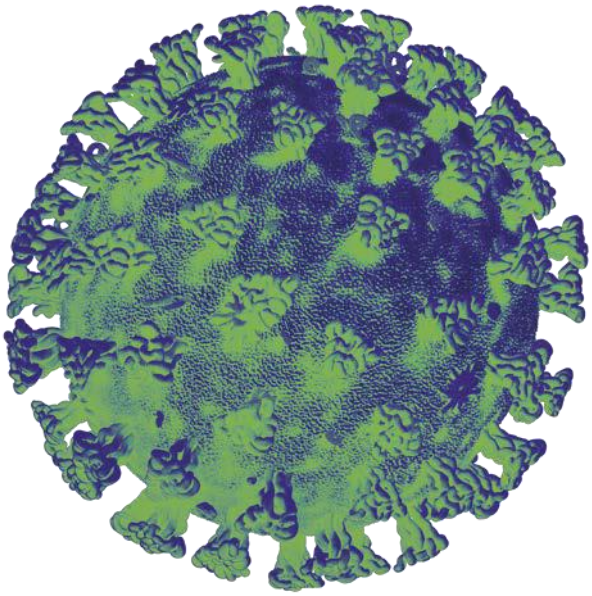
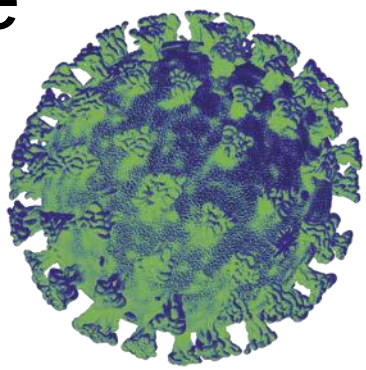
Llywodraeth Cymru
Welsh Government

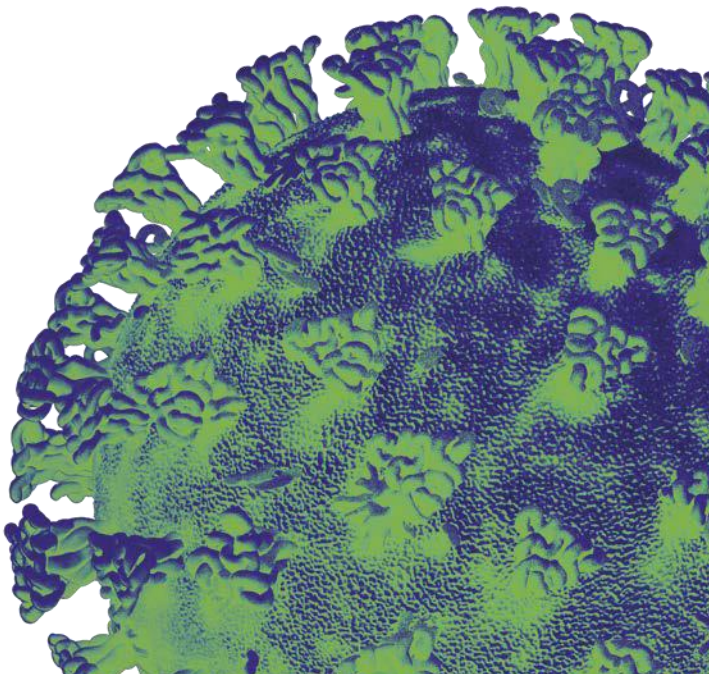
Science Evidence Advice (SEA)

Summary of Advice

18 November 2022







Top Line Summary

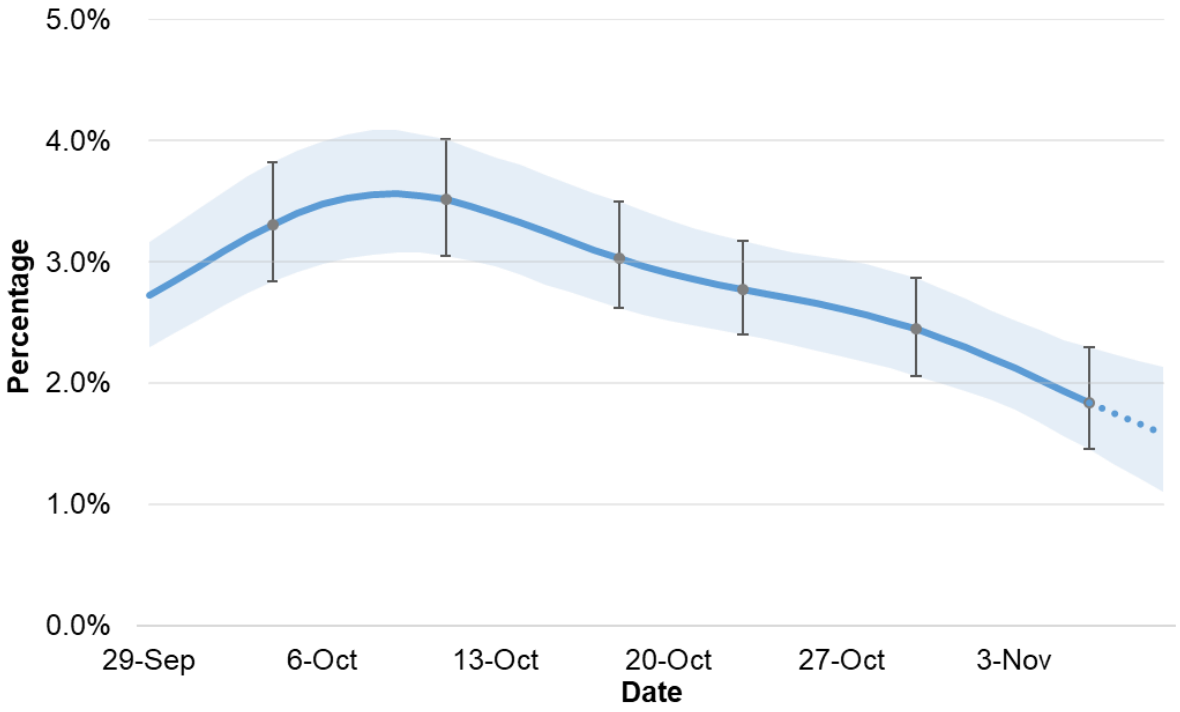
- As of 16 November 2022, available data sources suggest that the COVID-19 levels in Wales are decreasing. Hospital admissions of suspected and confirmed COVID-19 patients continue to decline and deaths related to COVID-19 remain low.
- Based on the most recent data, the BA.5 variant and its sub-lineages continue to be the most abundant variant in Wales. However, BQ.1 and its sub lineages are growing rapidly along with other un-designated variants.
- As at week ending 13 November, cases of influenza are beginning to increase in Wales. There were 140 cases of influenza (an increase from the previous week).
- Sentinel GP consultation rate for influenza-like illness in Wales during week 45 was 7.0 consultations per 100,000 practice population. This is an increase compared to the previous week, but remains below the baseline threshold for seasonal influenza activity.
- RSV incidence in children under 5 years of age is currently at levels that would indicate very high levels of activity (compared to the 10 seasons leading up to 2020).

