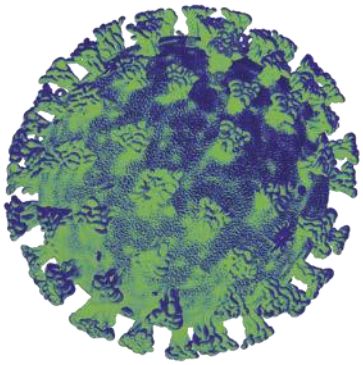
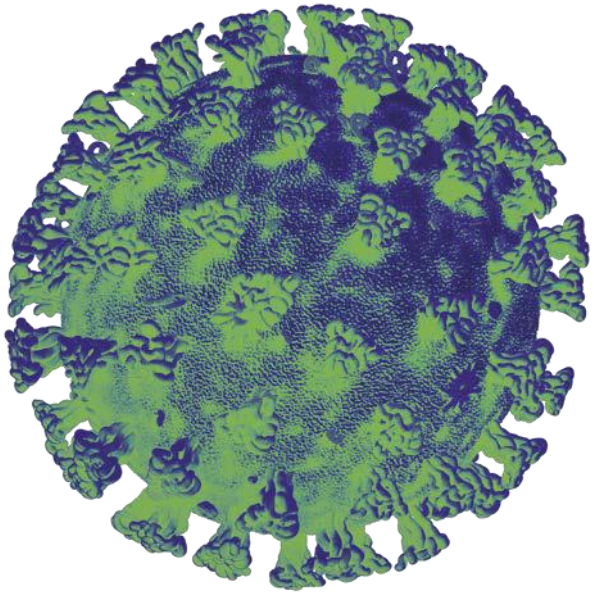
Llywodraeth Cymru
Welsh Government

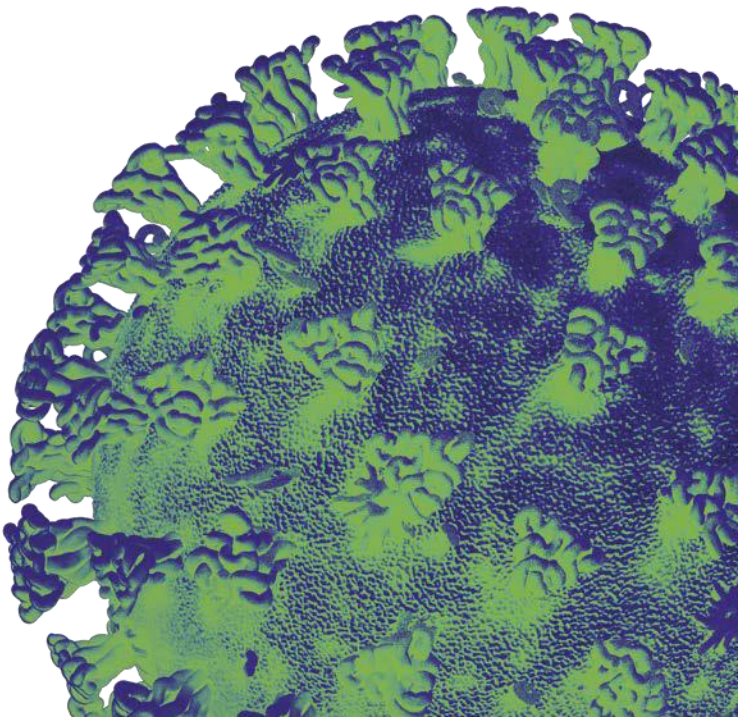
Technical Advisory Cell

Summary of Advice

15 July 2022







This advice has been drafted based on the available evidence at the time of writing and has been assembled to support policy colleagues and Welsh ministers. The purpose of scientific advice is to provide an overview of what we know from scientific and technical investigations, what we can infer indirectly from the evidence base or by a consensus of expert opinion. This is advice, not Welsh Government policy. Due to the current situation of increasing cases this report will be produced weekly going forward.

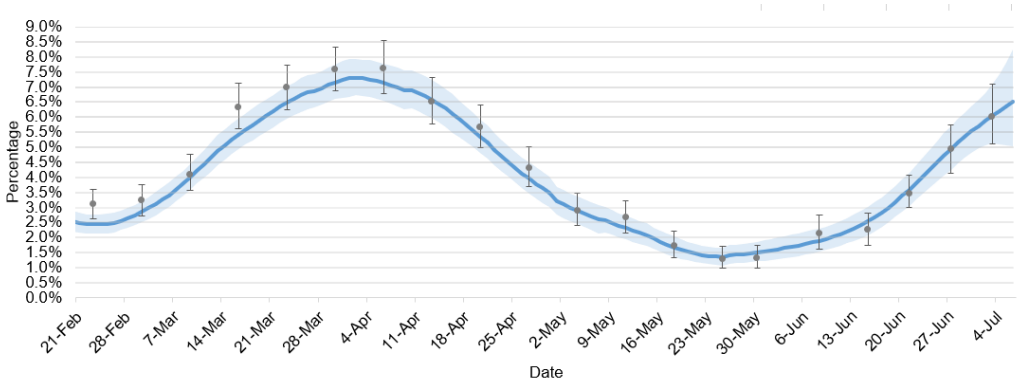
Top Line Summary

- The most recent ONS estimates suggests the number of infections has continued to **increase** to **6.04%** of the **community population** in Wales had COVID-19 (95% credible interval: 5.13% to 7.08%).
- Wastewater surveillance suggests the overall SARS-CoV-2 signal viral load has **increased** across the country. The signal increased in 5 regions, decreased in 1 region and remained level in 8 regions.
- Deaths in confirmed COVID-19 cases in hospital, reported by clinicians through PHW mortality rapid surveillance, remain at lower levels compared to previous waves.
- Suspected and confirmed admissions (7-day average) had increased to 20 admissions per day as of 9 July. A level last observed in late April, and around half the maximum number of admissions observed during the BA.2 wave in early April.
- As at the week ending 06 July 2022, 7,213,724 COVID-19 vaccinations had been given in Wales. As of 06 July 2022, uptake was 85% for those aged 75y and older, 84% for people living in residential care homes for older adults and 59% of people who are immunosuppressed.
- As of 28 June, PHW report that the current dominant variant in Wales is Omicron BA.5, which accounted for 68.1% of sequenced cases in the last 14 days.
- A newly identified variant BA.2.75, may have selective advantage over BA.5. It is has been detected in 12 countries, majority in India.
- This week's medium term projections estimate that NHS pressures are at or nearing their peak, beginning to decrease from early to mid-July. COVID-19 admissions increased throughout June, and MTPs project admissions to continue to increase to around120 admissions per day in mid-July. However, there is high uncertainty, with the 75th centile peaking at around 150 admissions per day.

