



UK Health
Security
Agency

National norovirus and rotavirus bulletin

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

Week 23 report: data to week 21 (29 May 2022)

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Main messages

1. The UK Health Security Agency (UKHSA) first 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 2 and 29 May 2022 (reporting weeks 18 to 21, 2022).
2. The coronavirus (COVID-19) pandemic impacted activity across all gastrointestinal pathogen surveillance indicators for England in 2020 and 2021, but particularly for norovirus. The reasons for the reduction in norovirus reporting are considered to be multifactorial. The 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. Norovirus activity began to increase from week 25 of 2021.
3. Both norovirus laboratory reports and reported enteric virus (EV) outbreaks have remained below the 5-season average of the same period pre-COVID-19 in recent weeks. In weeks 18 to 21 of the 2021/2022 season, norovirus laboratory reports were comparable to the 5-season average of the same period prior to the emergence of COVID-19 (2014/2015 to 2018/2019). Overall this season reports of outbreaks in educational settings continue to be higher than during the same period in the 5 seasons pre-COVID-19, but those reported in hospital settings remain notably lower.
4. Laboratory reports of rotavirus have remained consistently lower than the 5-season average (2014/2015 to 2018/2019) since the emergence of COVID-19. However, since week 14 reports have increased and during weeks 18 to 21, 2022, reports were 4% higher than the 5-season average for the same 4 week period pre-COVID-19.
5. UKHSA's [Enteric Virus Unit](#) (EVU) provides a [norovirus characterisation service](#) to support national surveillance and monitor the diversity of circulating strains. During the 2021/22 season the majority (90%) of samples characterised were norovirus Genogroup 2 (GII) of which the most frequently identified strain was genotype GI.4 (49%). 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.

Data summary

Data reported here provides a summary of norovirus and rotavirus activity (including EV outbreaks) in England up to reporting week 21 of the 2021/2022 season.

Reported norovirus activity remained low throughout the 2020/2021 season ([Figure 1](#)) but norovirus laboratory reports increased during the early part of the 2021/2022 season and were generally comparable or higher than the same period in the 5 seasons prior to the emergence of COVID-19 (2014/2015 to 2018/2019) until week 40 of 2021. Total norovirus laboratory reports in weeks 18 to 21 (472 laboratory reports) were comparable to the 5 season average (482 laboratory reports) for the same 4 week period.

Throughout the 2020/2021 season and into the first half of the 2021/2022 season rotavirus laboratory reports remained lower than the 5-season average of the same period pre-COVID-19 ([Figure 2](#)). However, since week 14 rotavirus laboratory reports have been higher than or comparable to the 5 season average of the corresponding week and overall activity for the 4 week period of weeks 18 to 21, 2022 (508 laboratory reports) was 4% higher than the 5 season average (488 laboratory reports) for the same period.

Across the 2020/2021 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](#)). The total number of reported EV outbreaks during weeks 18 to 21 of the 2021/2022 season (334 outbreaks) was 7% higher than the 5-season average for the same 4 week period (313 outbreaks).

During the 4 week period of weeks 18 to 21, 2022 the majority of reported EV outbreaks (all suspected or confirmed as norovirus) have occurred in educational and care home settings, 49% and 44% respectively ([Figure 4](#)). Reported EV outbreaks in educational settings continue to be more frequently reported and make up a larger proportion of reports compared to the 5 season average for the same period (22%).