1. Wales COVID-19 Situation Update

1.1. Infections

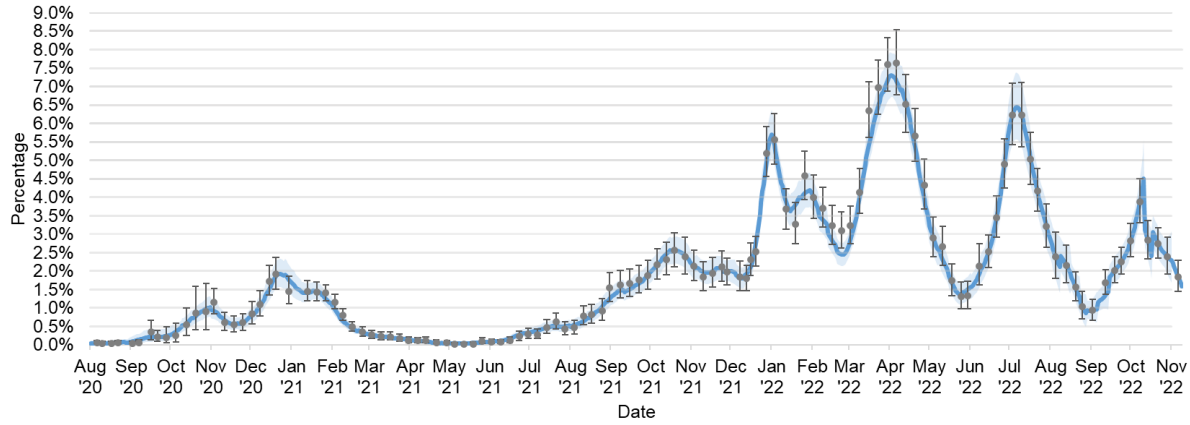
- According to the ONS Coronavirus Infection survey, for the week 3 to 9 November 2022, the percentage of people testing positive in Wales decreased in the most recent week. It is estimated that 1.84% of the community population had COVID-19 (95% credible interval: 1.46% to 2.30%). This equates to approximately 1 person in every 55 (95% credible interval: 1 in 70 to 1 in 45), or 56,000 people during this time (95% credible interval: 44,200 to 69,900).
- Caution should be taken in over-interpreting small movements - credible intervals are provided to indicate the range within which we may be confident the true figure lies.

Figure 1 - Official estimates of the percentage of the population in Wales testing positive for COVID-19 on nose and throat swabs since 28 September 2022



Source: Coronavirus (COVID-19) Infection Survey, ONS, 16/11/22

Figure 2 - Wales, estimated % testing positive for Covid 19 since August 2020



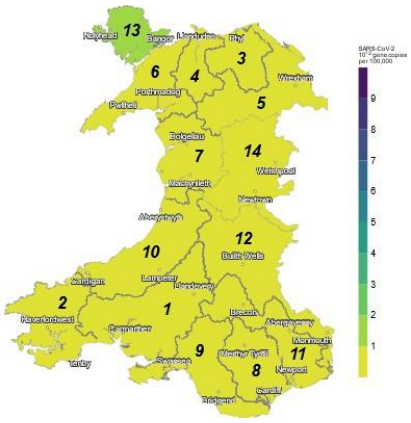
Source: Coronavirus (COVID-19) Infection Survey, ONS, 16/11/22

1.2. Wastewater surveillance

- Wastewater surveillance suggests the overall SARS-CoV-2 viral load has decreased across the country. However, the signal increased at Clwyd, Meirionnydd, Teifi and North Ceredigion and Ynys Môn, and remained level at Dee, Llŷn and Eryri, and South East Valleys.

Figure 3 - National (blue lines) and Regions (grey lines) wastewater signal for COVID-19 in Wales.

Figure 4 - National Heat Map showing Regional Mean Wastewater Signal



1.3. PHW Lateral Flow Testing Surveillance

- *As of 1 August 2022, free NHS lateral flow tests (LFTs) in Wales have not been available to members of the public showing symptoms of coronavirus or who are visiting someone eligible for new COVID-19 treatments. As a result, testing data will be incomplete and should be interpreted with caution, although it may still be useful to signal wider trends.*
- As of 16 November 2022, based on data up to 13 November 2022, PHW reports that episode positivity rate decreased from 19.09% in the previous week to 17.81% in the latest reporting week.
- The number of positive testing episodes decreased from 1,440 in the previous week to 1,262 in the latest reporting week.
- The 40-59 age group recorded the highest incidence rate of 60.5 positive testing episodes per 100,000 population.
- The Under 20 age group recorded the highest episode positivity rate of 44.34%.

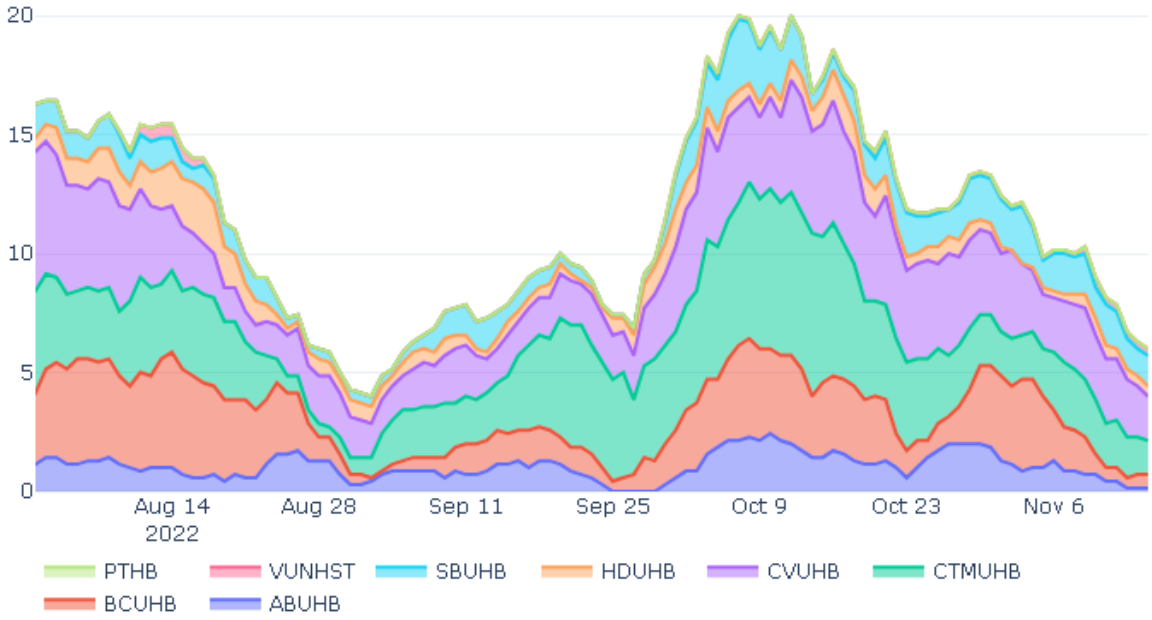
1.4. Deaths

- ONS published statistics on 15 November on provisional weekly deaths, including deaths involving COVID-19, for the week ending 4 November 2022. The cumulative number of deaths involving COVID-19 in Wales, registered throughout the pandemic up to the latest week, was 11,029.
- 712 deaths from all causes were registered in the latest week. This was 3 more than the previous week and is 55 more than the five-year average for 2016-19 and 2021.
- 44 deaths involving COVID-19 were registered in the latest week. This was 6.2% of all deaths, and 15 more than the previous week.