1. Wales Situation Update

Infections[1]

- Recent reporting from the ONS COVID Infection Survey estimates the number of infections in the community has continued to **increase** during the week 30 June to 6 July 2022. During this period it is estimated that **6.04%** of the **community population** in Wales had COVID-19 (95% credible interval: 5.13% to 7.08%).
- This equates to approximately 1 person in every 17 (95% credible interval: 1 in 20 to 1 in 14), or 183,500 people during this time (95% credible interval: 155,800 to 215,300).



- Wastewater surveillance suggests the overall SARS-CoV-2 signal viral load has **increased** across the country. The signal increased in 5 regions, decreased in 1 region and remained level in 8 regions.

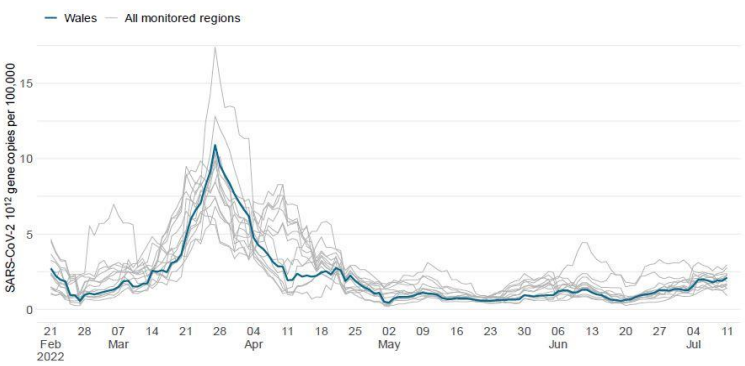


Figure 2 - National (blue lines) and Regions (grey lines) Rolling Mean SARS-CoV-2 gc/day per 100k

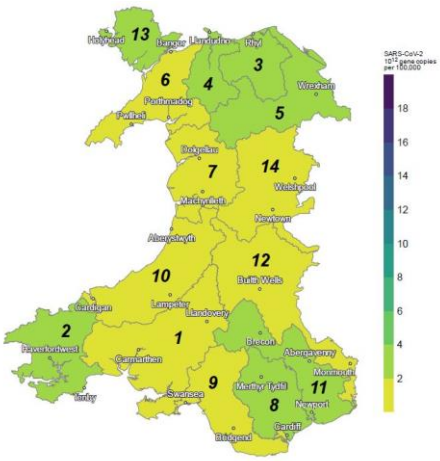


Figure 3 - National Heat Map showing Regional Mean SARS-CoV-2 gc/day per 100k

- In the latest reporting week (04/07/2022 to 10/07/2022) the number of LFTs reported to PHW **decreased** slightly from 82,285 in the previous week to 80,901 in the latest reporting week. 18,315 positive testing episodes (single or

[1] *With the end of widespread community testing from 1 April, there is no longer a reliable case rate based on PCR or LFD test results. As a result, infection surveillance principally relies on the ONS coronavirus infection survey, which takes a weekly swab survey involving thousands of households across Wales, and wastewater surveillance, which samples wastewater from nineteen Wastewater Treatment Works across Wales to detect levels of SARS-CoV-2.*

multiple tests in a given week de-duplicated by person) were reported, compared to 16,749 in the previous week. The number of positive testing episodes **decreased** to 528 positive LFT episodes per 100,000 population from 578 in the previous week. The episode positivity rate **decreased** slightly to 32.7% from 34.7% in the previous week, although the highest positivity rate was in the under 20 age group at 55.2%[2].

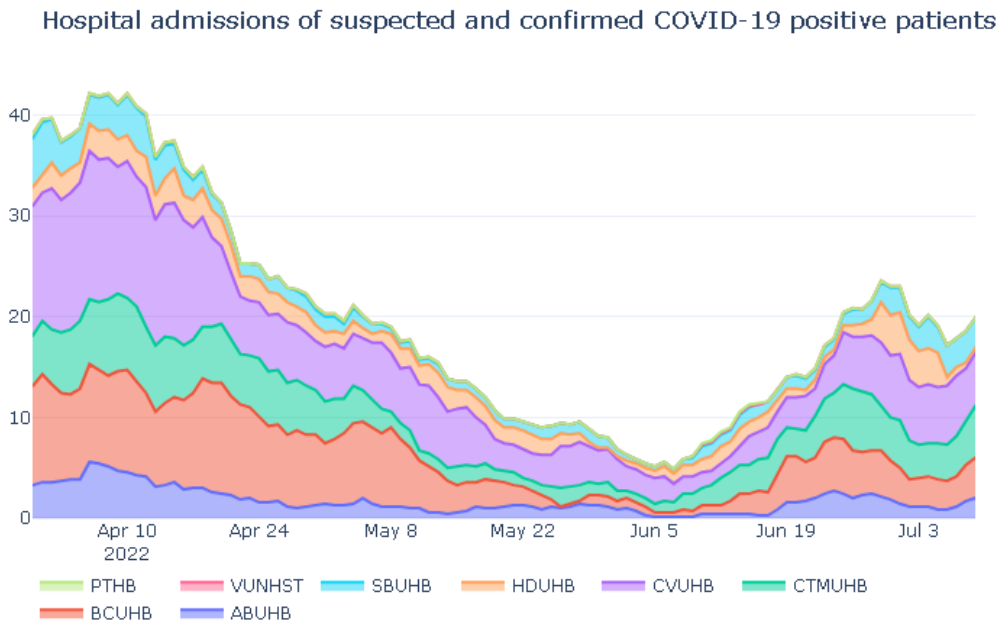
Deaths

- The most recent PHW COVID-19 weekly surveillance and epidemiological summary reports that deaths in confirmed COVID-19 cases in hospital, reported by clinicians through PHW mortality rapid surveillance, remain at lower levels compared to previous waves.
- ONS surveillance data indicate that since the start of 2022, the numbers of deaths from any cause have been oscillating around the 2015-2019 five-year average. In the most recent reporting period the numbers were higher than average.