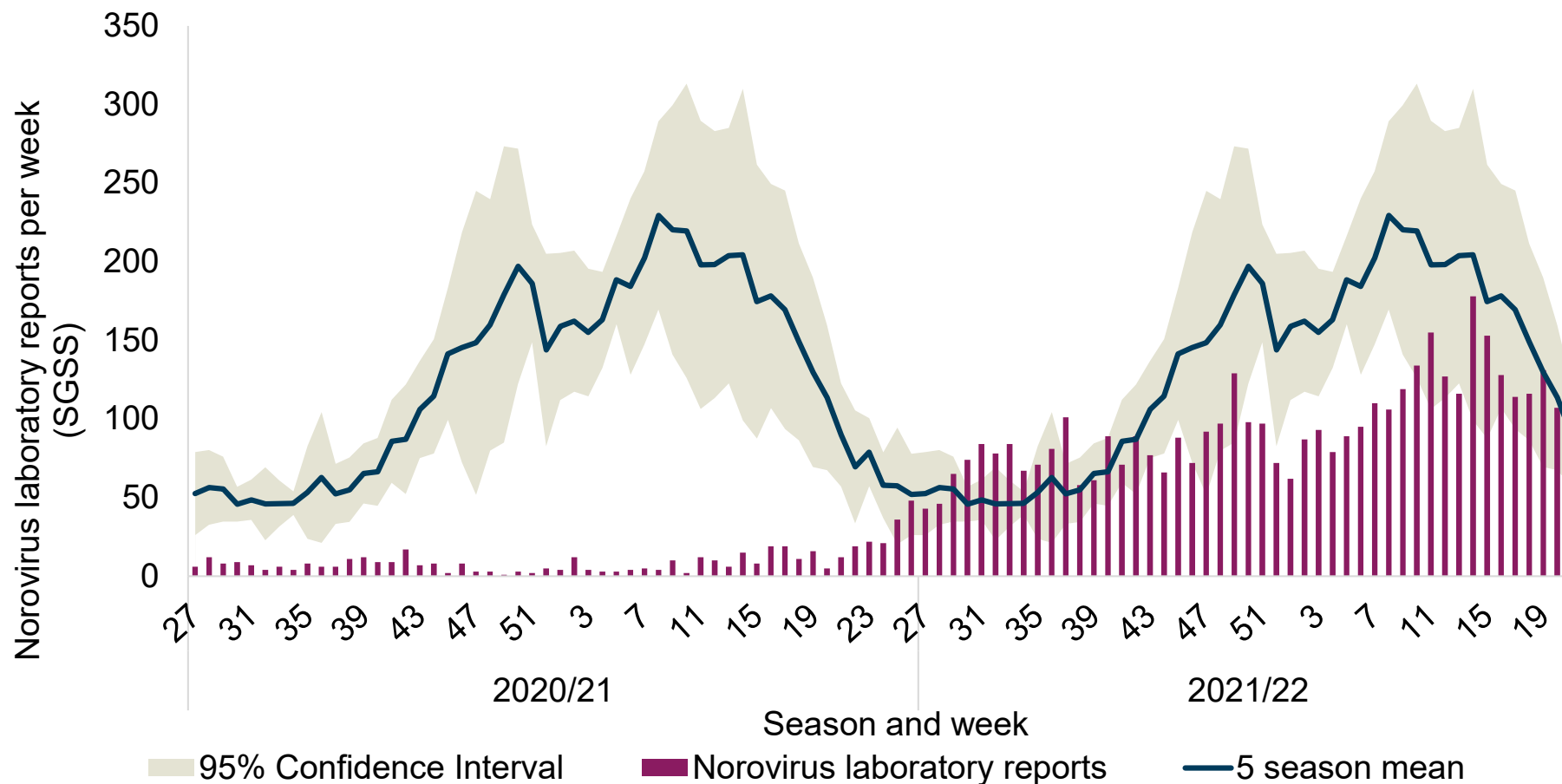
Throughout the 2020/2021 and 2021/2022 seasons to date, reports of suspected and confirmed norovirus outbreaks in hospitals have been substantially lower than the 5-season average (cumulative total to week 21 in 2021/2022 season is 77% lower, [Figure 5](#)).

Of the 462 norovirus positive samples characterised during the 2021/22 season, 90% (417 out of 462) were genogroup 2 (GII), 8% (37 out of 462) were genogroup one (GI) and 2% (8 of 462) were mixed. The 3 most frequent norovirus GII genotypes identified were GII.4 (49%), GII.3 (14%) and GII.2 (10%) and the most frequently identified norovirus GI genotypes were GI.6 (3%) and GI.3 (3%).