1.5. NHS

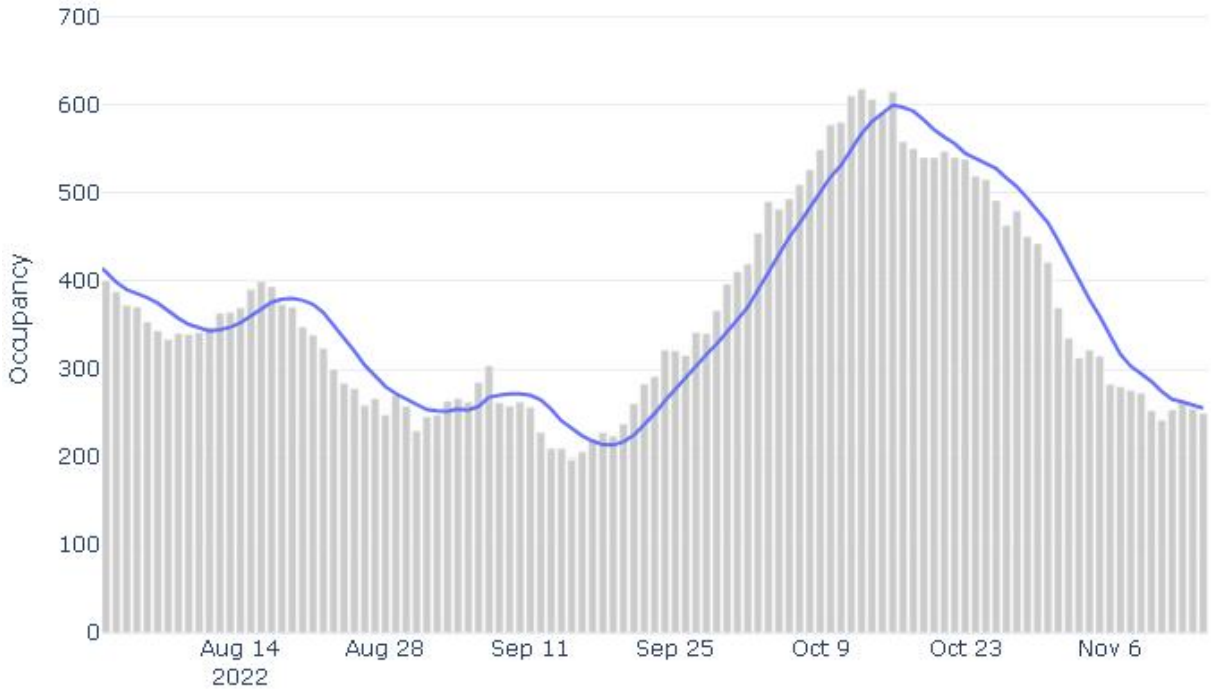
- As of 15 November 2022, hospital admissions of suspected and confirmed COVID-19 positive patients is at approximately 6 admissions per day.
- Admissions steadily increased from late September 2022 to a peak of around 20 admissions per day in the first week of October. Since then, they have decreased to the current level, and have more than halved in the previous 2 weeks. Hospital admissions currently sit at around a quarter of the mid-July peak.

Figure 5 - Hospital admissions of suspected and confirmed COVID-19 positive patients



- As of 15 November 2022, the 7-day average of hospital bed occupancy of confirmed COVID-19 patients was 256 beds. This is a decrease of almost 200 beds compared to the last two 2 weeks.

Figure 6 - Average of hospital bed occupancy of confirmed COVID-19 patients



- The proportion of patients in hospital with COVID-19 who are being actively treated for COVID-19, as opposed to testing positive for COVID-19 but being primarily treated for other reasons, has been generally decreasing.

Figure 7 - Percentage of COVID-19 patients in acute hospitals actively treated for COVID-19 in Wales, StatsWales (%), 7 day rolling average

- As of 14 November 2022, NHS staff absence due to self isolation has decreased slightly since the period ending 31 October 2022, to 0.3% from 0.4%, whilst absence due to COVID-19 sickness has decreased to 0.6% from 0.8%.

1.6. Vaccines

- The Autumn COVID-19 vaccine booster campaign is under way, as outlined in these tables:

Cumulative number of COVID-19 Autumn 22/23 vaccine doses given, by week.

Uptake, based on Wales residents, uses indicative denominator 1,615,628

Week ending	Number of doses	Uptake
2022-09-04	23,330	1.4%
2022-09-11	91,433	5.7%
2022-09-18	155,635	9.6%
2022-09-25	231,850	14.4%
2022-10-02	326,940	20.2%
2022-10-09	426,255	26.4%
2022-10-16	540,850	33.5%
2022-10-23	640,299	39.6%
2022-10-30	728,838	45.1%
2022-11-06	798,810	49.4%

Data for this report were extracted at 8am 10/11/2022

Source: https://public.tableau.com/app/profile/public.health.wales.health.protection/viz/COVID-19vaccination-Public/Vaccination?publish=yes

Number of COVID-19 Autumn 22/23 booster vaccines given by age and risk group

Risk group	Denominator *(n)	Immunised (n) - 22/23 Booster	Uptake (%) - 22/23 Booster
Severely Immunosuppressed	50,901	30,784	60.5
Residents in a care home for older adults*	14,572	11,711	80.4
Staff working in care homes for older adults**	37,817	12,892	34.1
Health care staff**	141,525	67,637	47.8
Social care staff**		19,017	
All adults aged 65 years and older	712,667	493,498	69.2
All adults aged 50_to_64 years	684,108	247,148	36.1
Aged 5 to 49 years in a clinical risk group	218,853	36,832	16.8

An individual will be counted more than once if they are in more than one risk group.

Denominator data is taken from WIS and based on Wales residents, with the exception of care home workers, healthcare workers and social care workers where denominators are based on those working in Wales.

All age groups are based on age as at 31 March 2023.

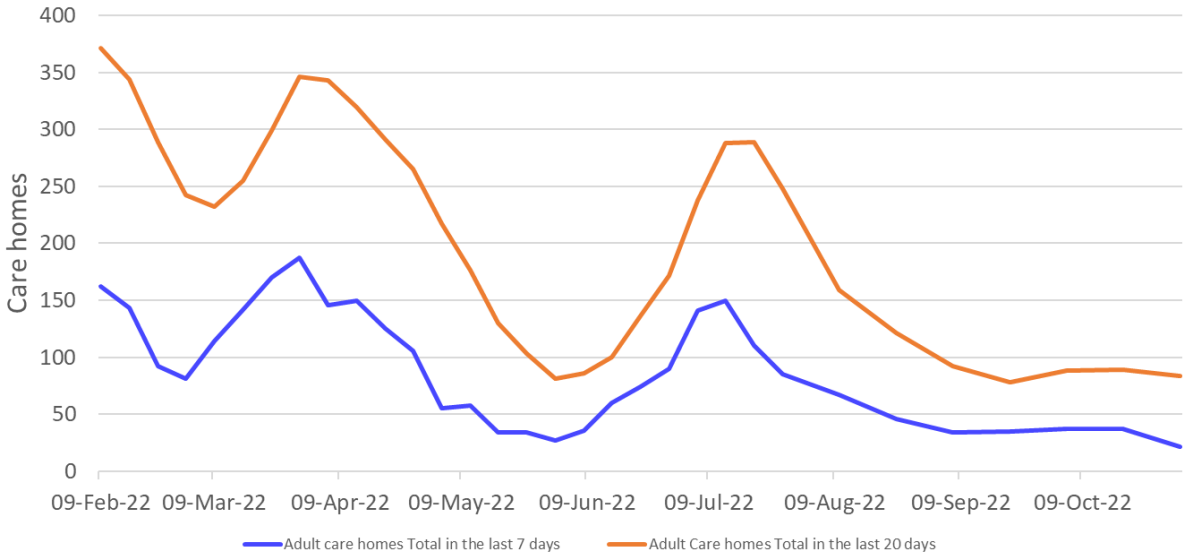
Quality of recording of staff priority groups is variable and incomplete, these figures are provided provisionally and should be interpreted with caution.

Care home residents have been identified by matching address as recorded in the Welsh Demographic Service (WDS) to a Care Inspectorate Wales list of registered Care Homes.

