

COVID-19 Wales Situational Report

Please note that the CSR does not include Omicron data due to timeliness/accuracy limitations

COVID-19 Intelligence Cell: 15
December 2021

Health Protection Advisory Group:
16 December 2021

Data as at 15 December 2021 unless otherwise specified

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¹ TAG advice on the Delta variant, published 18 June 2021

COVID-19 Situation Report Summary

Key points to note

Wales moved to Alert Level 0 on 7 August 2021.

Overall cases of COVID-19 and test positivity are generally fluctuating across Wales, with a rapid rise in Omicron cases. We will need to continue monitoring case rates and other key indicators in each nation carefully to better understand the impact of the new Omicron variant of concern.

PHW's estimate of the reproduction number in Wales is 1.0 with a doubling time of 43 days. The UKHSA estimate of the Rt value is unavailable. London School of Hygiene and Tropical Medicine (LSHTM) modelling estimates the Rt for Omicron to be around 3.

The number of beds occupied with COVID-19 related patients fluctuates; however since early November 2021, the number of hospitalisations has generally decreased and is currently at comparable levels to early April 2021. As at 14 December 2021, there were 531 COVID-19 related patients occupying a hospital bed (-6 compared to previous week), of which 300 were confirmed. As at 14 December 2021, there were 36 patients with Suspected or Confirmed COVID-19 in critical care beds in Wales, 128 lower than the maximum COVID-19 position of approximately 164. Non-COVID-19 urgent and emergency pressures continue to result in high levels of total hospital bed occupancy and combined with backlogs and staffing challenges, continues to constrain flow throughout the health and care system.

As at 14 December 2021, Wales has had 83,123 (+3,523 compared to last week) confirmed cases of the dominant Delta variant, 11,315 (+1,434 compared to last week) confirmed cases of AY4.2 VUI-21OCT-01, and 62 confirmed cases of Omicron. No other variants of concern were confirmed by genomic sequencing in Wales.

As at 14 December 2021, a total of 5,905,839 doses of COVID-19 vaccine were given in Wales and recorded in the COVID-19 Welsh Immunisation System. 2,477,721 were first doses. 2,282,420 were second doses. 44,645 were booster doses. 1,101,053 were third dose primary course recommended for severely immunosuppressed individuals.

Key indicators

All indicators are showing signs of decreases.

Please note that the arrows represent a change in comparison for the last week.

¹ TAG advice on the Delta variant, published 18 June 2021

	Current value (09/12/21)	Change since previous week (02/12/21 – 09/12/21 unless stated otherwise)	
		Percentage change	Value change
Confirmed case rate (rolling 7 day sum per 100k)	500	+1%	 (+6)
Confirmed case rate for over 60s (rolling 7 day sum per 100k)	161	-4%	 (-7)
Test positivity (7 day RA)	16.9%	0%	 (0 percentage points)
Population estimated to have COVID-19 (prevalence)¹	1.98%	-6%	 (-0.13 percentage points)
NHS COVID-19 Admissions²	30	-30%	 (-13)
ONS deaths (7 day sum)³	45	-29%	 (-18)
PHW deaths (7 day sum)	44	+26%	 (+9)

Footnotes

1. Latest COVID Infection Survey data is taken from 25 November 2021 to 1 December 2021
2. Seven day rolling average to the current date of confirmed COVID-19 admissions
3. Latest ONS deaths data is to 3 December 2021 (rather than 9 December 2021) for the current value. Data to 2 December 2021 is used for the change since previous week

Data as at 12:00PM 15 December 2021 unless otherwise specified.

¹ TAG advice on the Delta variant, published 18 June 2021

What is the current status of the epidemic?

PHW positive test data (more timely data but limited by variation in testing) estimates the Rt to be 1.0 for Wales with a doubling time of 43 days. IKHSA Rt is not available. The central Rt estimate is highest for the Swansea Bay University Health Board at 1.1.

London School of Hygiene and Tropical Medicine (LSHTM) modelling estimates the Rt for Omicron to be around 3.

The 7-day cumulative case incidence in Wales is around 500 per 100,000 population.

Case incidence is increasing in 11 of the 22 local authorities. Case incidence is above 500 per 100,000 population for 9 local authorities. Local authorities with the highest case incidence are Isle of Anglesey (711.0), Wrexham (630.3) and Denbighshire (623.9) per 100,000 population, respectively.

Case incidence is slightly increasing in most age groups, remaining highest in 10-19 year olds. Case incidence is highest in Betsi Cadwaladr University Health Board at 582.79 cases per 100,000 population as of 10 December 2021.

The second table below provides estimates of doubling and halving times based on PHW COVID-19 positive test data. In this table, doubling times are positive, whilst halving times are negative. The 95% confidence intervals are showing in brackets after the central estimate. An asterisk (*) means that there are small numbers and estimates should be treated with caution. Local health board level estimates of Rt and halving times will be unstable when incidence is low.

¹ TAG advice on the Delta variant, published 18 June 2021

Table 1: Cases per 100,000 population (7 day period ending 14 December 2021)

Local Authority	Health Board	Number	% of All Wales Total	Case Incidence per 100,000	Change from previous week
Isle of Anglesey	BCUHB	498	3.2%	711.0	-13% ↓
Wrexham	BCUHB	857	5.4%	630.3	9% ↑
Denbighshire	BCUHB	597	3.8%	623.9	39% ↑
Gwynedd	BCUHB	749	4.8%	601.3	-30% ↓
Bridgend	CTMUHB	862	5.5%	586.2	-5% ↓
Flintshire	BCUHB	867	5.5%	555.4	8% ↑
Newport	ABUHB	856	5.4%	553.4	14% ↑
Torfaen	ABUHB	516	3.3%	549.2	19% ↑
Vale of Glamorgan	CVUHB	718	4.6%	537.5	-12% ↓
Monmouthshire	ABUHB	467	3.0%	493.7	3% ↑
Swansea	SBUHB	1204	7.6%	487.5	11% ↑
Cardiff	CVUHB	1733	11.0%	472.3	-3% ↓
Caerphilly	ABUHB	847	5.4%	467.8	-3% ↓
Pembrokeshire	HUHB	585	3.7%	465.0	-22% ↓
Neath Port Talbot	SBUHB	662	4.2%	461.9	19% ↑
Powys	PTHB	588	3.7%	444.0	-1% ↓
Blaenau Gwent	ABUHB	305	1.9%	436.6	-15% ↓
Conwy	BCUHB	502	3.2%	428.3	12% ↑
Carmarthenshire	HUHB	777	4.9%	411.6	-1% ↓
Merthyr Tydfil	CTMUHB	248	1.6%	411.1	-0% ↓
Rhondda Cynon Taf	CTMUHB	979	6.2%	405.8	0% ↑
Ceredigion	HUHB	275	1.7%	378.3	41% ↑
Unknown	Unknown	66	0.4%	-	-4% ↓
Total	Total	15758	100.0%	499.8	-0% ↓

¹ TAG advice on the Delta variant, published 18 June 2021

Figure 1: Cases per 100k (PHW Data) (7 day rolling sum to 10 December)