Laboratory data

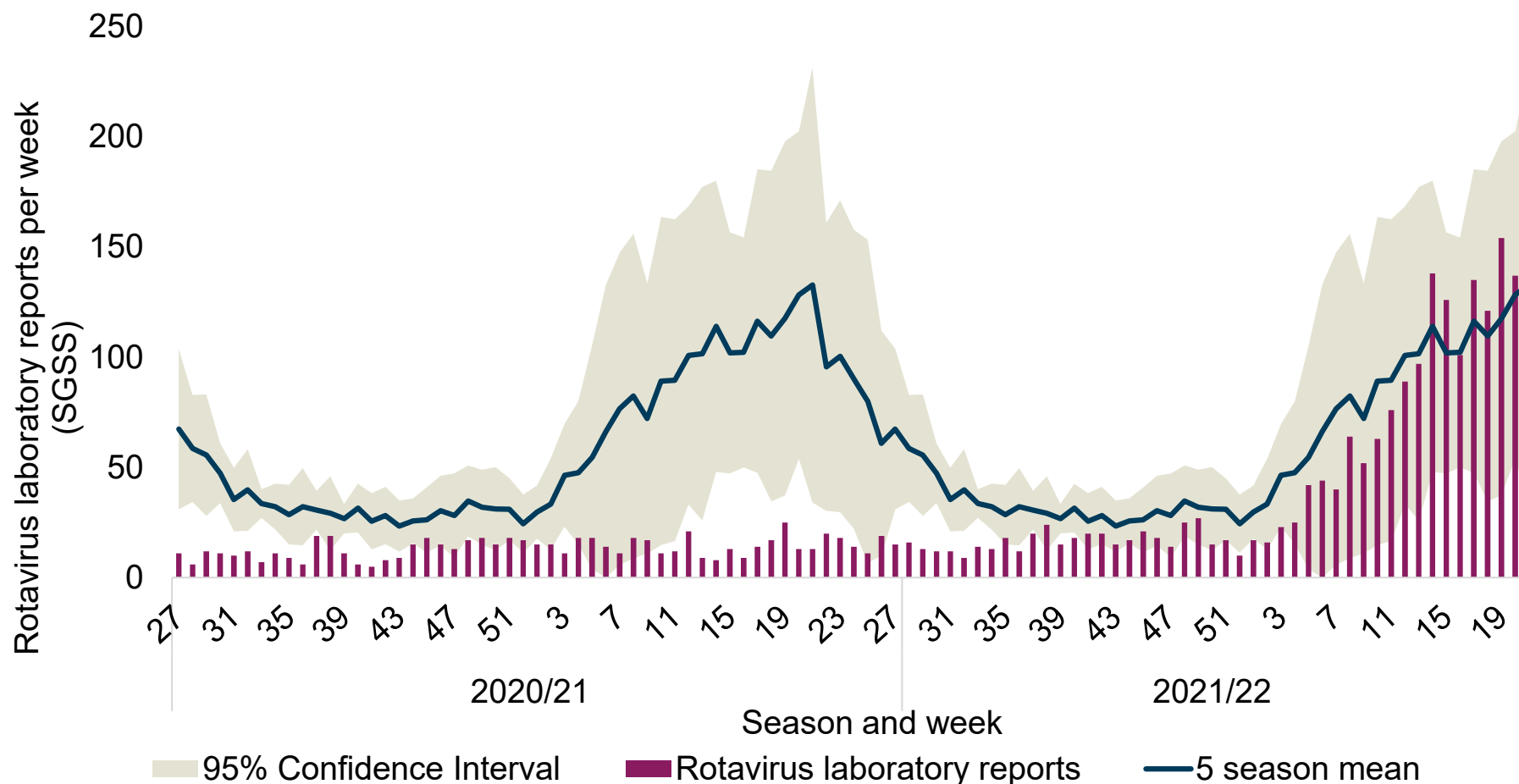
Please see [data sources and caveats section](#) for more information and for guidance on interpretation of trends and the impact of COVID-19.

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



* Week number is calculated from specimen date. Data is based on laboratory geography and is faecal and lower GI tract specimen types only.