1.7. Care homes

- As of 8 November 2022 (with data up to 2 November 2022), the number of adult care homes in Wales that have notified CIW of one or more confirmed cases of COVID-19 in staff or residents in the last 14 days has decreased since the previous fortnight, to 22 cases, from 37 cases. This figure for the last 20 days has decreased slightly to 84, up from 89 in the period ending 19 October 2022. In Wales there are 1,024 adult care homes in total.

Figure 8 - Number of adult care homes which have notified CIW of one or more confirmed cases of COVID-19 in staff or residents



- As of 2 November 2022, the number of notifications to CIW of deaths of adult care home residents involving COVID-19 (both confirmed and suspected) in the last 7 days has decreased to 1, compared to 6 in the previous week.
- In total, CIW has been notified of 2,247 care home resident deaths with suspected or confirmed COVID-19 between 1 March 2020 and 2 November 2022. This makes up 13% of all adult care home resident reported deaths (17,940) during this period.

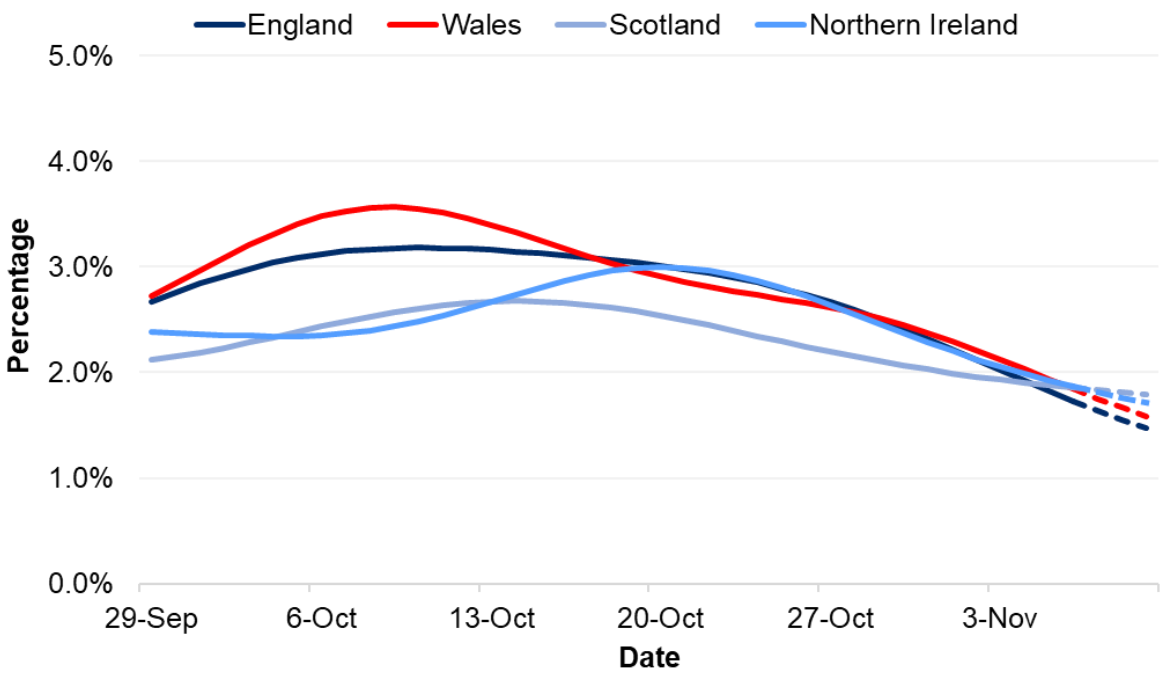
1.8. Schools

- As of 16 November 2022, the average attendance for this academic year to date is 91.2%. An average of 91.0% of half-day school sessions were recorded as present for pupils aged 5 to 15 over the week of 7 to 11 November 2022, up from 89.8% two weeks before (week of 24 October to 28 October 2022). Data for the latest week is provisional. There is no data for 31 October to 4 November 2022 due to the autumn half term holiday.
- An average of 5.8% of half-day school sessions were recorded as authorised absence for pupils aged 5 to 15 over the week of 7 to 11 November 2022, down from 7.1% two weeks before.
- An average of 3.1% of half-day school sessions were recorded as unauthorised absence for pupils aged 5 to 15 over the week of 7 to 11 November 2022, unchanged from two weeks before.
- There has been little difference in the attendance rate by gender for the academic year to date, 91.2% for boys and 91.1% for girls.
- The attendance rate by year group for the academic year to date has been highest for pupils in Year 7 (93.1%) and lowest for pupils in Year 11 (87.2%).
- The attendance rate for the academic year to date has been higher for pupils not eligible for free school meals (92.9%) than pupils who are eligible for free school meals (86.5%).
- The most common reason for absence for the academic year to date has been illness, with 49.3% of sessions missed being for this reason. The full report is available here

1.9. UK Infection positivity – ONS Coronavirus Infection Survey, 3 to 9 November 2022*

- The ONS Coronavirus Infection Survey reports that at the midpoint of the most recent week (3 to 9 November 2022), the positivity rate has decreased in all UK nations.
- The estimated percentages of the community population with COVID-19 ranged from 1.73% in England to 1.86% in Northern Ireland.
- In Wales, the estimated number of people testing positive for COVID-19 was 56,000 people (95% credible interval: 44,200 to 69,900), equating to 1.84% of the population, or around 1 in 55 people.
- In England, the estimated number of people testing positive for COVID-19 was 940,700 people (95% credible interval: 888,600 to 994,200), equating to 1.73% of the population, or around 1 in 60 people.
- In Scotland, the estimated number of people testing positive for COVID-19 was 97,500 people (95% credible interval: 81,100 to 115,900), equating to 1.85% of the population, or around 1 in 55 people.
- In Northern Ireland, the estimated number of people testing positive for COVID-19 was 34,200 people (95% credible interval: 26,000 to 43,500), equating to 1.86% of the population, or around 1 in 55 people.

Figure 9 - Positivity rates (%) across UK countries since 28 September 2022



Source: Coronavirus (COVID-19) Infection Survey, ONS, 16/11/22

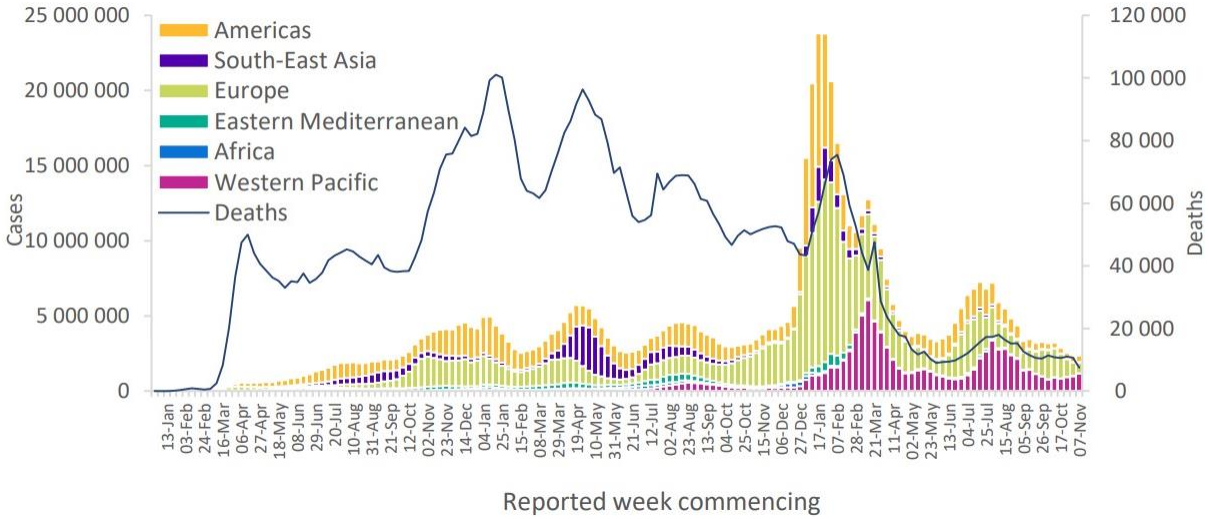
1.10. Long Covid

- As per the previous summary, an estimated 2.1 million people living in private households in the UK (3.3% of the population) were experiencing self-reported long COVID (symptoms continuing for more than four weeks after the first confirmed or suspected coronavirus (COVID-19) infection that were not explained by something else) as of 1 October 2022.
- In the same period in Wales, 108,000 people self-reported long COVID (3.5% of the Welsh population). The full report is available here.