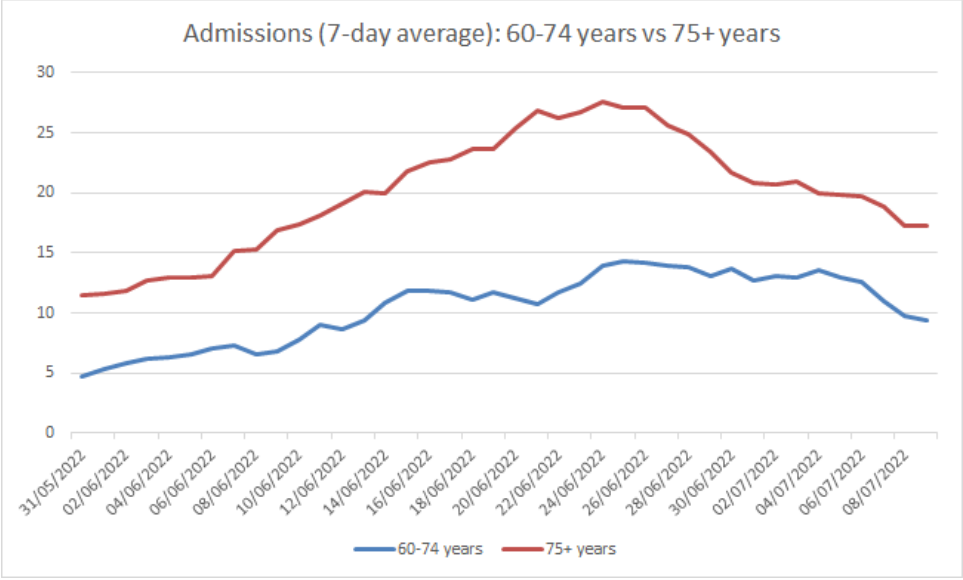
NHS

- COVID-19 admissions (suspected and confirmed) increased in Wales from 7 June to 29 June 2022. Since then, they have fluctuated around 20 patients a day.
- As of 9 July, suspected and confirmed admissions (7-day average) had increased to 20 admissions per day, a level last observed in late April, and around half the maximum number of admissions observed during the BA.2 wave in early April.

[2] *Since 1 April 2022, free NHS lateral flow tests (LFTs) in Wales are only available to members of the public that are showing symptoms of coronavirus or who are visiting someone eligible for new COVID-19 treatments. This will end on July 31st. As a result, testing data will be incomplete and should be interpreted with caution, although it may still be useful to signal wider trends*

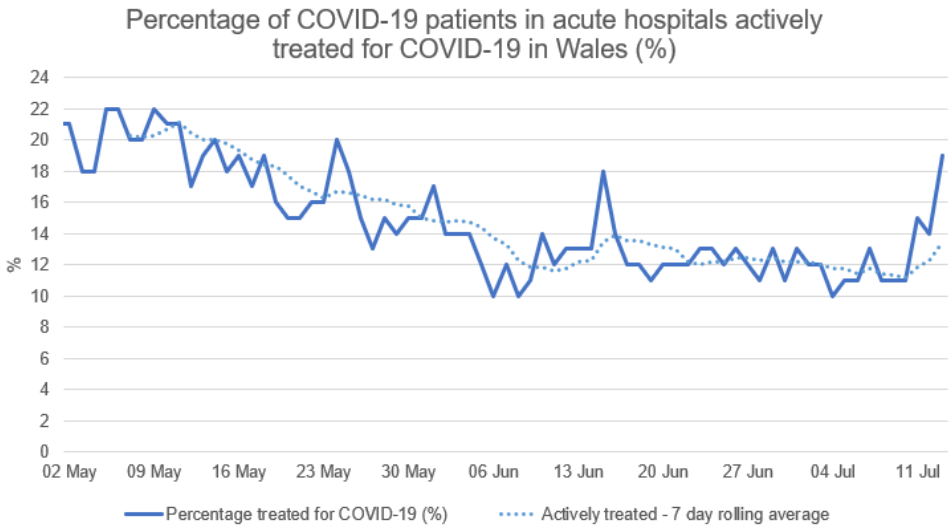


- COVID admissions (suspected and confirmed) in individuals aged 60 to 74 years and 75 years and over have recently decreased, particularly in those aged 75 and over. Since the latter group is eligible for the Spring 2022 booster, of which the uptake was 85.1% as at 11 July 2022, it is possible this could be at least partly due to increased immunity amongst those who have had a booster.