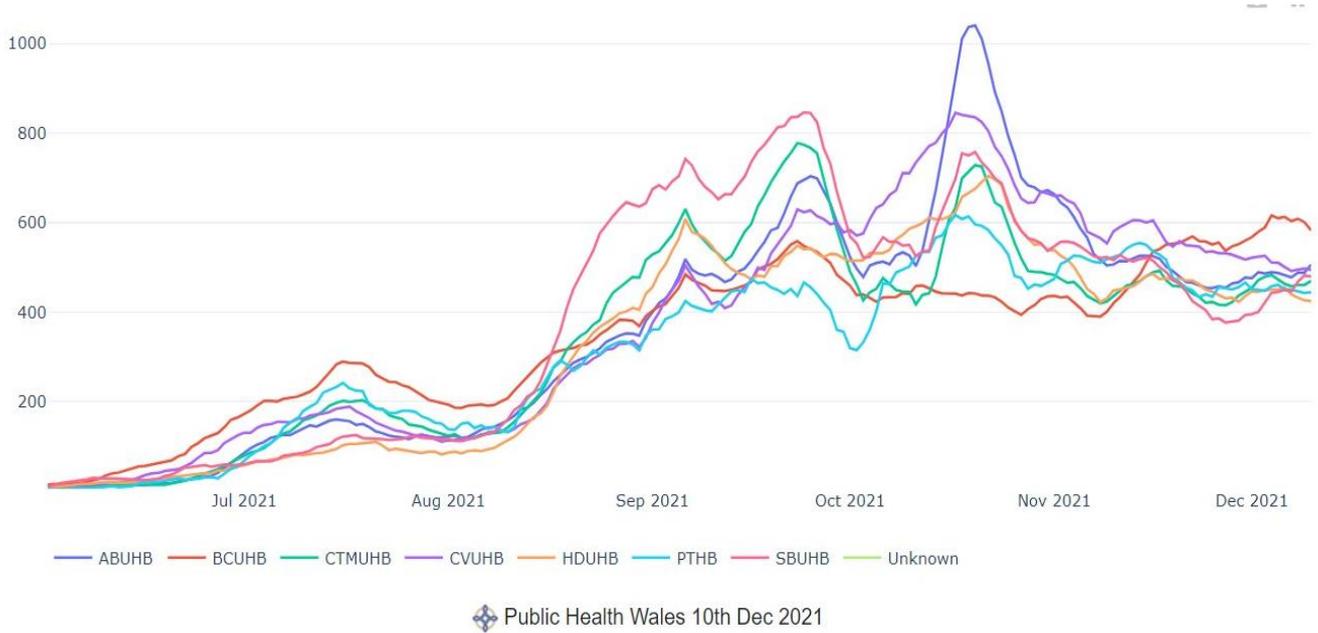
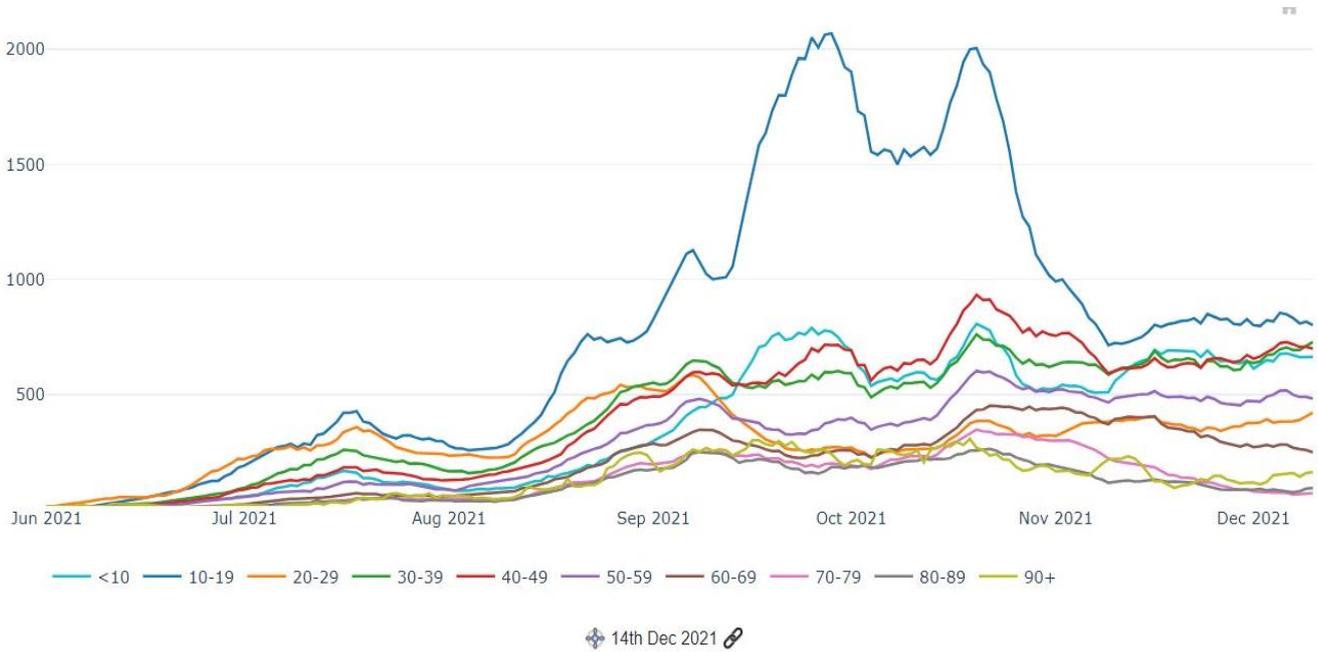


Figure 2: Cases per 100k by age (PHW Data) (7 day rolling sum to 14 December)



¹ TAG advice on the Delta variant, published 18 June 2021

Table 2: Reproduction number and doubling time (PHW methodology) PHW data by Local Health Board (13 December 2021 estimate)

Local Health Board	All Wales	Swansea Bay UHB	CTM UHB	Aneurin Bevan UHB	Cardiff & Vale UHB	Hywel Dda UHB*	Powys THB*	Betsi Cadwaladr UHB
Rt (cases)	1.0 (1.0 to 1.0)	1.1 (1.05 to 1.15)	1.0 (0.95 to 1.0)	1.0 (1.0 to 1.05)	0.95 (0.95 to 1.0)	0.95 (0.95 to 1.0)*	1.0 (0.9 to 1.05)*	1.0 (1.0 to 1.05)
Doubling time (days)	43 (17 to – 82)	20 (11 to 116)	38 (14 to – 56)	49 (17 to – 59)	1658 (33 to - 34)	86 (20 to – 38)*	120 (22 to – 34)*	30 (12 to –63)

What is the situation with the NHS and social care?

The number of beds occupied with COVID-19 related patients (confirmed, suspected and recovering) fluctuates. Taking this into account, between early July 2021 and early November 2021, occupancy generally increased despite periods of stabilisation. Since then, the number of hospitalisations has generally decreased and is currently at comparable levels to early April 2021.

Over the latest week, the number of beds occupied with COVID-19 related patients has slightly decreased. This was due to a decrease across all patients types (confirmed, suspected and recovering patients). As at 14 December 2021, there were 531 COVID-19 related patients (confirmed, suspected and recovering) occupying a hospital bed. This compares to 537 (6 fewer occupied beds) on 7 December 2021. Confirmed patients accounted for 300 of the total occupied beds.

There are 36 patients with suspected or confirmed COVID-19 in critical care beds in Wales. This is 128 lower than the maximum COVID-19 position of approximately 164. The total number of patients in critical care for both COVID-19 and non-COVID-19 stands at 176, 24 more than the 152 baseline number of critical care beds available before the COVID-19 pandemic.

Non-COVID-19 urgent & emergency pressures continue to result in high levels of total hospital bed occupancy. Above seasonal prevalence of non-COVID 19 respiratory disease remains evident whilst the NHS also continues to try and recover from the significant elective backlogs that have developed over the past 18 months. There is also a considerable staffing challenge across the health and care system, with staff sickness absence rates currently just over 2% higher than pre-covid rates. Delayed discharges for those who are medically fit have improved to just below 1000 in the past few weeks however overall hospital occupancy remains very high, which continues to constrain flow

¹ TAG advice on the Delta variant, published 18 June 2021

throughout the whole health and care system resulting in extended ambulance and emergency department waiting times.

There is the potential for significant harm in the community (and our hospitals) for people with non-COVID illnesses or injuries, which may exceed the direct harm from COVID-19 at this point in time.

In the latest National Situation Background Assessment Recommendation (SBAR) report covering the week of 23rd November to 8 December November 2021, IMTs reported **50** care homes with an outbreak attributed to Covid 19, compared to 113 in the previous 2 week period. Generally IMTs continue to report a stable picture in care homes with single or low numbers of cases associated with each home. Source: National SBAR

Figure 3: Covid-19 Confirmed Hospital occupancy (7 day rolling average)

StatsWales COVID-19 Confirmed Hospital Occupancy (7 day rolling average)



¹ TAG advice on the Delta variant, published 18 June 2021

Figure 4: Overall invasive ventilated bed occupancy (7 day rolling average)

StatsWales Overall Invasive Ventilated Bed Occupancy (7 day rolling average)

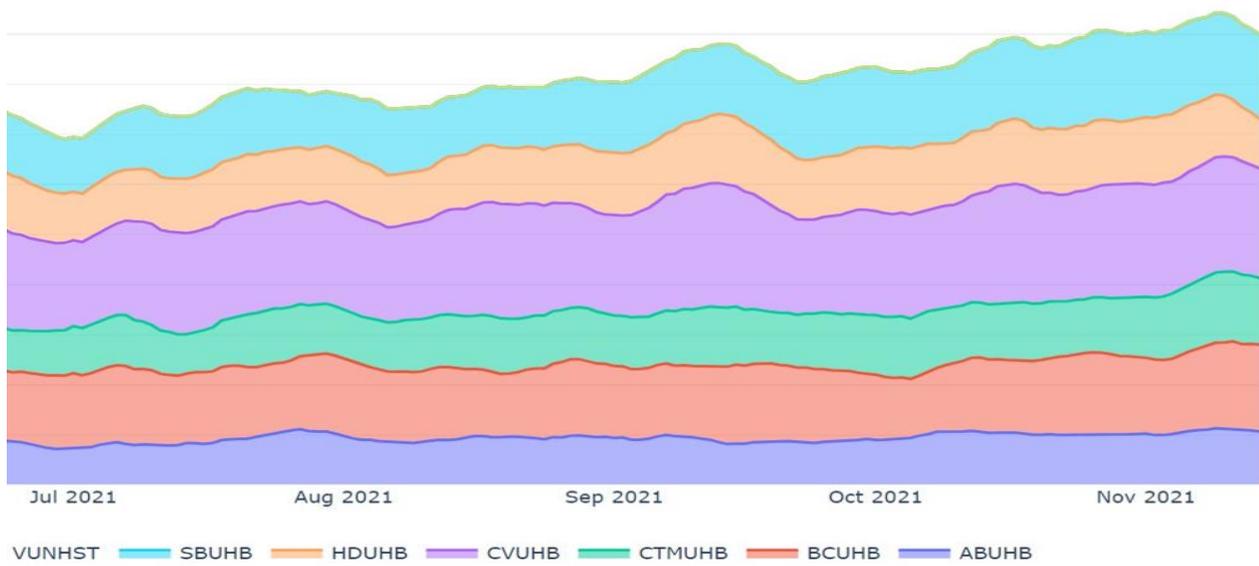
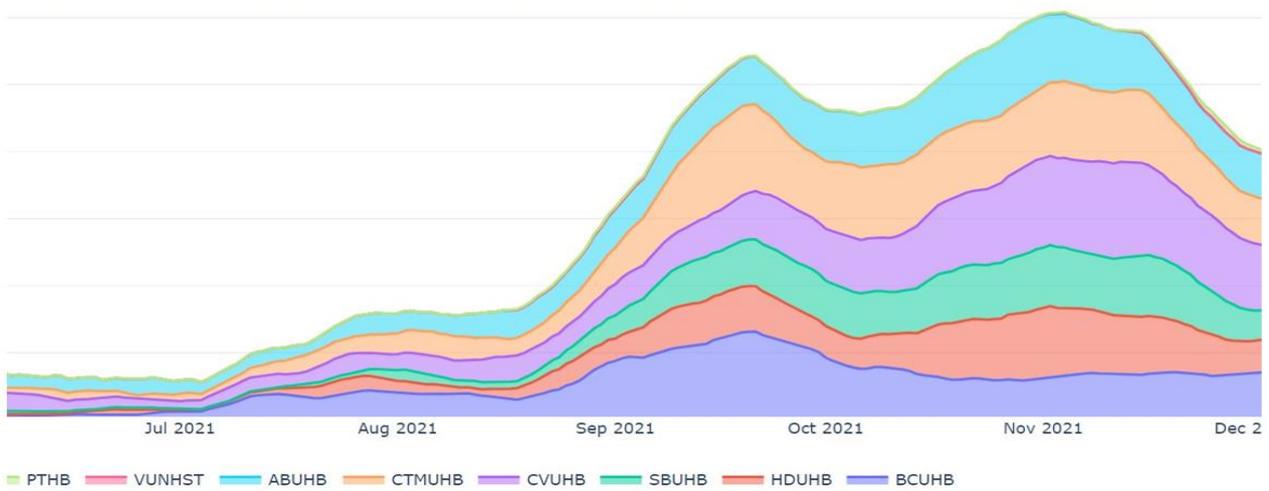