1.11. International overview – World Health Organisation update

- The WHO reports that globally, the number of new weekly cases increased by 2% during the week of 7 to 13 November 2022 as compared to the previous week, with over 2.3 million new cases reported. The true number of incident cases is an underestimate due to a decline in testing globally. The number of new weekly deaths decreased by 30% as compared to the previous week, with over 7400 fatalities reported. As of 13 November 2022, over 632 million confirmed cases and over 6.5 million deaths have been reported globally.

Figure 10 - COVID-19 cases reported weekly by WHO Region, and global deaths, as of 13 November 2022



Source: WHO Weekly Epidemiological Update on COVID-19

- The highest numbers of new weekly cases were reported from Japan (503 766 new cases; +25%), the Republic of Korea (355 990 new cases; +19%), the United States of America (281 955 new cases; +6%), Germany (184 987 new cases; -25%), and China (171 745 new cases; -22%). The highest numbers of new weekly deaths were reported from the United States of America (2323 new deaths; -6%), Japan (552 new deaths; +41%), the Russian Federation (436 new deaths; -10%), China (410 new deaths; -24%), and France (390 new deaths; -10%).

- As of 18 November 2022, ECDC reports decreasing trends continue to be observed in EU/EEA-level COVID-19 case rates, including in people aged 65 years and older, and death rates.
- Hospital and ICU indicators have either remained stable or decreased across the region in comparison to the previous week.
- The pooled EU/EEA notification rate of COVID-19 cases among people aged 65 years and older decreased by 23% compared to the previous week, with only one of the 23 countries reporting data on this indicator seeing increases over the past two weeks.
- Overall notification rates (all-age) decreased by 21%, albeit one of the 30 reporting countries reporting a recent increase.

1.12. Variant of Concern update

PHW report the weekly summary of the total number of COVID-19 variants of concern (VOC) in Wales. (Data correct as at: 15 Nov 2022).

WHO	Variant	Lineage	Alternate names	30 day cases*	Total cases	Change
Omicron	All cases			1,604	136,851	-84
	VOC-22JAN-01	BA.2	BA.2	4	29,201	-2
	VOC-22APR-03	BA.4	-	4	1,184	-3
	VOC-22APR-04	BA.5	-	676	6,517	-275
	V-22JUL-01	BA.2.75	-	82	164	+1
	V-22SEP-01	BA.4.6	-	19	167	
	V-22OCT-01	BQ.1		189	277	
	V-22OCT-02	XBB	-	6	7	
	Not elsewhere classified	B.1.1.529	B1.1.1529, BA.3, genotyped cases	624	42,171	+197

Source: Public Health Wales COVID-19 genomic surveillance

- The WHO reports that, during epidemiological week 43 (24 to 30 October 2022), pooled BA.5 and all its descendent lineages continued to be dominant globally, accounting for 73.2% of sequences submitted to GISAID. The prevalence of BA.2 and its descendent lineages remained relatively similar during the same period as compared to week 42 (6.3% versus 6.8%), while BA.4 descendent lineages continued to decline from 4.3% to 3.5%.
- The global variant circulation indicates a replacement of previously dominating BA.5 descendent lineages by the most recently emerging variants,

notably by BQ.1, and BA.5 + R346X. BQ.1 rose from 13.3% to 16.2%, while BA.5 with additional mutations continued to increase, rising from 22.4% to 23.3%; this rise has been mostly due to the increase of BA.5 + R346X. BA.2.75 showed a rise in sequence prevalence from 4.1% to 5.4%. XBB and its descendent lineages rose from 1.5% to 2.0%. BA.2.3.20 is rising slowly, with a prevalence of <1%.

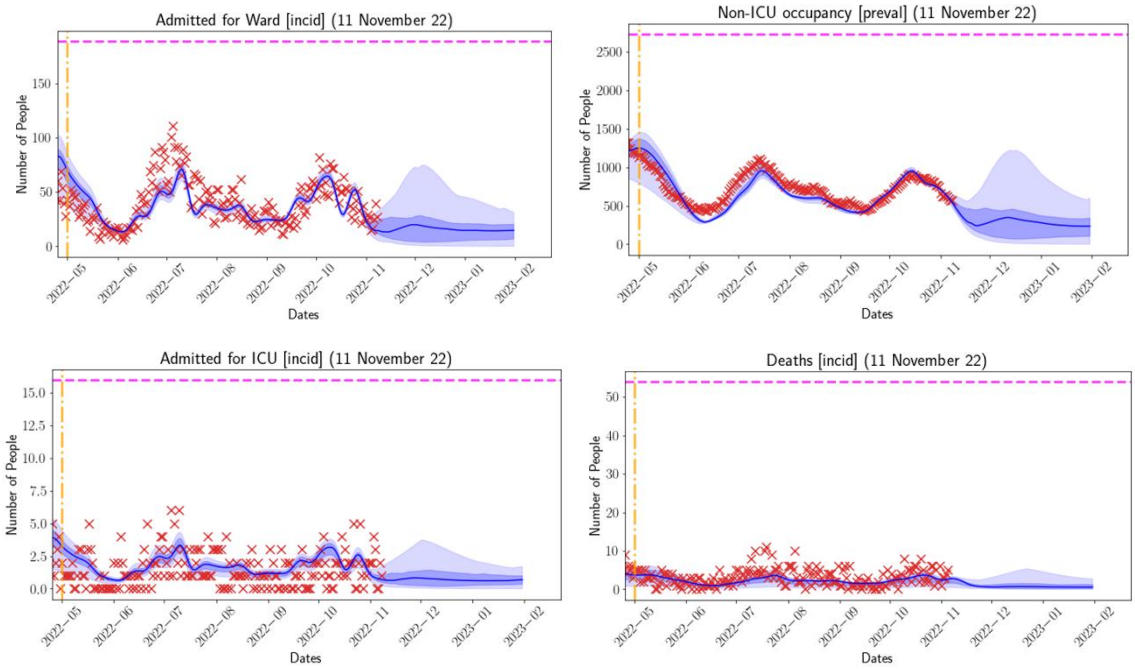
- WHO's Technical Advisory Group on SARS-CoV-2 Virus Evolution (TAG-VE) is working to improve variant risk assessment and work towards more quantitative indicators that can be used for such assessment.

2. COVID-19 Medium-Term Projections

- Swansea University (SU) regularly produces medium-term projections (MTPs) for Wales. The SU projections are also combined with other models to go into a consensus MTP for admissions and deaths which is agreed every two weeks by the UKHSA Epidemiological Modelling Review Group (EMRG), which has taken over from COVID-M-O in agreeing these MTPs.
- The SU projections are typically more up to date but may be less robust as they are based on one model only. Both MTPs are based on projecting forward from current data and do not explicitly factor in policy changes, changes in testing, changes in behaviour, or rapid changes in vaccinations.
- These MTPs for COVID-19 hospitalisations and deaths are not forecasts or predictions. They represent a scenario in which the trajectory of the epidemic continues to follow the trends that were seen in data available at the time.