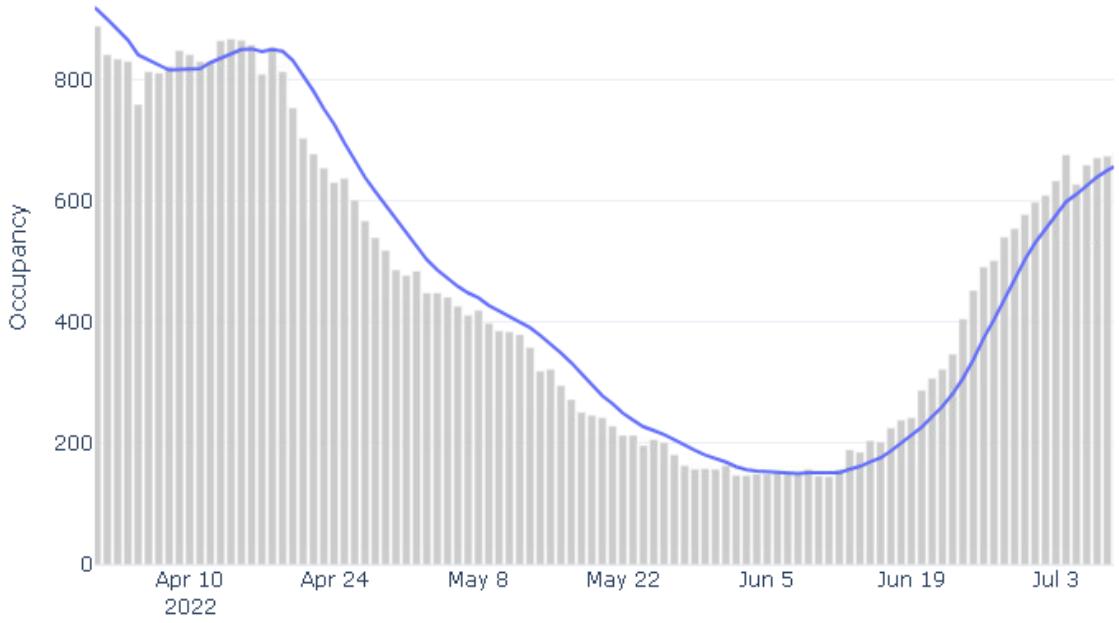


- The proportion of patients in hospital with COVID-19 who are being actively treated for COVID-19, as opposed to testing positive for COVID-19 but being primarily treated for other reasons, appears to have increased in the most recent week, after remaining steady throughout June[3].

[3] COVID-19 patients in acute hospitals actively treated for COVID-19 in Wales by date (gov.wales)



- Confirmed COVID-19 hospital occupancy in Wales (7-day average) has been increasing rapidly since mid-June, reaching 661 on 9 July, roughly two thirds of the maximum occupancy peak level in March 2022 when BA.1 was dominant. Rate of increase has begun to slow over the past few days.



- NHS staff absence figures up to 4 July show absence due to self-isolation has remained the same as the previous week at 0.6%, whilst absence due to COVID-19 sickness has increased to 1.8%.

Care homes

- As at 6 July 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 7 days has increased by 56% to 141 compared to the previous week, while this figure has increased to by 38% 238 adult care homes in the last 20 days

compared to the previous week. There are 1,029 adult care homes in total in Wales.

- As at 6 July 2022, the number of notifications of deaths of adult care home residents involving COVID-19 (both confirmed and suspected) in the last 7 days has increased from 0 to 4, while this figure has increased from 1 to 5 in the last 20 days.
- In total, CIW has been notified of 2,209 care home resident deaths with suspected or confirmed COVID-19 between 1 March 2020 and 6 July 2022. This makes up 12.8% of all adult care home resident reported deaths (17,211) during this period.

Schools (6 September to 8 July 2022)

- An average of 84.0% of all pupils were in attendance in school over the week of 4 to 8 July 2022, up from 83.9% in the previous week. The figure for 27 June to 1 July 2022 has been revised down from 84.1%. Data for the latest two weeks is provisional.
- 1.5% of pupils were absent due to a known COVID-19 related reason over the week of 4 to 8 July 2022, up from 1.4% the previous week.
- An average of 1.0% of all primary pupils and 2.4% of all secondary pupils were absent due to a known COVID-19 related reason between 4 to 8 July 2022.
- 26.5% of pupils (127,680 pupils) have missed more than a week of face-to-face learning due to a known COVID-19 related reason since 6 September 2021 (5.5 days or more) and 86.9% of pupils (418,652 pupils) have missed more than a week for any reason since 6 September 2021.

Vaccination

- The most recent COVID-19 weekly surveillance and epidemiological summary reports that at the week ending 06 July 2022, 7,213,724 COVID-19 vaccinations had been given in Wales (This total includes those who are alive and resident in Wales at time of reporting).
- PHW report that the delivery of the 2022 Spring booster is now underway. As at 6 July 2022, uptake was 85% for those aged 75y and older, 84% for people living in residential care homes for older adults and 59% of people who are immunosuppressed (the majority of immunosuppressed patients will only recently have been vaccinated with 2021/22 boosters, and will be called to receive a 2022 Spring booster dose when the appropriate interval has elapsed)

Vaccine uptake by priority group and age, counting individuals in all groups in which they belong (non de-deduplicated) - PHW Covid-19 Vaccination Tableau