Figure 5: Hospital bed occupancy for suspected and confirmed COVID-19 positive patients (7 day rolling average)

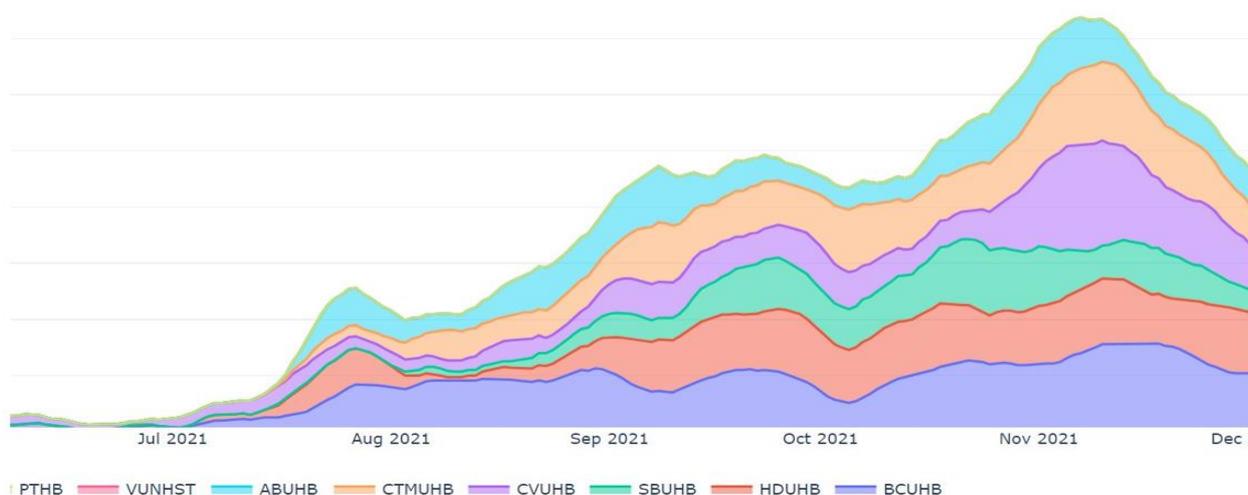
StatsWales Hospital bed occupancy of suspected and confirmed COVID-19 positive patients (7 day rolling average)



¹ TAG advice on the Delta variant, published 18 June 2021

Figure 6: Invasive ventilated bed occupancy for suspected and confirmed COVID-19 positive patients (7 day rolling average)

StatsWales Invasive ventilated bed occupancy of suspected and confirmed COVID-19 positive patients (7 day rolling average)



What is the situation with education, children and young adults?

School attendance

An average of 86.0% of all pupils were in attendance in school over the week of 6 December to 10 December 2021, unchanged from the week before. The figure for 29 November to 3 December 2021 has been revised down from 86.2%. Data for the latest two weeks is provisional.

An average of 3.6% of all primary pupils and 3.6% of all secondary pupils were absent due to a known COVID-19 related reason between 6 December and 10 December 2021. Source Stats Wales, Schools in Wales

Schools, Childcare settings, Further Education (FE) Higher Education Institutions (HEIs)

Schools, Childcare settings, Further Education (FE) Higher Education Institutions (HEIs) - From this week onwards updates on all educational settings have changed and include details of significant outbreaks and notable public health intelligence linked to these settings only.

Notable outbreaks associated with schools are reflected in regions with the highest infection rates. Mitigations have been applied accordingly and in some cases this has included temporary blended/virtual learning.

Source National SBAR 8 Dec 2021

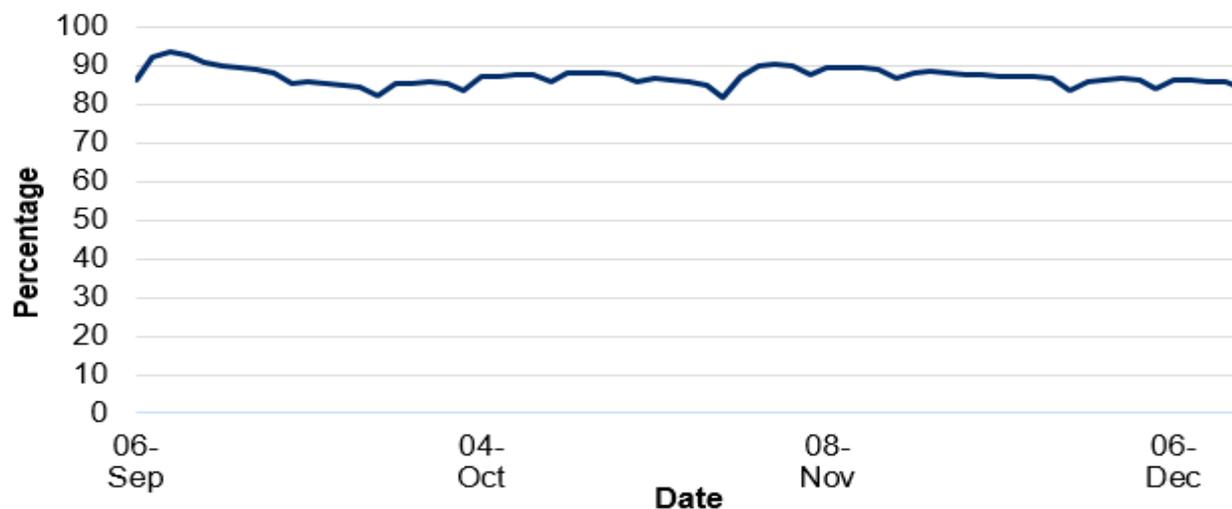
Please note: Due to accuracy & timeliness limitations with the capability of our surveillance systems, distinguishing exact case associations between children over 19, school staff

¹ TAG advice on the Delta variant, published 18 June 2021

and/or family members is currently not possible. We are looking to develop this with local health protection officers.

Figure 7: Attendance of pupils in maintained schools by day from 6 September 2021 onwards

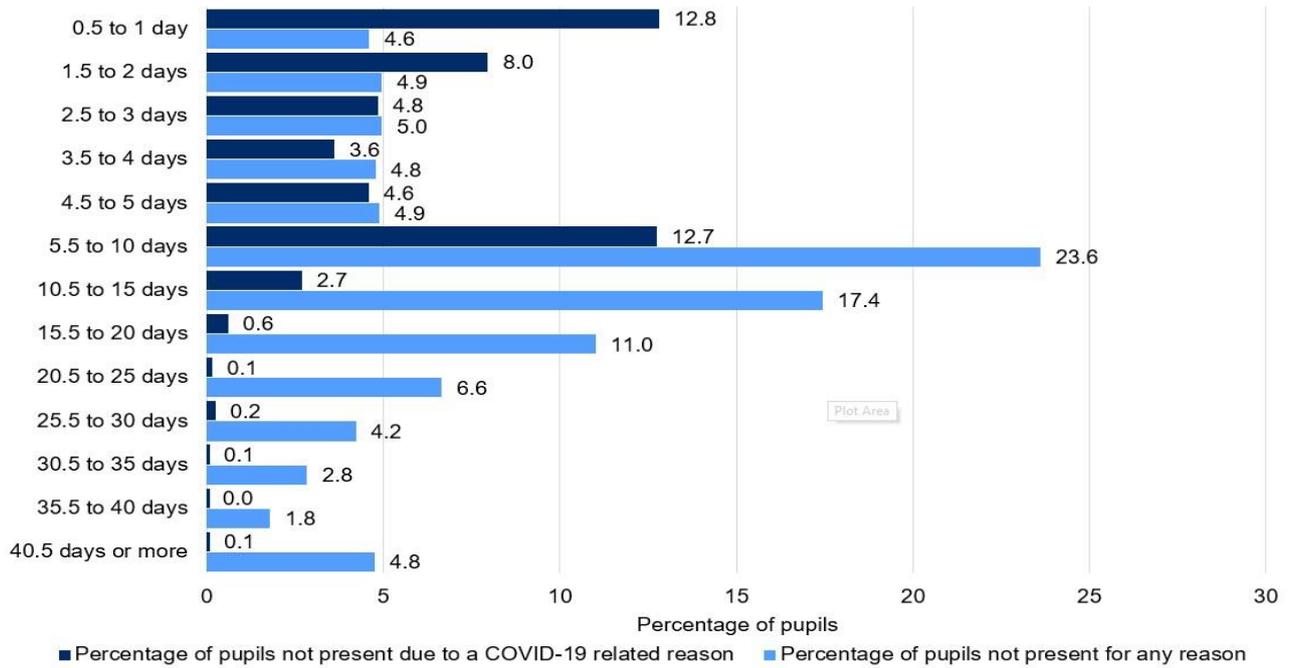
Attendance of pupils by day, 6 September 2021 onwards