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

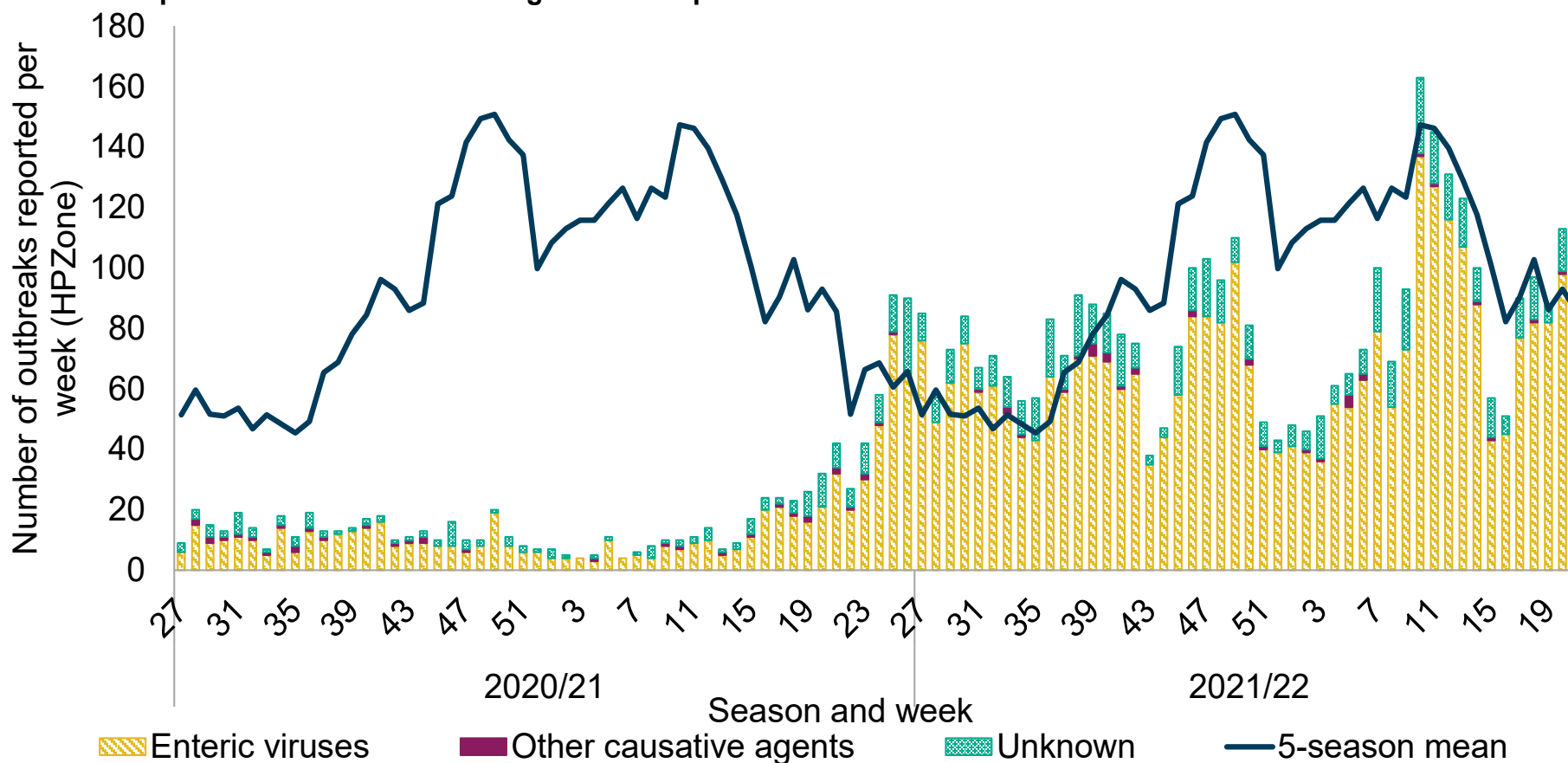


* Week number is calculated from specimen date for SGSS data. Data is based on laboratory geography. Following the introduction of the rotavirus vaccine into the routine childhood immunisation schedule in July 2013, the total number of laboratory-confirmed rotavirus infections each season has remained low compared to the pre-vaccine period.