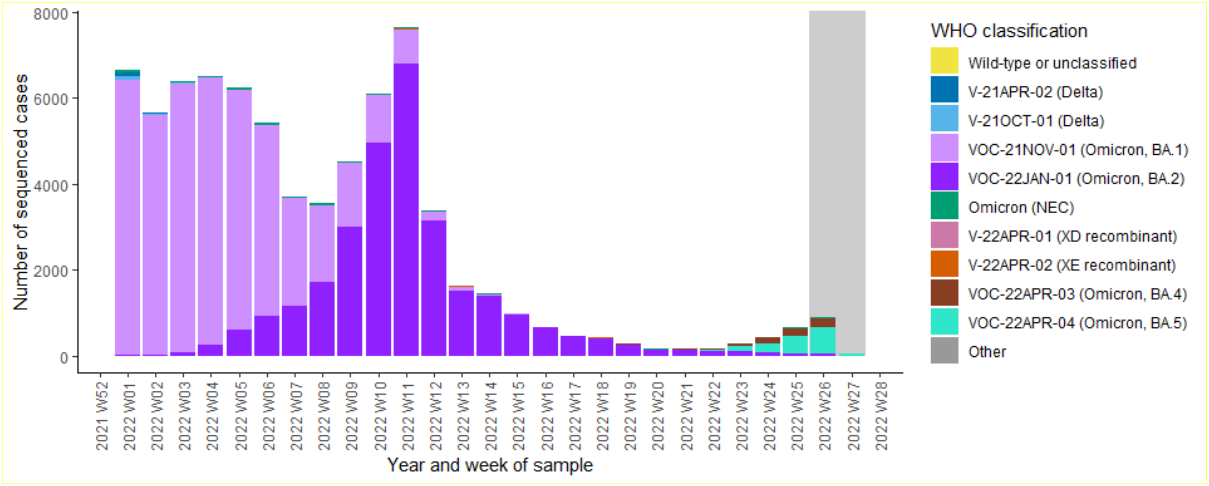
Group	Group size (n)	Received 1st dose (n)	Completed primary course* (n)	Received booster dose** (n)	First dose uptake (%)	Primary course uptake* (%)	Booster dose uptake** (%)
Severely Immunosuppressed	51,780	51,305	48,497	42,008	99.1%	93.7%	81.1%
Care home residents	13,126	12,944	12,866	12,481	98.6%	98.0%	95.1%
Care home worker	37,727	35,834	35,224	29,421	95.0%	93.4%	78.0%
80 years and older	174,799	168,486	167,590	162,974	96.4%	95.9%	93.2%
Health care worker	140,869	137,419	136,045	122,628	97.6%	96.6%	87.1%
Social care worker		44,937	44,594	39,768			
Aged 75-79 years	143,341	139,161	138,559	135,010	97.1%	96.7%	94.2%
Clinically extremely vulnerable aged 16-69..	75,670	72,328	71,452	62,323	95.6%	94.4%	82.4%
Aged 70-74 years	177,303	170,827	169,873	164,631	96.3%	95.8%	92.9%
Aged 65-69 years	182,667	173,690	172,311	165,414	95.1%	94.3%	90.6%
Clinical risk groups aged 5-64 years	350,714	313,825	304,596	263,136	89.5%	86.9%	75.0%
Aged 60-64 years	211,694	198,015	195,836	185,087	93.5%	92.5%	87.4%
Aged 55-59 years	235,517	216,361	213,535	197,670	91.9%	90.7%	83.9%
Aged 50-54 years	227,261	204,561	201,171	181,354	90.0%	88.5%	79.8%
Aged 40-49 years	393,501	335,463	326,352	275,402	85.3%	82.9%	70.0%
Aged 30-39 years	436,063	348,794	332,521	247,320	80.0%	76.3%	56.7%
Aged 18-29 years	490,134	396,404	367,406	248,103	80.9%	75.0%	50.6%
Aged 16-17 years	70,946	54,550	46,077	24,210	76.9%	64.9%	34.1%
Aged 12-15 years	149,061	91,909	72,628		61.7%	48.7%	
Aged 5-11 years	255,297	46,983	8,787		18.4%	3.4%	

Public Health Wales Variant Surveillance Update

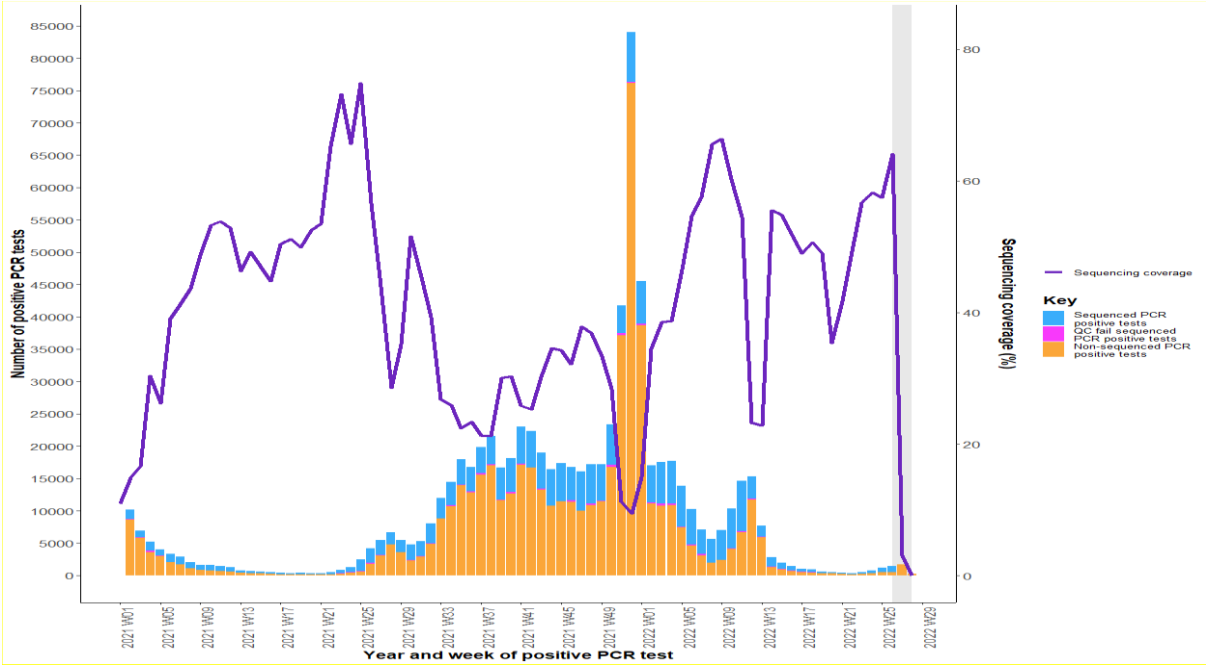
- The current dominant variant in Wales is VOC-22APR-04 (Omicron, BA.5) which accounted for 68.09% of sequenced cases in the last 14 days.
- In the latest three reporting weeks (2022 W25 to 2022 W28):
    - Omicron (NEC) accounted for 1.9% of all sequenced variant cases
    - VOC-22JAN-01 (Omicron, BA.2) accounted for 6.1% of all sequenced variant cases
    - VOC-22APR-03 (Omicron, BA.4) accounted for 26.5% of all sequenced variant cases
    - VOC-22APR-04 (Omicron, BA.5) accounted for 65.6% of all sequenced variant cases

- In the previous reporting weeks (2022 W23 to 2022 W25):
    - Omicron (NEC) accounted for 2.5% of all sequenced variant cases
    - VOC-22JAN-01 (Omicron, BA.2) accounted for 26.7% of all sequenced variant cases
    - VOC-22APR-03 (Omicron, BA.4) accounted for 22.6% of all sequenced variant cases
    - VOC-22APR-04 (Omicron, BA.5) accounted for 48.1% of all sequenced variant cases

Epicurve of all sequenced variant cases in Wales, data as at 13/07/2022, Genomic Epidemiology Team, PHW/ CDSC Weekly Wales Variant Summary



Sequencing coverage in Wales, Genomic Epidemiology Team, PHW/ CDSC Weekly Wales Variant Summary



(P*lease note data in the grey shaded regions is indicative of a lag in sequencing data and should be interpreted with caution.)*

Weekly Influenza and Acute Respiratory Infection Report - PHW

- PHW report that as, at 13 July, confirmed influenza cases have decreased and continue to be seen at low levels, while RSV confirmed cases continue to increase. RSV incidence in children under 5 years of age has increased and is now at very high-intensity levels. Although RSV has started unusually early this year, it is possible these higher numbers are related to increased testing activity.