Source: Schools in Wales

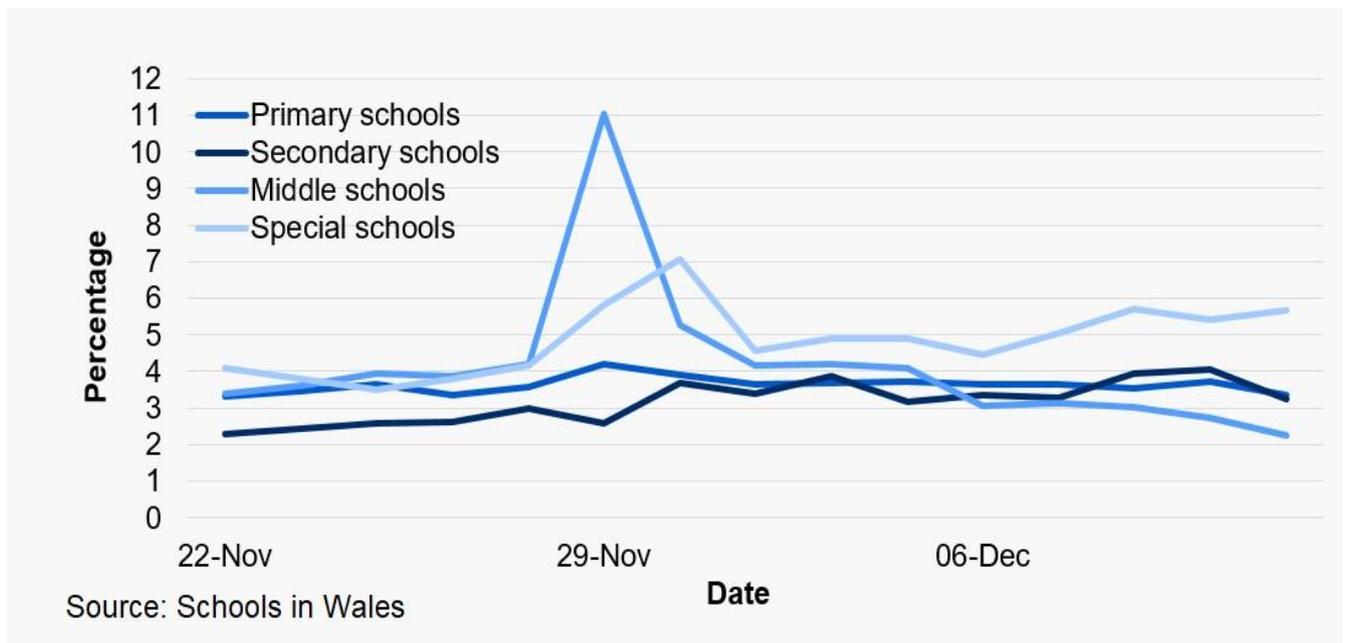
¹ TAG advice on the Delta variant, published 18 June 2021

Figure 8: Percentage pupils by number of days missed due to COVID-19 related reason and all reasons



Source: Schools in Wales

Figure 9: Absence due to COVID-19 by day and phase



Source: Schools in Wales

¹ TAG advice on the Delta variant, published 18 June 2021

Figure 10: Weekly C-19 Incidence per 100k population in school aged children as at 29th September

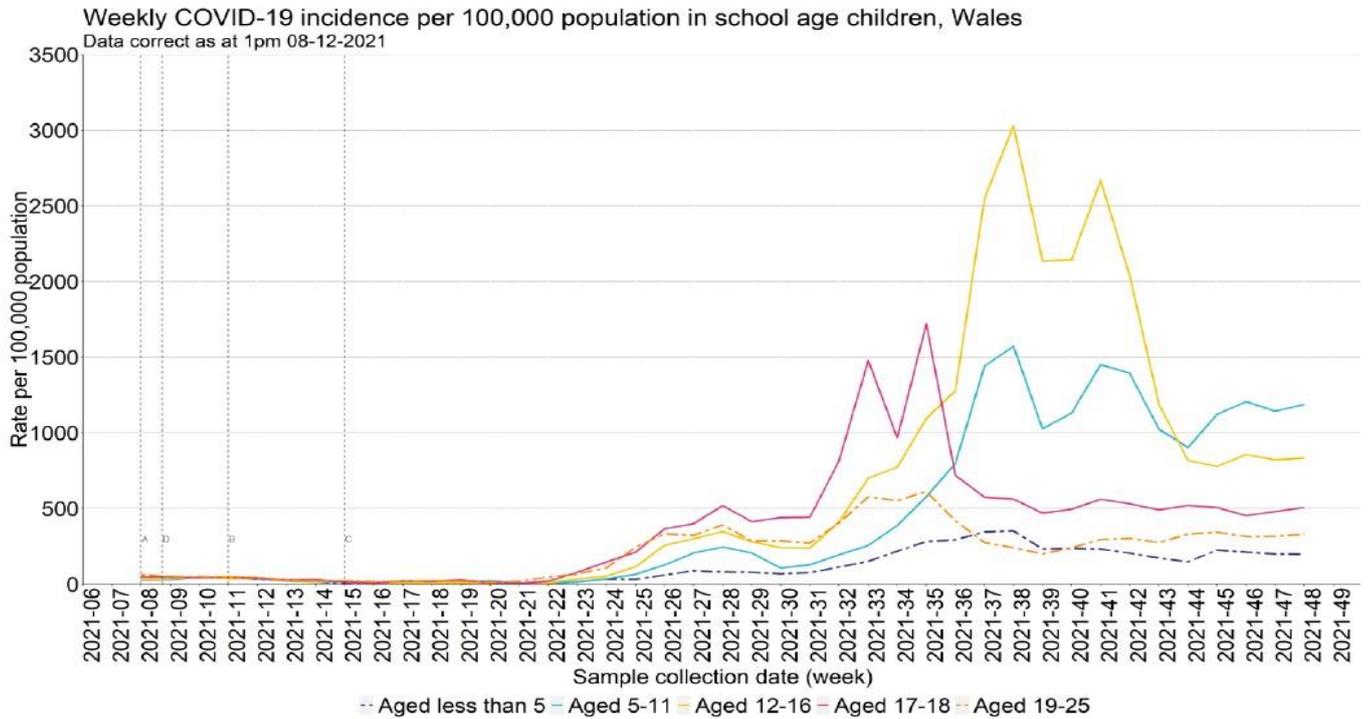
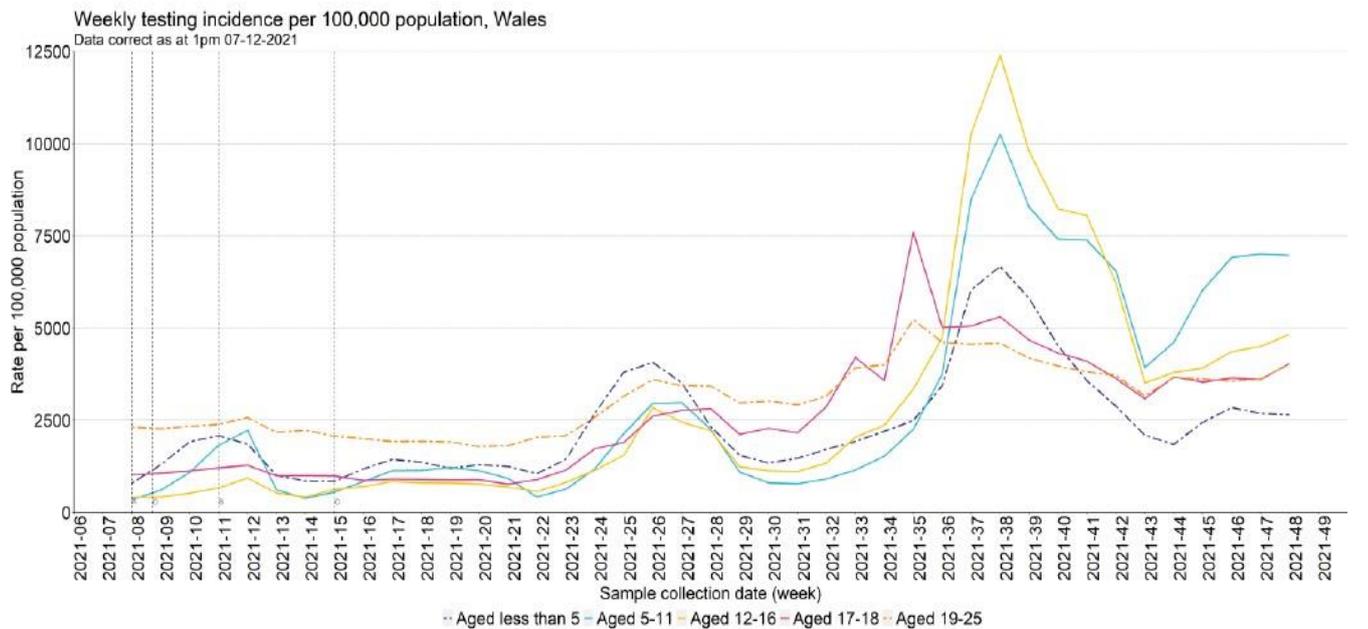
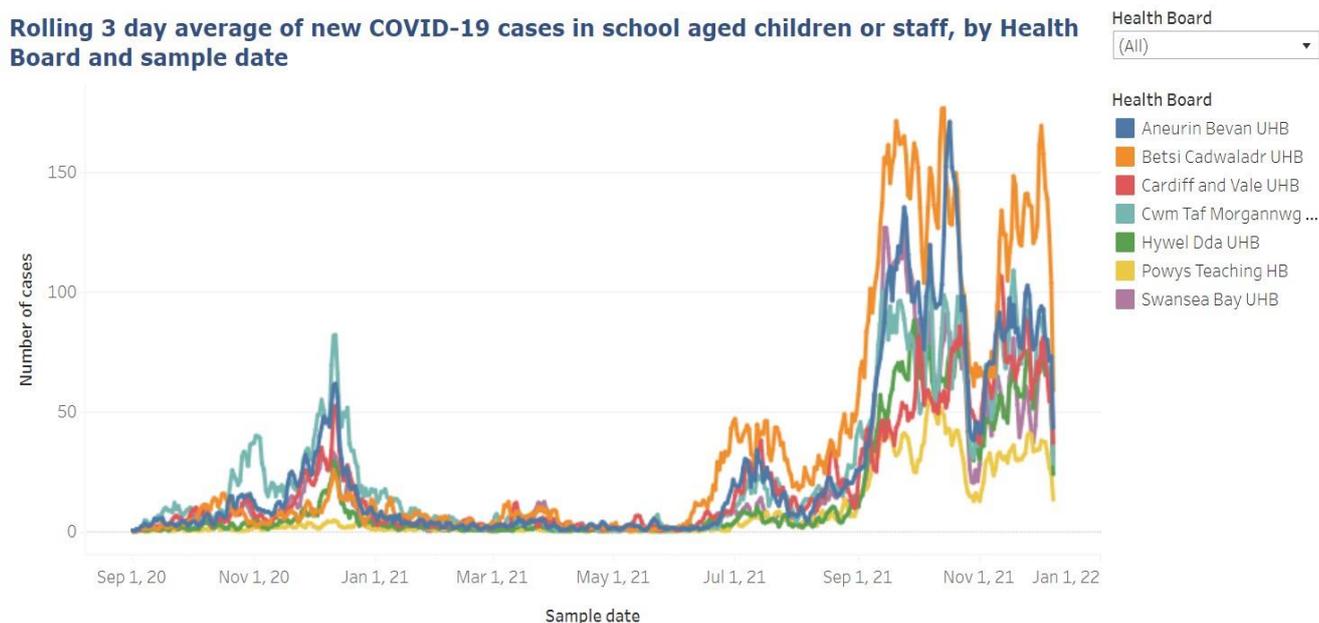