2.1. Swansea University MTPs, data as at 11 November

- In the charts below, red crosses represent actual Omicron data, which the model is fitted to – fit is weighted to data points after the vertical orange line to represent the characteristics of emergent strains. The blue line represents the central modelling estimate. The blue ribbon represents the confidence intervals, with the darker blue ribbon indicating the 25th to 75th percentiles, and the 95% confidence limits in the lighter ribbon The pink dotted line represents pre-Omicron peaks.
- This week the median projections are declining; the consistent decline over the last few weeks seems to have ruled out the higher uncertainty we had recently at the upper bounds. The highest scenarios are driven almost solely by waning immunity. Not just the estimate value (the duration of immunity) but how this interacts with the full exposure history.
- Hospital admissions are projected to stabilise, increasing slightly towards the end of November before reaching a plateau in December and January.
- Bed occupancy is projected to continue to decline before increasing slightly in December and reaching a plateau in the following weeks.
- ICU occupancy is expected to plateau over the coming weeks. Deaths continue to fluctuate at low levels.
- Note that, in the figures, fit is weighted to data points after the vertical orange line to reflect the characteristics of emergent strains. The horizontal pink line represents pre-omicron peaks.



2.2. Winter Modelling compared to actuals

In order to aid with winter planning of COVID-19 admissions and occupancy over the 2022/23 winter, a paper was published outlining several scenarios (Science Evidence Advice: Winter modelling 2022 to 2023 | GOV.WALES). It's important to note that these scenarios were not an indication of what would happen, but rather what could happen. Since the publication of the winter modelling continuous monitoring has taken place to track actual data against the scenarios. The admissions data is provided by Public Health Wales and occupancy data is sourced from Digital Health and Care Wales (NHS beds by date and use (gov.wales).

Data up to 12 November 2022 showed a trend in admissions with a curve similar to the optimistic scenario but occurring slightly early (in October) than the scenarios (in November into December).

Data up to 15 November 2022 showed a trend in admissions tracking between the optimistic scenario and most likely scenario but again occurring earlier than the scenarios estimated.

Figure 11 - COVID-19 admissions scenarios versus actuals

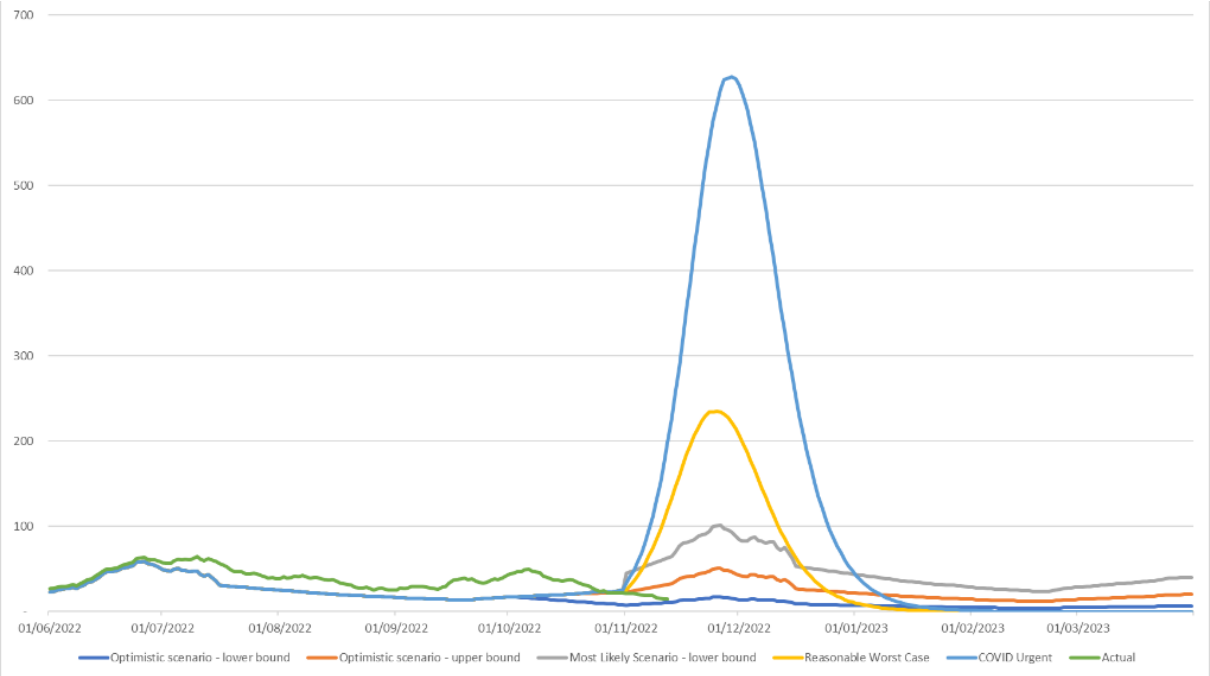
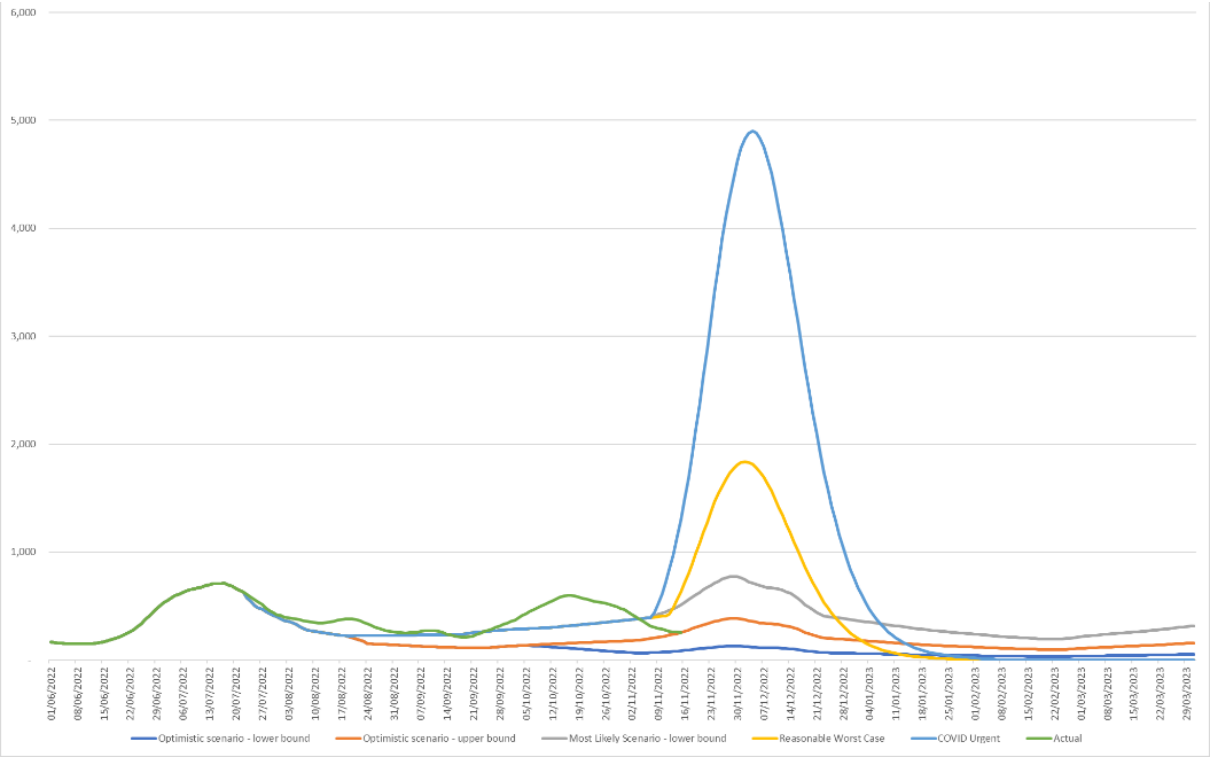