2. Situation in the UK and international comparators

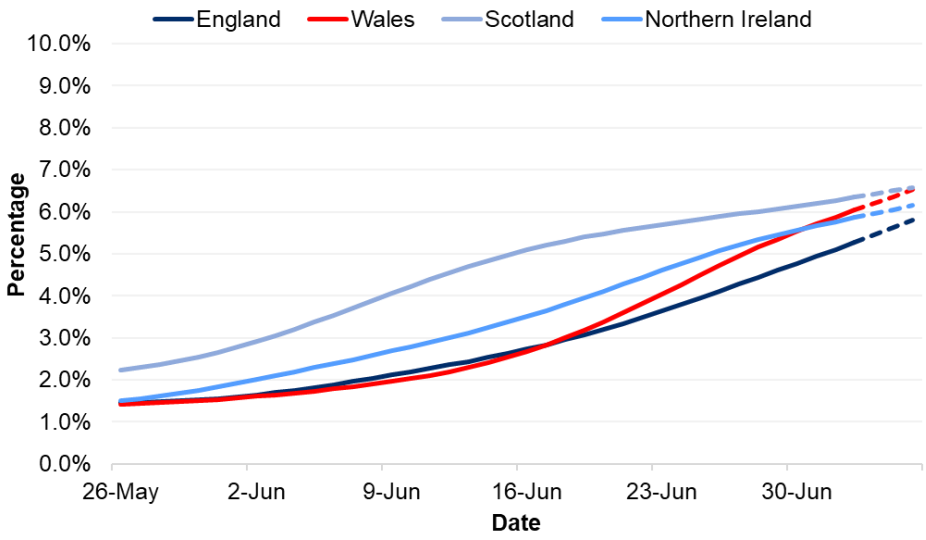
UK Overview

UK Infection positivity – ONS Coronavirus Infection Survey, 30 June to 6 July 2022

- As of the week ending 6 July, the positivity rate has increased in all countries of the UK. This is likely caused by infections compatible with Omicron variants BA.5. The estimated percentages of the community population with COVID-19 ranged from 5.27% in England to 6.34% in Scotland.
- During this period, it is estimated that approximately 1 in 17 people in Wales had COVID-19 (95% credible interval: 1 in 20 to 1 in 14). This compares to 1 in 19 people in England (1 in 20 to 1 in 18), 1 in 16 in Scotland (1 in 18 to 1 in 14) and 1 in 17 in Northern Ireland (1 in 20 to 1 in 14).

  Note that there is uncertainty around the estimates and credible intervals are provided in the figures above to indicate the range within which we may be confident the true figure lies. Since the estimates are based on a relatively low number of positive tests, there is some uncertainty and the results should be interpreted with caution.

Positivity rates (%) across UK countries since 26 May 2022

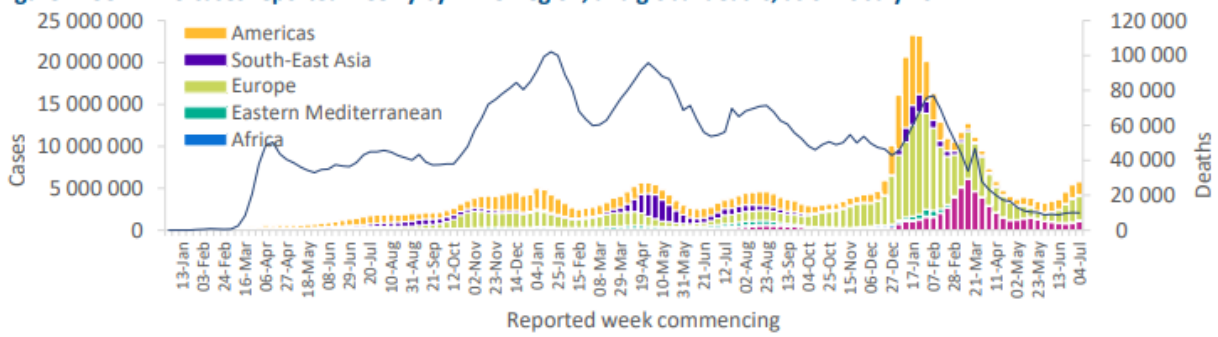


International overview – World Health Organisation and ECDC update

- As of 13 July, the WHO reports that globally, the number of new weekly cases increased for the fifth consecutive week after a declining trend since the last peak in March 2022. During the week of 4 to 10 July 2022, over 5.7 million new cases were reported, a 6% increase compared to the previous week. The number of new weekly deaths was similar to that of the previous week, with over 9800 fatalities reported. As of 10 July 2022, just under 553 million confirmed cases and over 6.3 million deaths have been reported globally.
- At the regional level, the number of new weekly cases increased in the Western Pacific Region (+28%), the Eastern Mediterranean Region (+25%), the South-

East Asia Region (+5%), while it decreased in the African Region (-33%) and remained similar to last week's numbers in the European Region (+4%) and the Region of the Americas (-1%).