Figure 11: Weekly Testing Incidence per 100k population in school aged children



¹ TAG advice on the Delta variant, published 18 June 2021

Figure 12: Rolling 3 day average of new COVID-19 cases in school aged children or staff linked to schools by Health Board and date of test result.



Wastewater Monitoring for Covid-19

In the week ending 10 December 2021 the mean normalised COVID-19 signal is showing a significant divergence between the observed levels in North and South Wales. **Nationally, the data indicates an increasing trend over the last three weeks.**

In South Wales, there are indications of a slight upward trend in the wastewater signal over the last fortnight. The decrease in signal from last week could be noise or variance in the signal owing to the size of the catchments.

In North Wales, the wastewater signal has shown a significant increase in signal across all sites, with particularly concerning increases in the North East of Wales and Chester. This significant increase may be indicative of active and sustained transmission occurring in these communities

Sites on the watchlist (i.e. those with adverse changes in wastewater signal, limited samples or emerging variants) are: all the sites in North Wales.

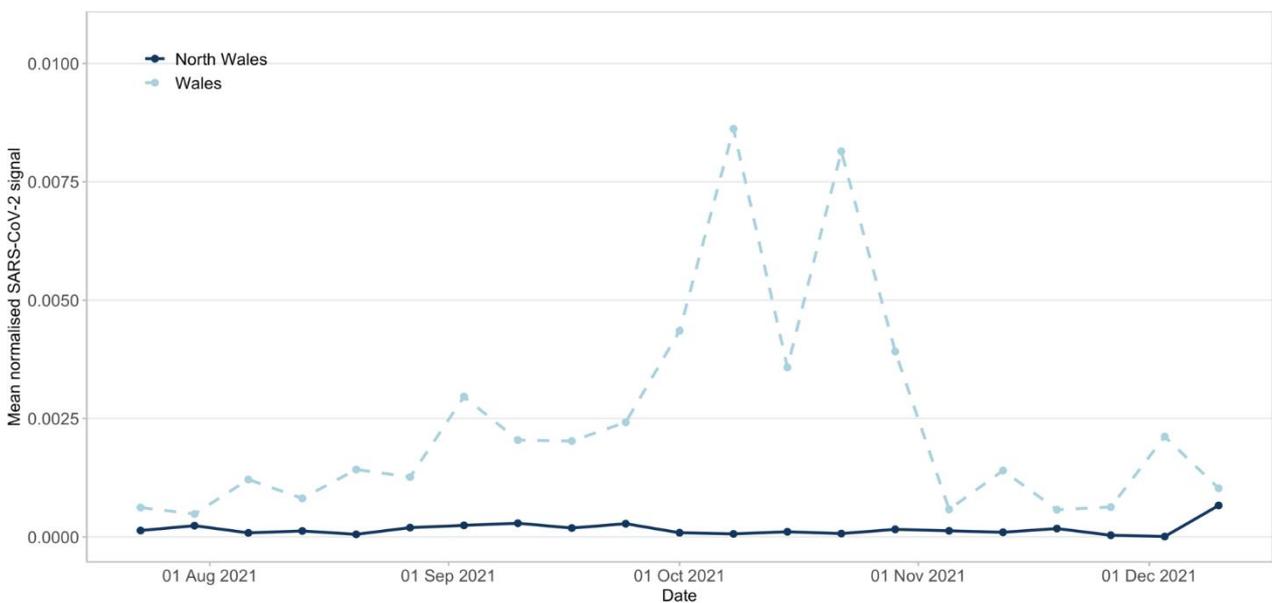
Wastewater signal is an unbiased indicator because it is not dependent on testing policy and behaviour. The characteristics of the individual sewerage systems could have an impact on the signal being seen. Positive case data and wastewater signal can differ as wastewater can give an indication of the prevalence of Covid-19 in asymptomatic groups not subject to PCR testing, as well as other sources of SARS-CoV-2 infection. Wastewater SARS-CoV-2 signal data below limit of detection recorded as zero. The wastewater data for individual WwTW sites, normalised and unnormalised are inherently noisy.

¹ TAG advice on the Delta variant, published 18 June 2021

Figure 13: Wastewater Treatment Works (WwTW) monitored by Welsh Government programme.



Figure 14: All-Wales (dotted line) and North Wales (Blue Bar) normalised weekly average SARS-CoV-2 scaled for population. Sampled data until 10 Dec



¹ TAG advice on the Delta variant, published 18 June 2021

Figure 15: Weekly comparison of South and all-Wales mean normalised SARS-CoV-2 signal. All-Wales mean signal (dashed line) and South Wales mean signal (solid line). Data to 10 December 2021.