Outbreak data

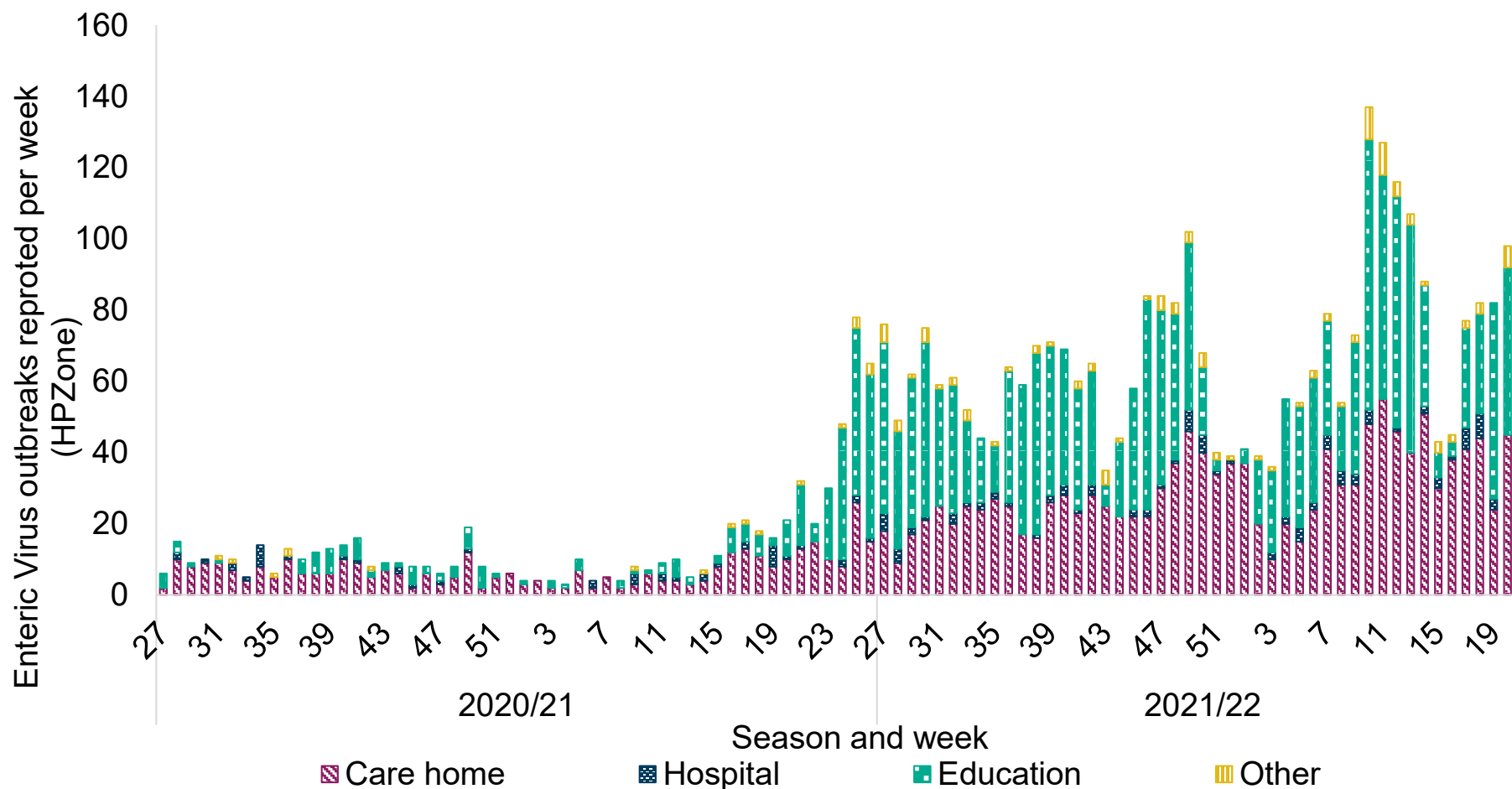
Please see [data sources and caveats section](#) for more information and for guidance on interpretation of trends and the impact of COVID-19.