Figure 1. COVID-19 cases reported weekly by WHO Region, and global deaths, as of 10 July 2022**



Source: [Weekly Epidemiological Update on COVID-19 - 13 July 2022 (who.int)]

- Globally, the Omicron lineages BA.2 and BA.2.12.1 show declining trends, while BA.4 and BA.5 show increasing trends. A comparison of sequences submitted to GISAID in epidemiological week 25 and week 26 (26 June to 7 July) shows a decline in BA.2 sequences from 7% to 4% and a decline in BA.2.12.1 sequences from 13% to 7%. Within the same period, the proportion of reported sequences of BA.4 has risen from 11% to 14% and BA.5 from 42% to 50%. BA.5 sequences have been reported from 89 countries. These trends should be interpreted with due consideration of the limitations of surveillance systems and strategies between countries.
- ECDC reports that at the end of 27, 2022 (week ending 10 July), the rate of cases among people aged 65 years and above increased in 23 out of the 27 countries reporting these data at the EU/EEA-level. Compared to the previous week, this corresponds to a 23% increase, and has reached 78.2% of the pandemic maximum. These increases have been observed for five weeks in nine countries and for six weeks in two countries. The increasing transmission among older age groups has led to increasing rates of severe disease.
- Forecasts of cases, hospital admissions and deaths from the European COVID-19 Forecast Hub provide predictions for weeks 28 and 29. Compared with the previous reporting week, increasing trends in cases, increasing trends in hospital admissions, and increasing trends in deaths are forecast for the EU/EEA overall by the end of week 29. Forecasts for individual countries may differ from those for the EU/EEA as a whole. It should be noted that forecasts of cases are considered to be increasingly unreliable due to changes in testing criteria and reporting procedures. All current forecasts, case forecasts in particular, should be interpreted with caution.

3. Variant update – BA.4, BA.5 and BA2.75

BA.4 and BA.5

- BA.4 and BA.5 are now the dominant variants in the UK and overall incidence of COVID-19 is increasing. The growth advantage is also evident in multiple

other countries which have seen cases and hospitalisations increasing around the world, including those with prior BA.2 waves.

- BA.4 and BA.5 are most closely related to BA.2, although there is some evidence of antigenic change based on laboratory data (moderate confidence). Recent preliminary lab studies have suggested that antibodies triggered by vaccination are less effective at blocking BA.4 and BA.5 than against earlier Omicron strains. Sera from vaccinees with BA.1 or BA.2 breakthrough infections shows better cross reactivity against BA.4, although there is variation in the data. There is evidence that a substantial number of new infections are individuals who have not previously been infected or were infected pre-Omicron[4].
- In Wales, as at 30 June the infection hospitalisation ratio using ONS incidence to admissions appears to have fallen, following an increase at the beginning or June. Conversely a UKHSA analysis for of English data up to 24 June reported infection hospitalisation rate in England was increasing from a low base across all age groups, although the reasons for this were unclear and additional confirmation and assessment was required. Note that admissions definitions differ between nations and so comparisons should be interpreted with caution.

BA.2.75

- The BA.2.75 variant was first detected in India in early May and now appears to be increasing, although sequencing coverage in India is low. India has also not seen a large BA.5 wave to date, reducing the ability to judge this variant's fitness over BA.5. The BA.2.75 variant has a number of additional mutations beyond BA.5, which may increase the level of immune escape. The European Centre for Disease Prevention and Control (ECDC) designated it a “variant under monitoring” on 7 July[5] based on preliminary evidence that had not been assessed. Of interest is that unlike BA.5, BA.2.75 is, S-gene positive, which can be used to assess the spread of this variant using PCR tests that evaluate the presence of these genes.
- As at 13 July, GISAID reports[6] 205 total sequenced cases of BA.2.75 have been detected globally with the majority in India (159), although reporting to GISAID has been decreasing for several months so this is likely to be an underestimate. Low numbers of cases have also been sequenced in other countries including the UK (14), US (7), Canada (4) Australia (2) and Germany (2). Note sequencing coverage differs between nations.

4. 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

[4] Protection of SARS-CoV-2 natural infection against reinfection with the BA.4 or BA.5 Omicron subvariants | medRxiv

[5] SARS-CoV-2 variants of concern as of 7 July 2022 (europa.eu)

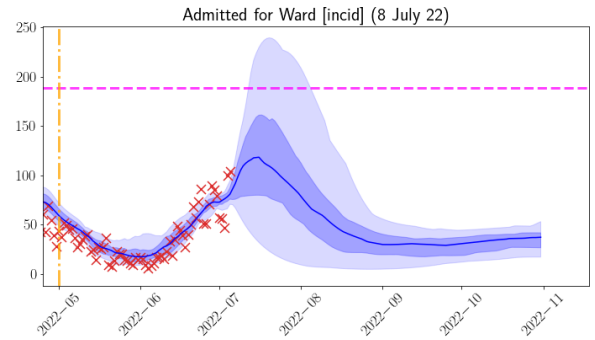
[6] nextcladePangoLineage:BA.2* & [6-of: S:I210V, S:G257S, S:D339H, S:G446S, S:N460K, S:K147E, S:W152R, S:F157L, ORF1a:S1221L] - World - covSPECTRUM (cov-spectrum.org)

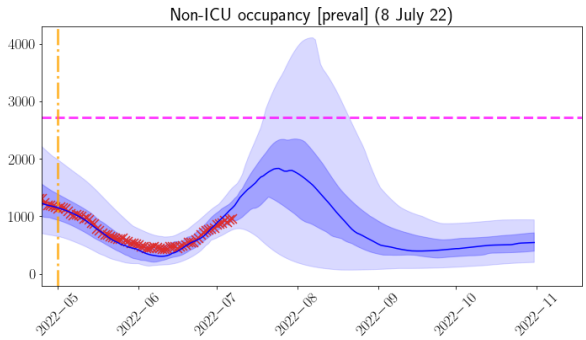
consensus MTP for admissions and deaths which is agreed every two weeks by the UKHSA Epidemiological Modelling Review Group (EMRG), which has taken over from COVID-M-O in agreeing these MTPs.

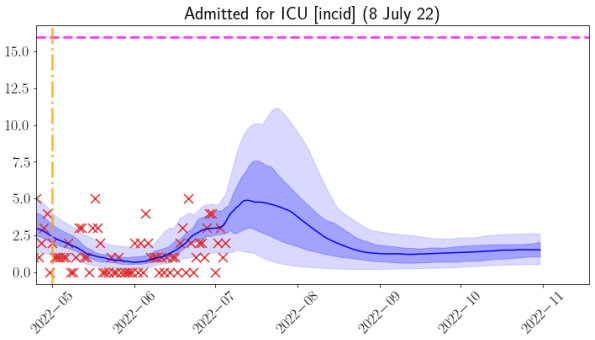
- The SU projections are typically more up to date but may be less robust as they are based on one model only. Both MTPs are based on projecting forward from current data and do not explicitly factor in policy changes, changes in testing, changes in behaviour, or rapid changes in vaccinations.
- These Medium-Term Projections (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.