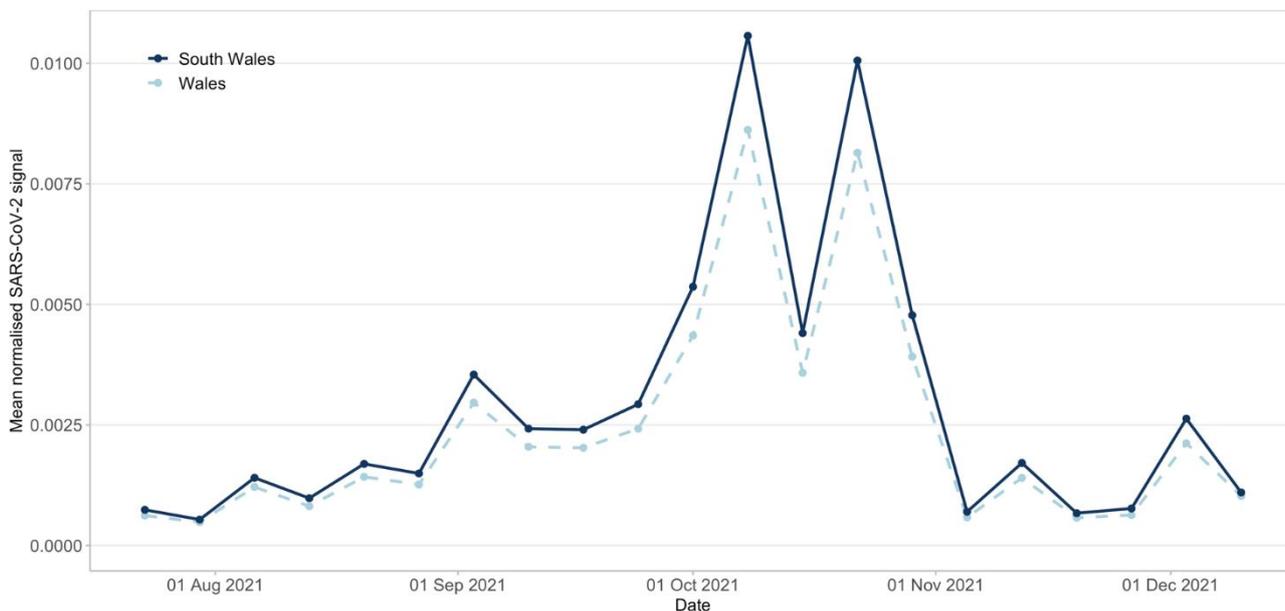
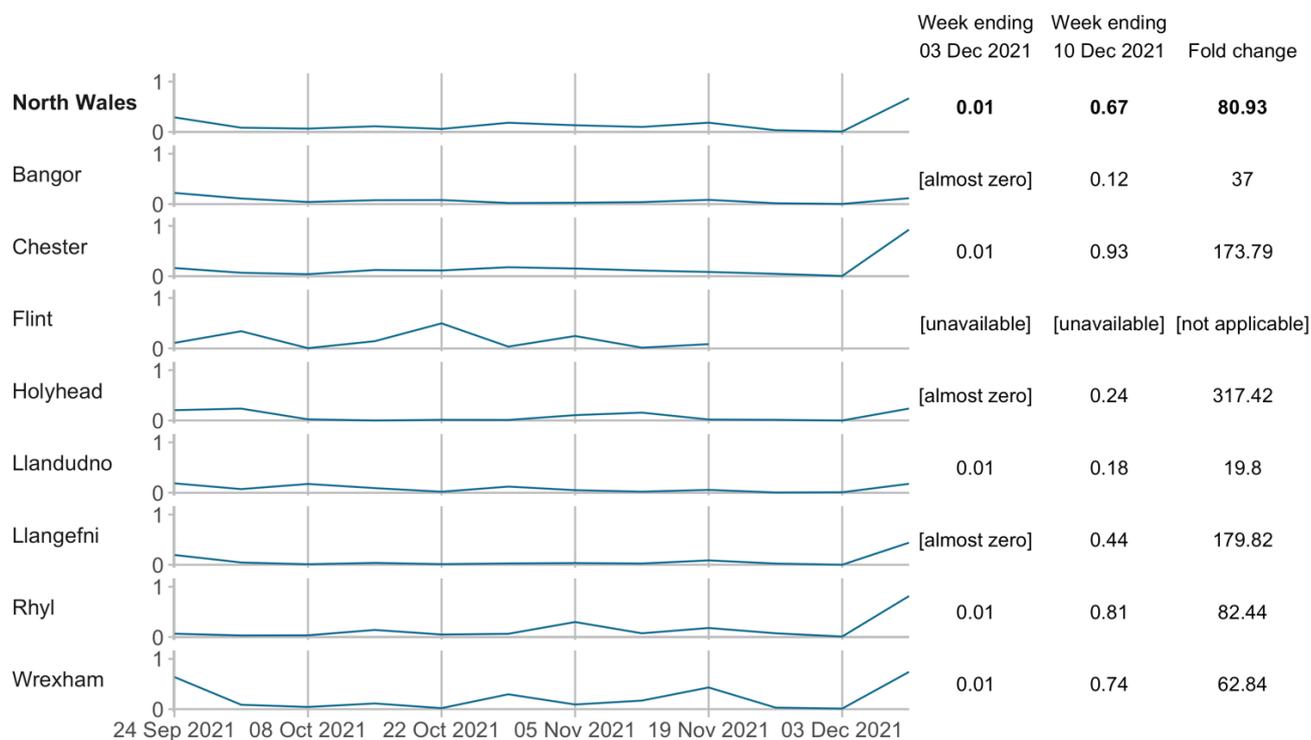
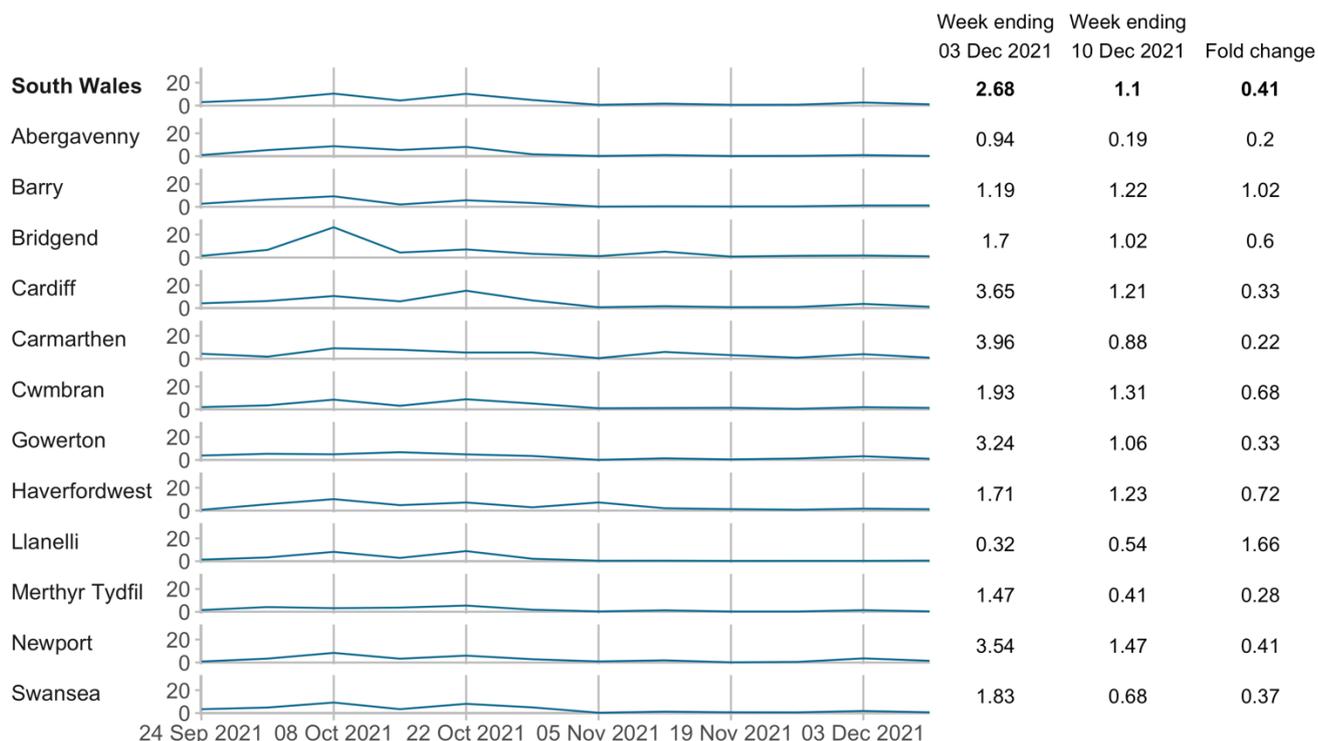


Figure 16: Fold Changes in mean normalised SARS-CoV-2, scaled for population



¹ TAG advice on the Delta variant, published 18 June 2021



What is the situation with arriving travellers?

There have been 116 positive travellers (0.64% positivity), compared to 106 for the previous week (0.54% positivity).

Travellers visiting Finland provide the highest numbers testing positive on return, with 24 to date for the period, with a positivity rate of 2.84%.

18,070 total arrivals for the week, compared to 19,649 for the previous week – a decrease of 8%. Of these, 114 were red list travellers, and 17,956 from the rest of the world.

In line with decisions being taken elsewhere in the UK, WG removed all 11 countries currently on the list from the red list given the rapid spread of Omicron in the UK and globally.

From 4am Tuesday 7th December, all people aged 12 years and over must take a PCR or LFD COVID-19 test before they travel to the UK from abroad.

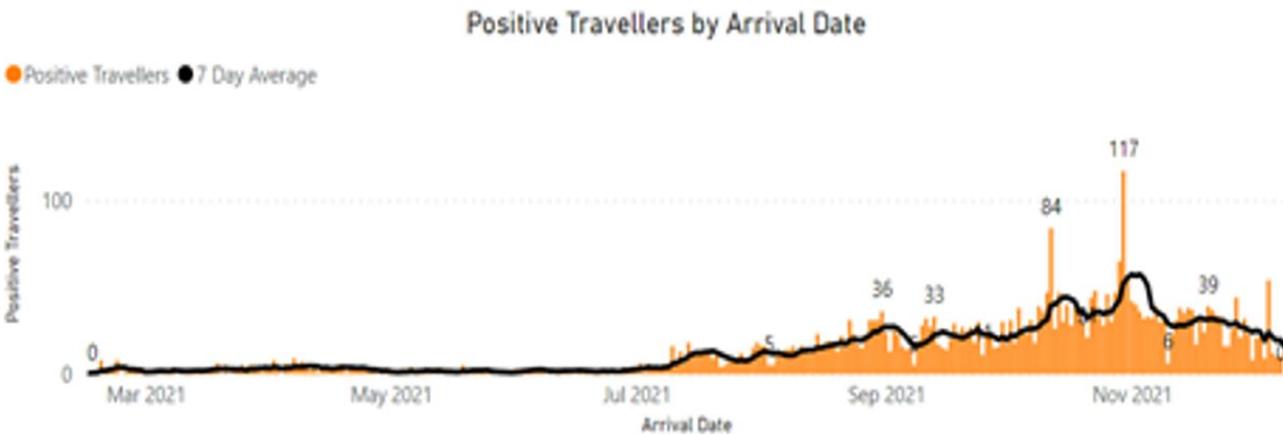
Date Source: Home Office [Wales Travel Rules](#)

¹ TAG advice on the Delta variant, published 18 June 2021



Note: Travellers may have travelled through more than one country on their journey.

