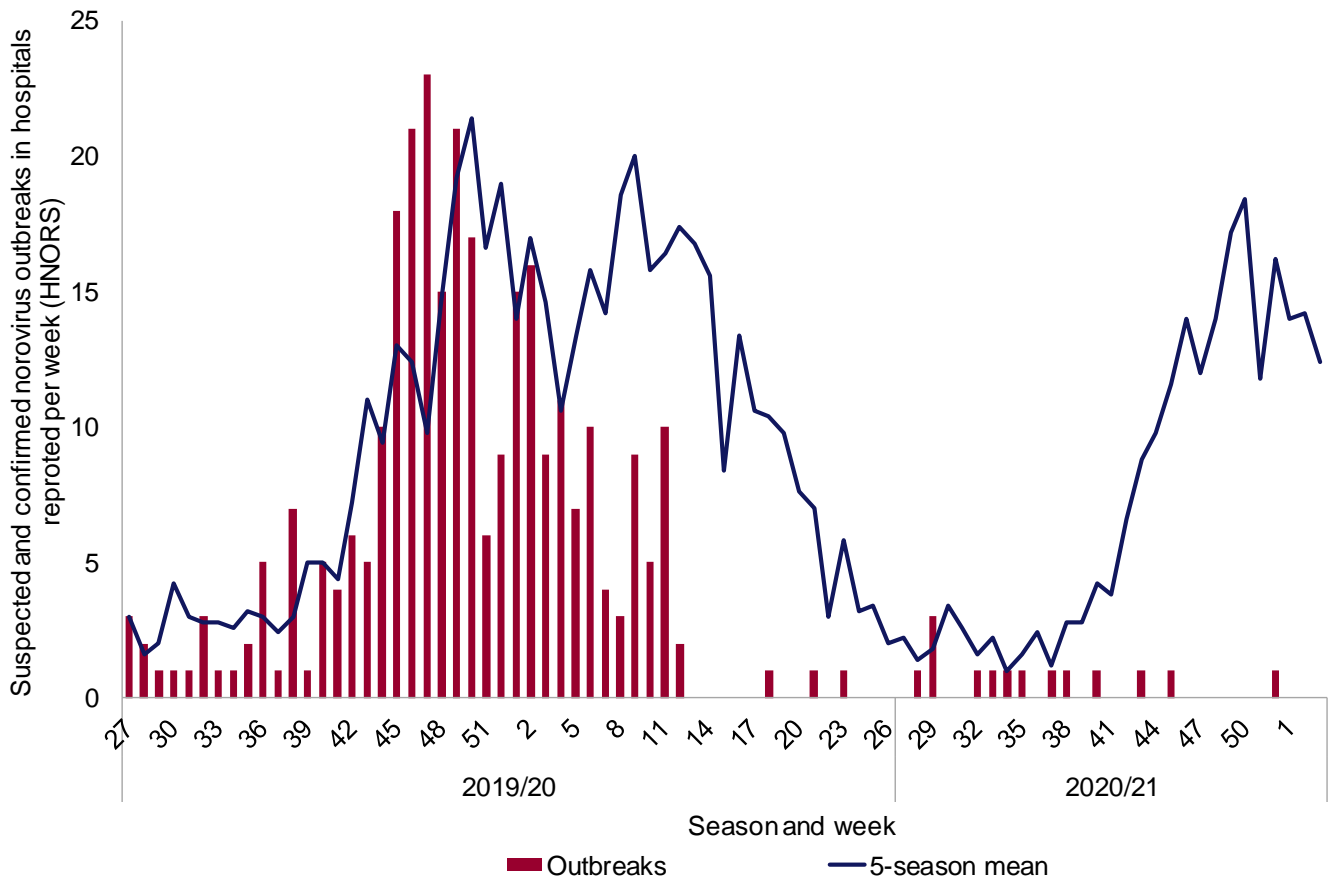
* Week number is calculated from date of outbreak declaration for HPZone data. Five-season averages for 2019/20 and 2020/21 seasons are calculated from the 5-season periods of 2014/15 to 2018/19, and 2015/16 to 2019/20, respectively. In years with a week 53 (2015 and 2020) data are combined with week 52 data to avoid distortion of the figure. Over the 5 seasons of 2015/16 to 2019/20 an average of 86.1% of 'gastroenteritis' outbreaks reported to HPZone were attributed to EVs (norovirus, rotavirus, sapovirus and astrovirus), 1.6% to other causative agents and 12.3% were of unknown cause. Of the outbreaks attributed to EVs, 98.7% were reported as suspected and confirmed norovirus outbreaks.

Figure 4. Enteric virus outbreaks reported to HPZone in England by setting during the 2020/21 season (to week 1, 2021)



*During the previous 5 seasons (2015/16 to 2019/20) 61% of all reported outbreaks attributed to EVs (norovirus, rotavirus, sapovirus and astrovirus), occurred in care home settings, 22% in educational settings, 12% in hospital settings and 5% in 'other' settings. Of the outbreaks attributed to EVs, 98.7% were reported as suspected and confirmed norovirus outbreaks. Only 14% 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 2019/20 and 2020/21 seasons compared to the 5-season average*



*Week number is calculated from date of first case onset for HNORS data. Five-season averages for 2019/20 and 2020/21 seasons are calculated from the 5-season periods of 2014/15 to 2018/19, and 2015/16 to 2019/20, respectively. 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 (2015/16 to 2019/20) 76% 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 (<https://hnors.phe.gov.uk/>), 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:

<https://www.gov.uk/government/statistics/norovirus-and-rotavirus-summary-of-surveillance-2019-to-2020>

Further information about norovirus surveillance can be found at:

<https://www.gov.uk/government/collections/norovirus-guidance-data-and-analysis>

Further information about rotavirus surveillance can be found at:

<https://www.gov.uk/government/collections/rotavirus-guidance-data-and-analysis>

Acknowledgements

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

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