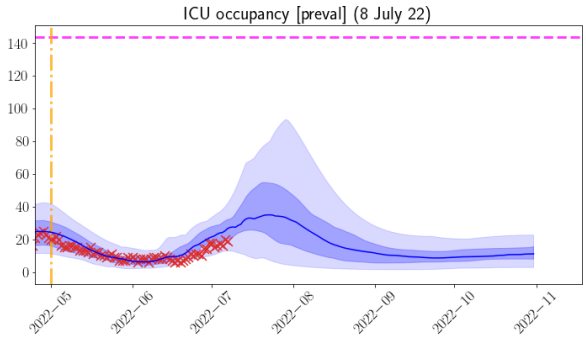
Swansea University MTPs, 8 July

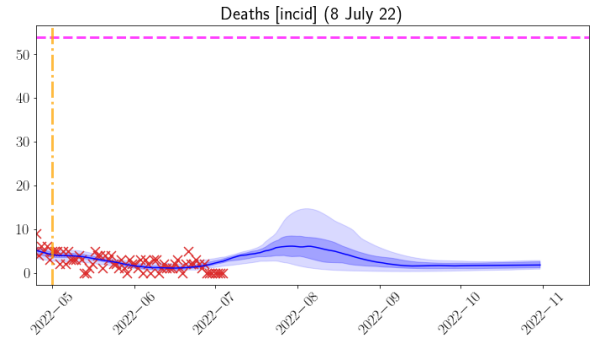
- In the charts below, red crosses represent actual Omicron data, which the model is fitted to, while the blue line represents the central modelling estimate. The blue ribbon represents the confidence intervals, with the darker blue ribbon indicating the 25th to 75th centiles, and the 95% confidence limits in the lighter ribbon The pink dotted line represents pre-Omicron peaks.
- In recent weeks, MTPs have been fitted to a shorter period than normal (indicated by the vertical orange line) since this improved model fit to admissions and occupancy considerably. It is likely that either the admission/infection ratio has decreased (consistent with reduced severity of disease due to increased proportion of reinfections) or that length of hospital stay has increased recently, impacting model fitting.
- This week's MTPs project that NHS pressures are at or nearing their peak, beginning to decrease from early to mid-July.
- COVID-19 admissions increased throughout June, and MTPs project admissions to continue to increase to around 120 admissions per day in mid-July. However, there is high uncertainty, with the 75th centile peaking at around 150 admissions per day. Since the model was run on data to 8 July, actual admissions have followed a similar pattern to the model, peaking then beginning to decrease, however admissions are showing early signs of increasing again in recent days.
- COVID-19 hospital occupancy (excluding ICU) has been increasing in recent weeks. MTPs project bed occupancy to peak at almost 1,900 beds in late July, roughly two-thirds the maximum occupancy levels observed in April during the BA.2 wave peak.
- Similarly, MTPs project ICU admissions and occupancy will have peak at the mid July and occupancy in late July.
- Deaths are projected to rise slowly to a peak in late July to early August, but remain at low levels, peaking at 6 deaths a day.





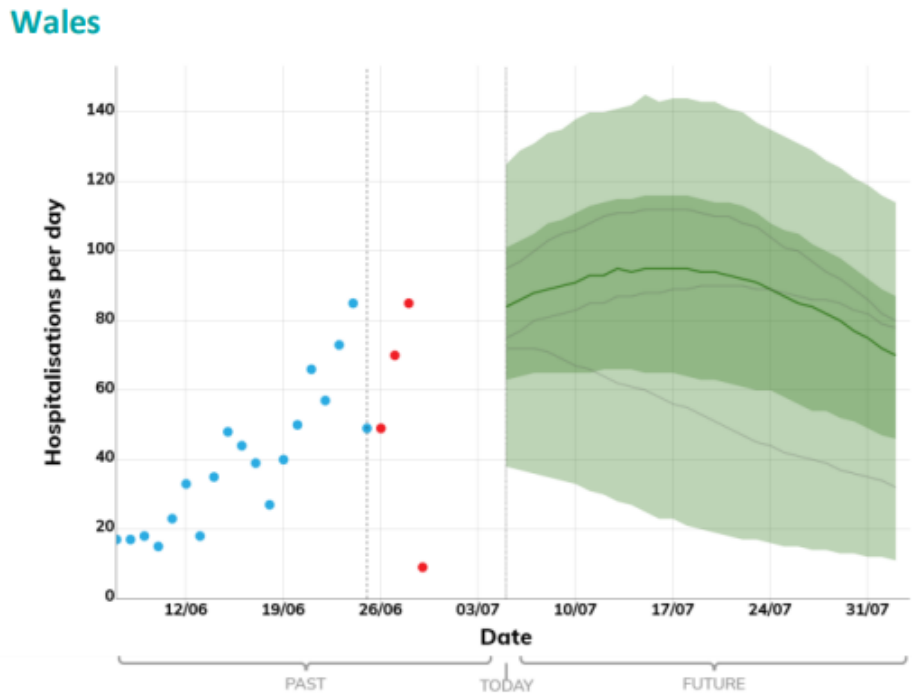






UKHSA EMRG Consensus MTPs, 6 July

- The most recent MTPs received from UKHSA suggest admissions in Wales will continue to increase in the coming weeks before plateauing at more than 90 admissions per day in mid-July. Note that this is more optimistic than the above MTPs produced by SU (which projected a peak at over 100 admissions per day).
- The number of deaths has fallen to very low levels in Wales making forward projection difficult, therefore UKHSA has not produced projections for deaths in Wales at this time. However, the consensus view is that the number of deaths will remain low over the next four weeks.



Source: UKHSA Epidemiological Modelling Review Group