Figure 17: Positive travellers timeline



¹ TAG advice on the Delta variant, published 18 June 2021

Figure 18: Positive travellers this week by country

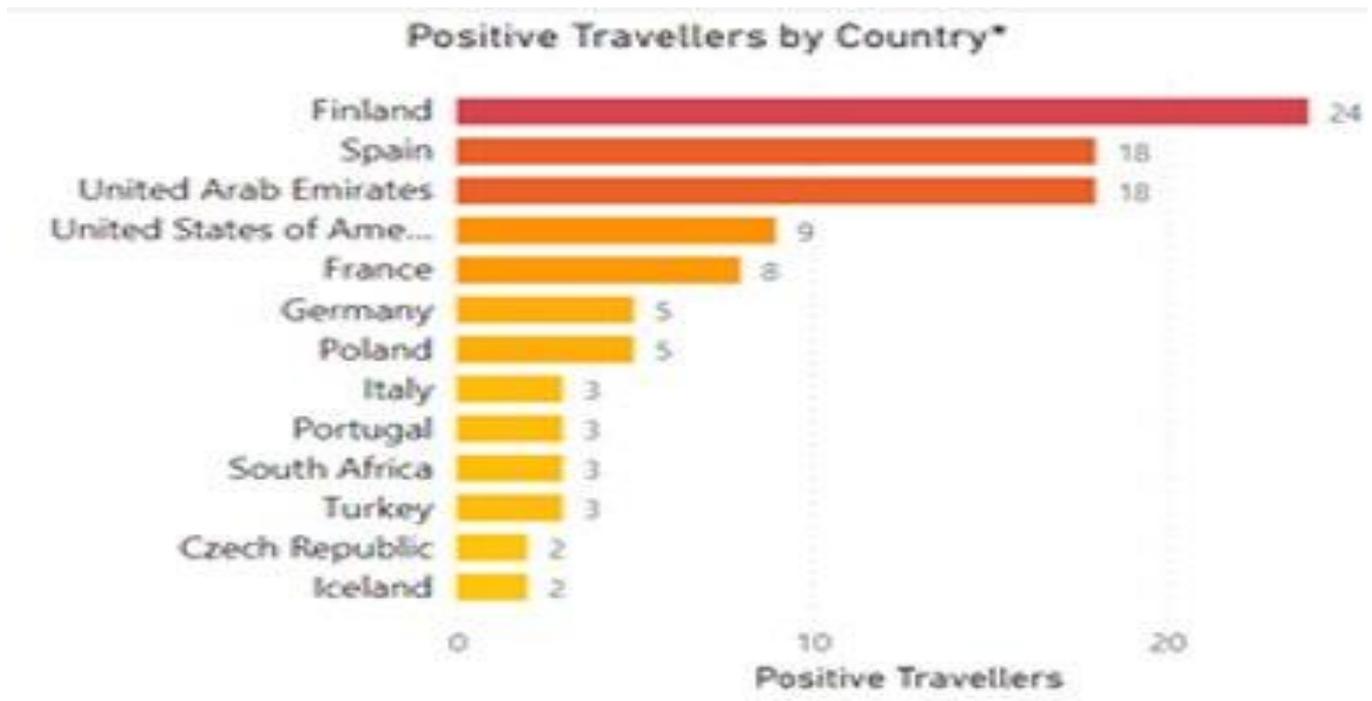
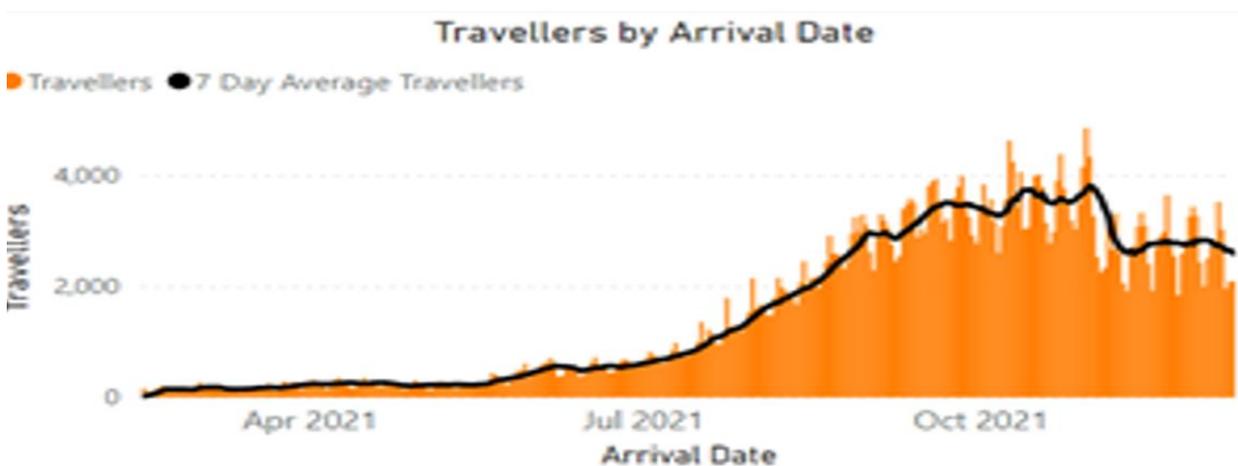


Figure 19: Arriving travellers timeline



Please note that the data provided by the Home Office is derived from Passenger Locator Forms (PLF) which are self-completed by travellers. As such, data may contain inaccuracies. Due to the limitations associated with data capture and legislation, some minor discrepancies may be present in the data. Countries with 10 or less travellers have been included in the overall positive traveller total, but excluded from the Green/Amber/Red positive traveller breakdown totals for personal identifiable information purposes.

Mobility data and UK Comparison

¹ TAG advice on the Delta variant, published 18 June 2021

The latest mobility data shows an increase in Workplaces and 'Residential (people spending time at home)' categories. There are decreases in all other categories that include 'Public transport', 'Retail and recreation' and 'Supermarkets and pharmacy' categories in the latest week compared to the previous week.

The baseline for much of the data is during January to February 2020 and changes are relative to that period. It is not possible to determine if mobility is higher/lower than would have been expected prior to the pandemic as data for 2019 or earlier years is not published.

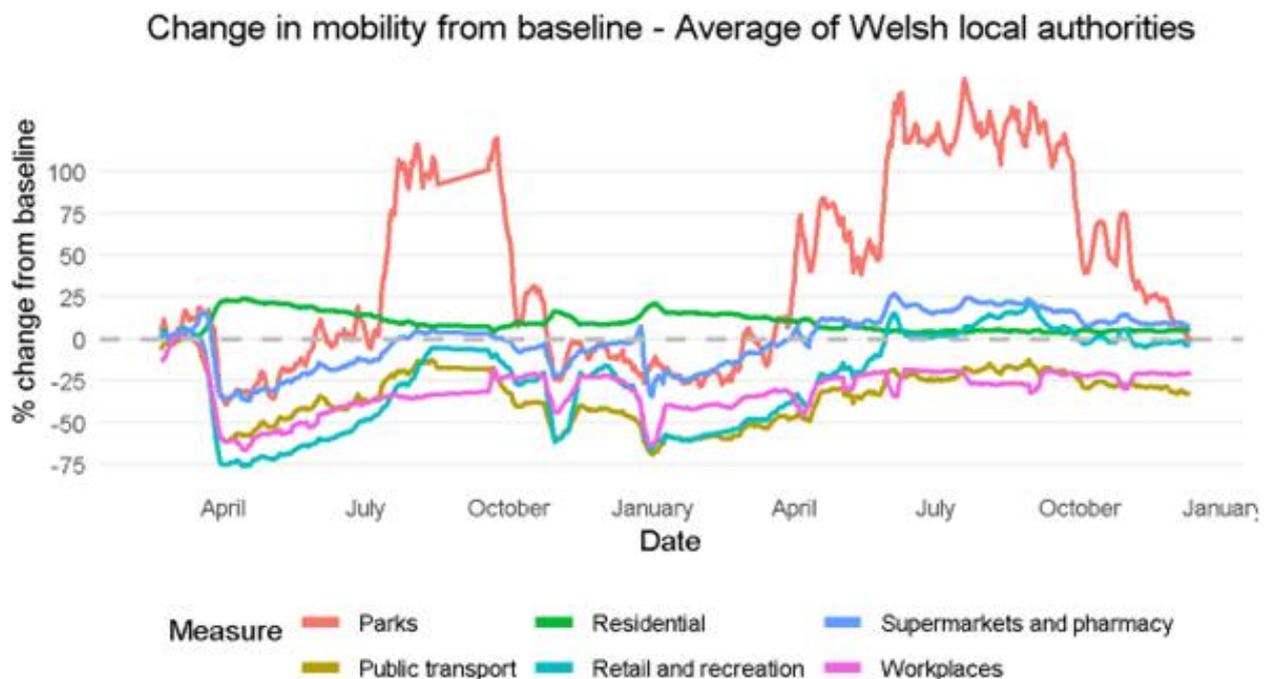
The most recent [IPSOS MORI data](#) for the period 10th to 14th December for Wales shows the number of people only leaving home for essential trips has increased, and about 60% of people report continuing to maintain 2m away from others when out.