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*



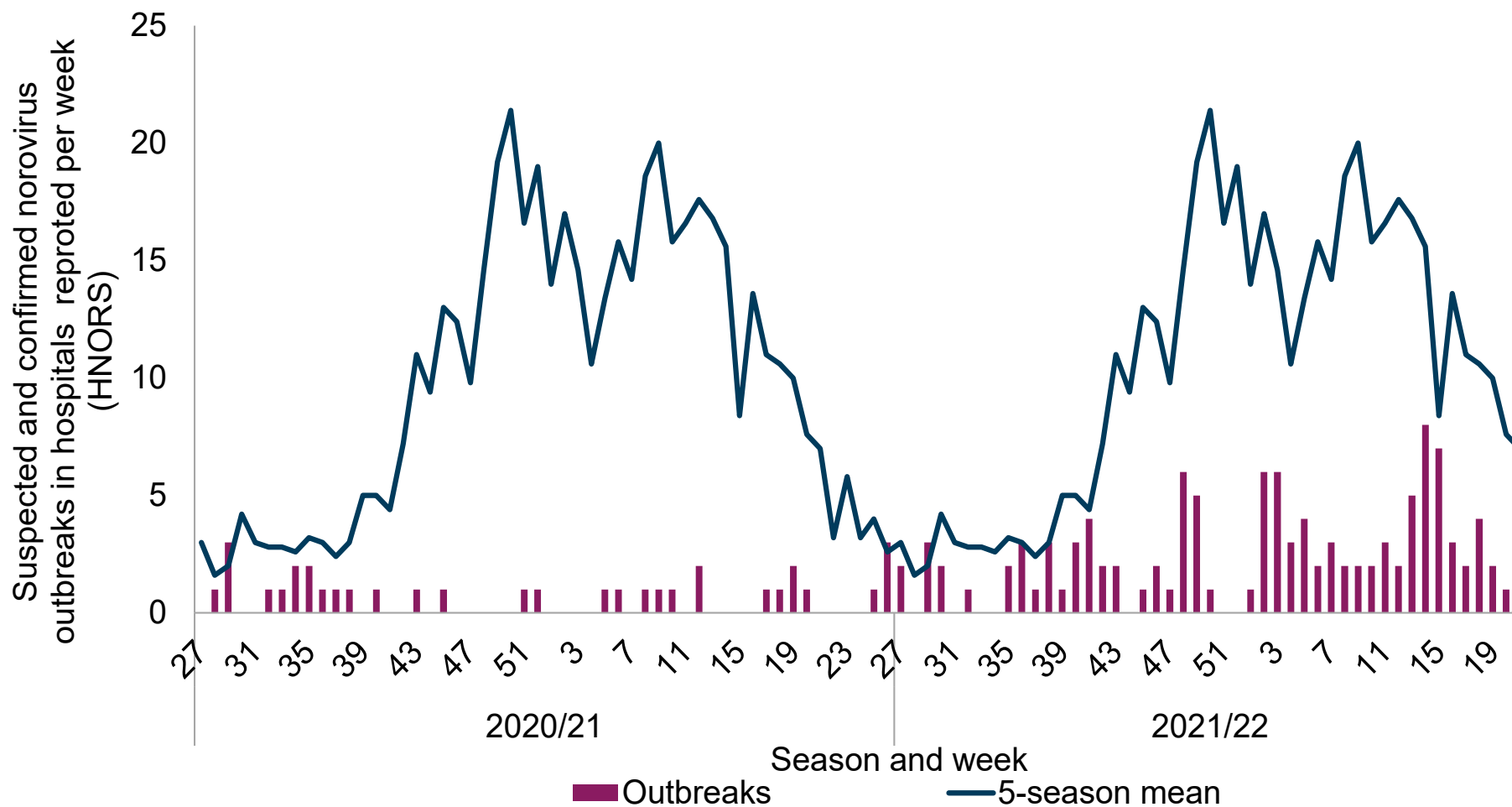
* Over the 5 seasons prior to the emergence of COVID-19 (2014/2015 to 2018/2019) an average of 86.1% of gastroenteritis outbreaks reported to HPZone were attributed to EVs (norovirus, rotavirus, sapovirus and astrovirus), 1.8% to other causative agents and 12.0% were of unknown cause. Of the outbreaks 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 21, 2022)*



* During the previous 5 seasons prior to the emergence of COVID-19 (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. During the 5 seasons prior to the emergence of COVID-19 (2014/2015 to 2018/2019) 73.6% of outbreaks reported to HNORS were laboratory confirmed as norovirus.

Data sources, notes and caveats

Data sources

1. The Second-Generation Surveillance System (SGSS) is the national laboratory reporting system, recording positive reports of norovirus and rotavirus.
2. The [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 notes and caveats

In order to capture the winter peak of activity in the reporting period the norovirus and 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. 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 is combined with week 52 data to avoid distortion of the figure.

Trends for the 2020/2021 and 2021/22 seasons 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. In addition, 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 is extracted from live reporting systems, is 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 is not included.

HPZone data utilises week of date of outbreak declaration for analyses due to mandatory completion of the field. While this usually reflects the date of notification, batch reporting of outbreaks can occur.

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), UKHSA local (HPTs) and UKHSA regional teams (Field Services) and UKHSA Regional Public Health and Collaborating Laboratories.

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

About the UK Health Security Agency

UKHSA is responsible for protecting every member of every community from the impact of infectious diseases, chemical, biological, radiological and nuclear incidents and other health threats. We provide intellectual, scientific and operational leadership at national and local level, as well as on the global stage, to make the nation health secure.

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Published: March 2022
Publishing reference: GOV-12464



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