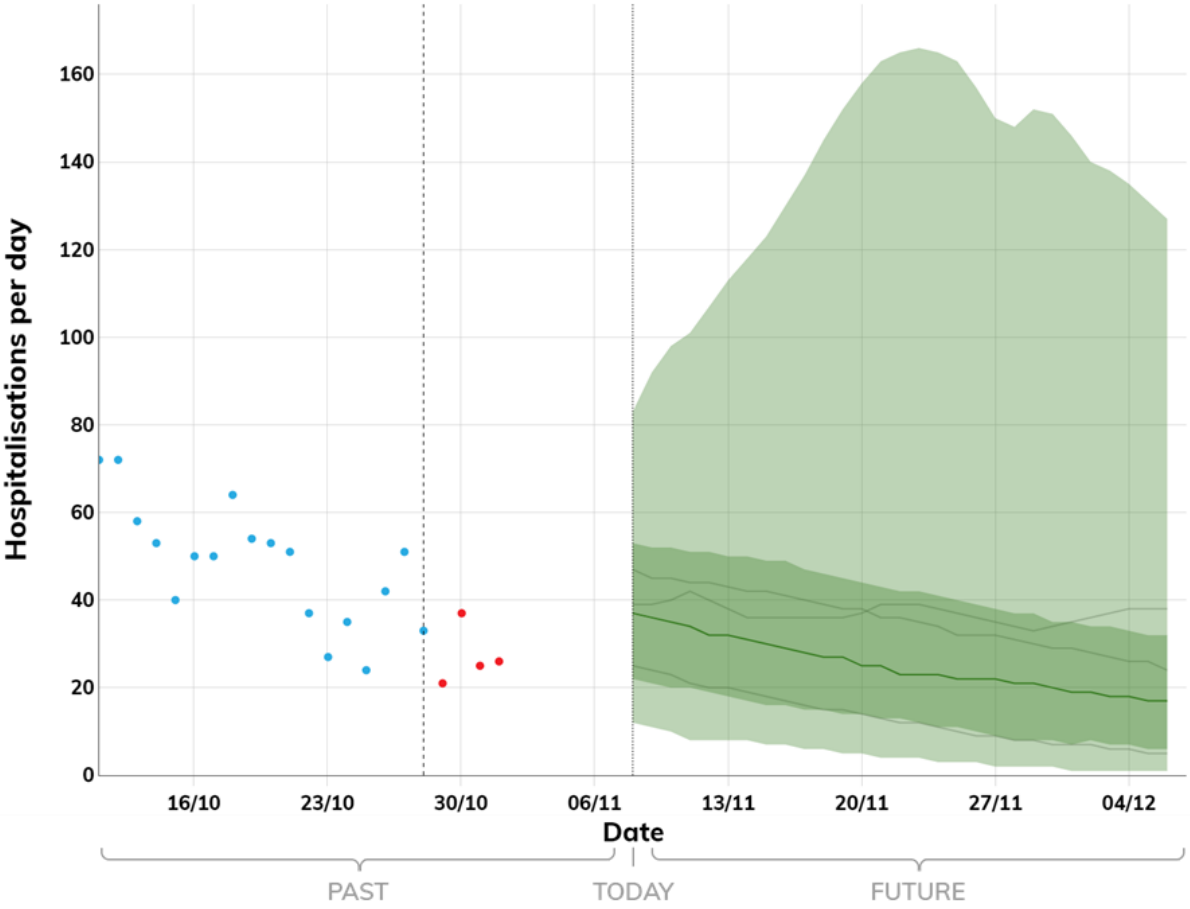
Figure 12 - COVID-19 occupancy scenarios versus actuals



2.3. UKHSA EMRG Consensus MTPs, data as at 3 November

- Swansea University (SU) projections are used by the UKHSA Epidemiological Modelling Review Group (EMRG).
- The combined projection for admissions shows a small possibility of an initially high growth rate, resulting in a sharp increase in hospital admissions. This is driven by a model that incorporates uncertainty in rates of waning immunity, following a recent peak in COVID-19 infections and hospital admissions. It is highly unlikely that such a sharp increase will be observed.
- These consensus MTPs were produced a week before the most recent Swansea MTPs and there has since been a reduction in the height of the upper bound, due to the continued decline in the median projection.

Figure 13 - UKHSA EMRG Consensus MTPs, data as at 3 November



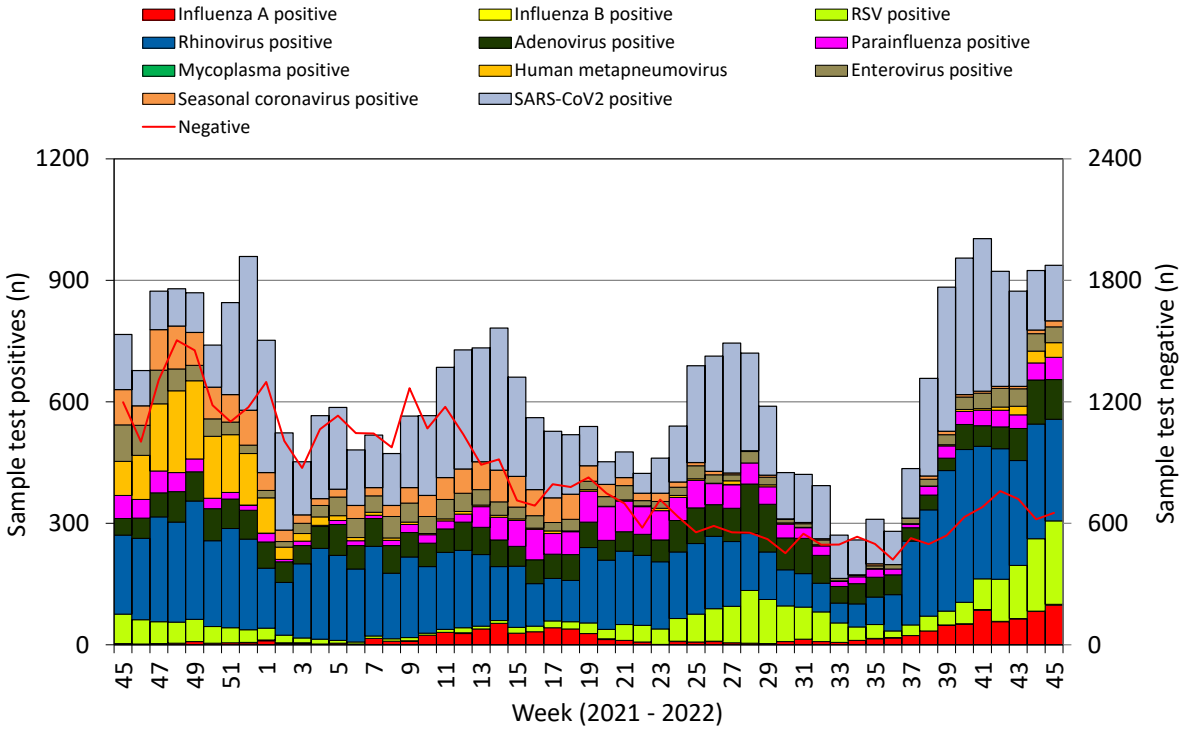
3. Influenza Situation Update

3.1. Weekly Influenza and Acute Respiratory Infection Report – PHW

- As of 16 November 2022, PHW report that influenza is beginning to circulate in Wales. During week 45 (ending 13 November 2022), there were 140 cases of influenza (an increase from the previous week).
- The percentage of calls to NHS Direct Wales which were 'influenza-related' (cold/flu, cough, fever, headache and sore throat) during Week 45 increased to 20.7%.

  Syndromic influenza indicators remained low in the UK. GP Influenza Like Illness (ILI) consultations decreased in Scotland to 3.6 per 100,000, and in Northern Ireland to 3.0 per 100,000 - well below the baseline intensity threshold. The weekly ILI GP consultation rate in England reported through the RCGP system decreased to 3.5 per 100,000, below the MEM threshold for baseline activity (12.2 per 100,000).

Figure 14 - Specimens submitted for virological testing for hospital patients and non-sentinel GPs

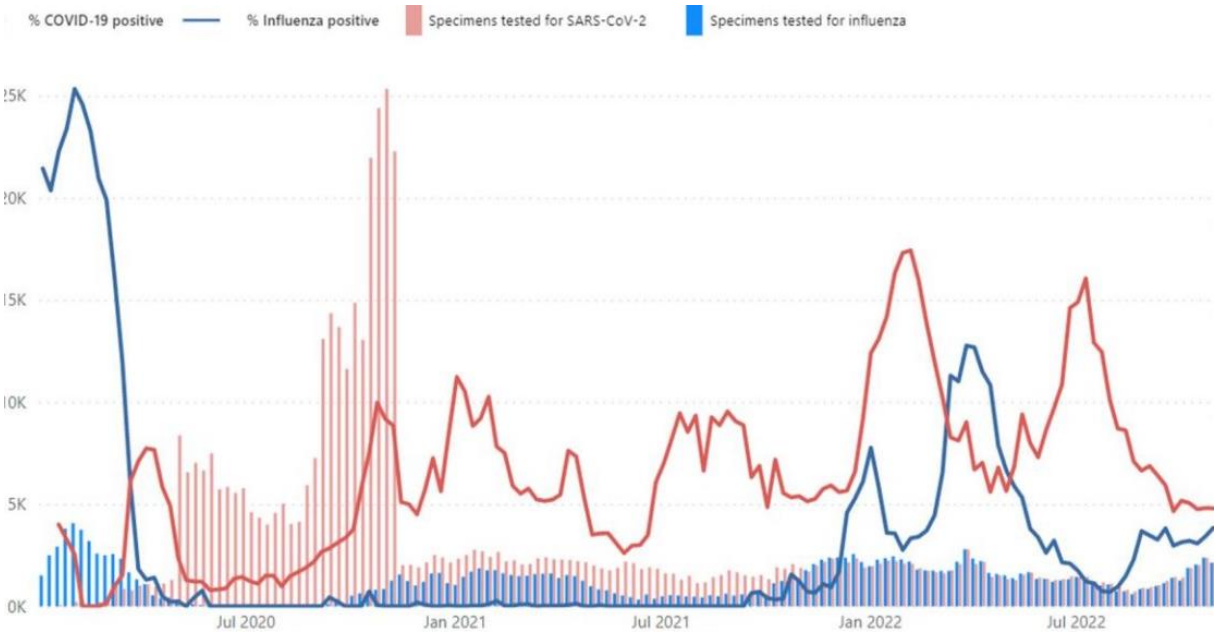


Data Source: PHW Weekly Influenza & Acute Respiratory Infection Surveillance

3.2. WHO Weekly Influenza Surveillance Report

- The WHO and the European Centre for Disease Prevention and Control (ECDC) reported its fifth weekly analysis of the season 2022-2023. During week 44, 18 countries reported baseline-intensity, 17 reported low-intensity, and one reported high-intensity (Malta). Nine out of 36 reporting countries reported no influenza activity across the region, 19 reported sporadic spread, three reported local spread (Bosnia and Herzegovina, Lithuania and Malta), three reported regional spread (France, Germany and Ukraine), and two reported widespread activity (Portugal and United Kingdom (Scotland). During week 44, 79 of 1,214 (7%) samples from patients presenting to all sentinel primary care centres with ILI or ARI symptoms were tested positive for influenza. This is an increase of 1% from the previous week but remains below the threshold for epidemic activity (10%). Above-threshold positivity has been reported in Germany at 17%, Kazakhstan at 11%, and United Kingdom (Scotland) at 11%. Of sentinel specimens that tested positive for influenza for the season to date, 88% were influenza A (82% H3, 18% A(H1N1) pdm09) and 12% were influenza B.

Figure 15 - Influenza and SARS-CoV-2 virus detections from sentinel surveillance reported to FluNet from countries, areas and territories in the WHO European Region



Data source: FluNet www.who.int/toolkits/flunet 11/11/2022

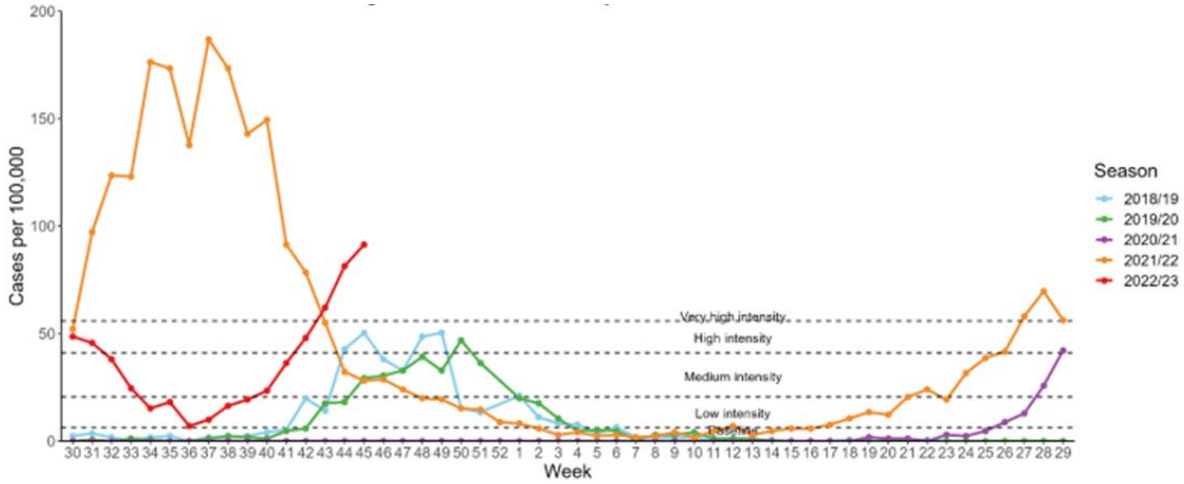
- As of 14 November 2022, the WHO reports that in Europe, overall influenza activity followed an increasing trend but remained relatively low. Influenza A viruses predominated among the reported detections in general with A(H3N2) viruses accounting for the majority of subtyped influenza A viruses.

4. Respiratory Syncytial Virus (RSV) Situation Update

4.1. Weekly Influenza and Acute Respiratory Infection Report – PHW

- PHW report that RSV confirmed cases are at very high intensity levels.
- RSV incidence in children under 5 years of age is currently at levels that would indicate very high levels of activity (compared to the 10 seasons leading up to 2020).
- Confirmed RSV case incidence in children aged under 5 has further increased and remains at very high intensity levels. In week 45 there were 91.4 confirmed cases per 100,000 in this age group. The provisional moving epidemic method (MEM) threshold in Wales which predicts the start of the annual RSV season in children younger than five years is 6.3 confirmed cases per 100,000.

Figure 16 - RSV Incidence rate in those aged under 5 in Wales, by week



*RSV seasons are monitored from W30 to W29, the most recent data is presented in red