Coronavirus (Covid-19) Infection Survey results, 11 December

The percentage of people testing positive has decreased in the most recent week in Northern Ireland, and over the most recent two weeks in Scotland. The trend is uncertain in England and Wales in the most recent week.

ONS estimates that an average of 56,200 people in Wales had COVID-19 (95% credible interval: 44,900 to 68,800), equating to around 1 in 55 people. This compares to around 1 in 60 people in England, around 1 in 50 in Northern Ireland and around 1 in 80 people in Scotland*. Source: [Office for National Statistics COVID-19 Infection Survey](#)

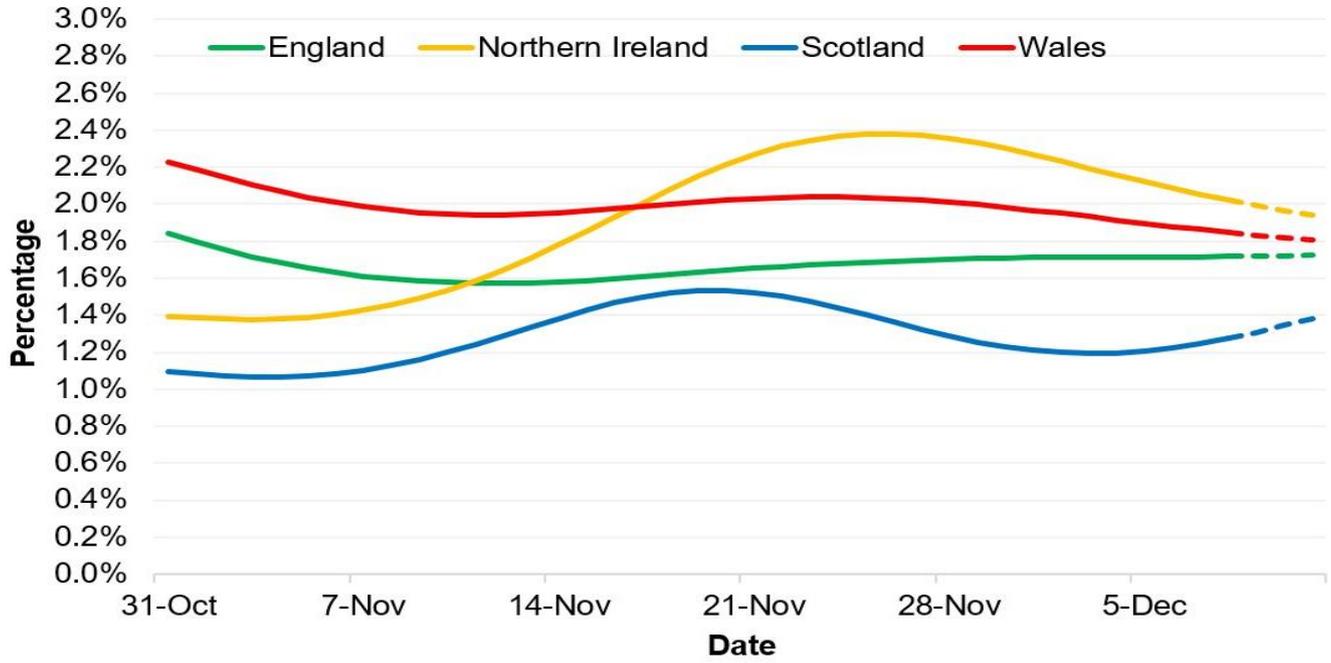
Figure 20: Mobility data by location of trip – Average of Welsh local authorities



Source: Google LLC "Google COVID-19 Community Mobility Reports."

¹ TAG advice on the Delta variant, published 18 June 2021

Figure 21: Positivity rates (%) across UK nations up to 29 September



¹ TAG advice on the Delta variant, published 18 June 2021

Vaccine and Immunity Status

The COVID-19 vaccination rollout of first and second doses has slowed in Wales. As at 9 December 2021, 90% of people aged 12 and over had received at least one COVID-19 vaccine in Wales. Of people aged 12 and over, 7% had exactly one vaccine dose, 45% had exactly two doses, and 39% have also had a third dose or booster, so 83% have had at least 2 doses.

The boosters administered in Wales closely follows the "2nd dose 6 months ago" line in the chart to the right.

Between 15 November 2021 and 20 November 2021, the ONS COVID-19 Infection Survey estimated that 93.9% of the community population aged 16 and over in Wales tested positive for COVID-19 antibodies.

As at 9 December 2021, it is estimated that 76% of people aged 12 and over in Wales had some immunity against COVID-19 infection. The lower and higher estimates of immunity are 67% and 84% of people aged 12 and over in Wales. If no vaccines had been administered, it is estimated that 19% of people aged 16 and over would be immune. **Note that this assumes that immunity from vaccine and infection wanes after 9 months.**

It is currently estimated that over 80% (but may be closer to 90%) of the population, spread evenly across Wales, must be immune to COVID-19 before population immunity effects would be observed.¹ Note that the immunity estimate of 76% is for individuals aged 12 and over, not the total Wales population, and varies across age groups.

Source: [ONS COVID-19 Infection Survey](#), [PHW](#), [SPI-M](#), Swansea University modelling

Note: The lower, central and higher immunity estimates use cautious, central and optimistic vaccine efficacy from SAGE (27/08/21) and immunity-following-natural-infection assumptions, and do not yet account for any additional immunity gained from a third dose or booster.

¹ TAG advice on the Delta variant, published 18 June 2021

Figure 22: Vaccination and antibody status of individuals aged 16 and over in Wales

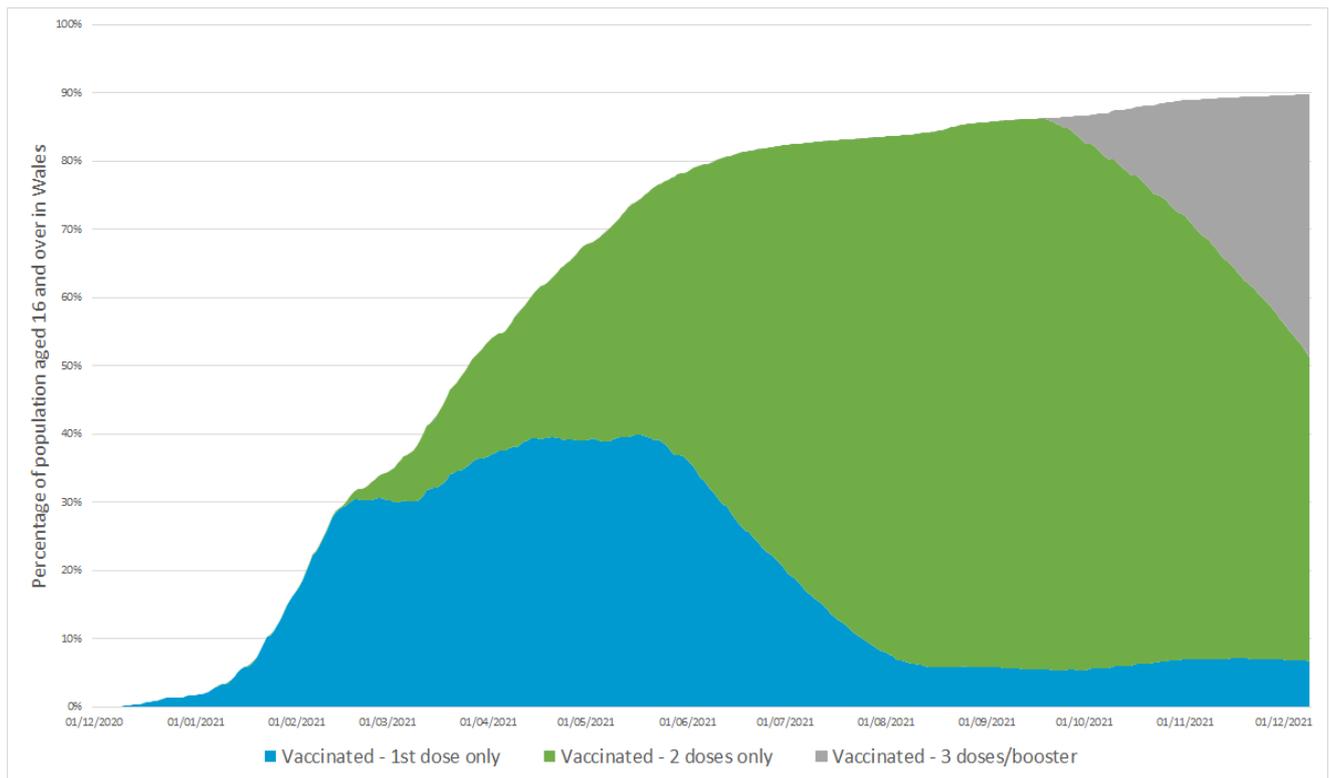
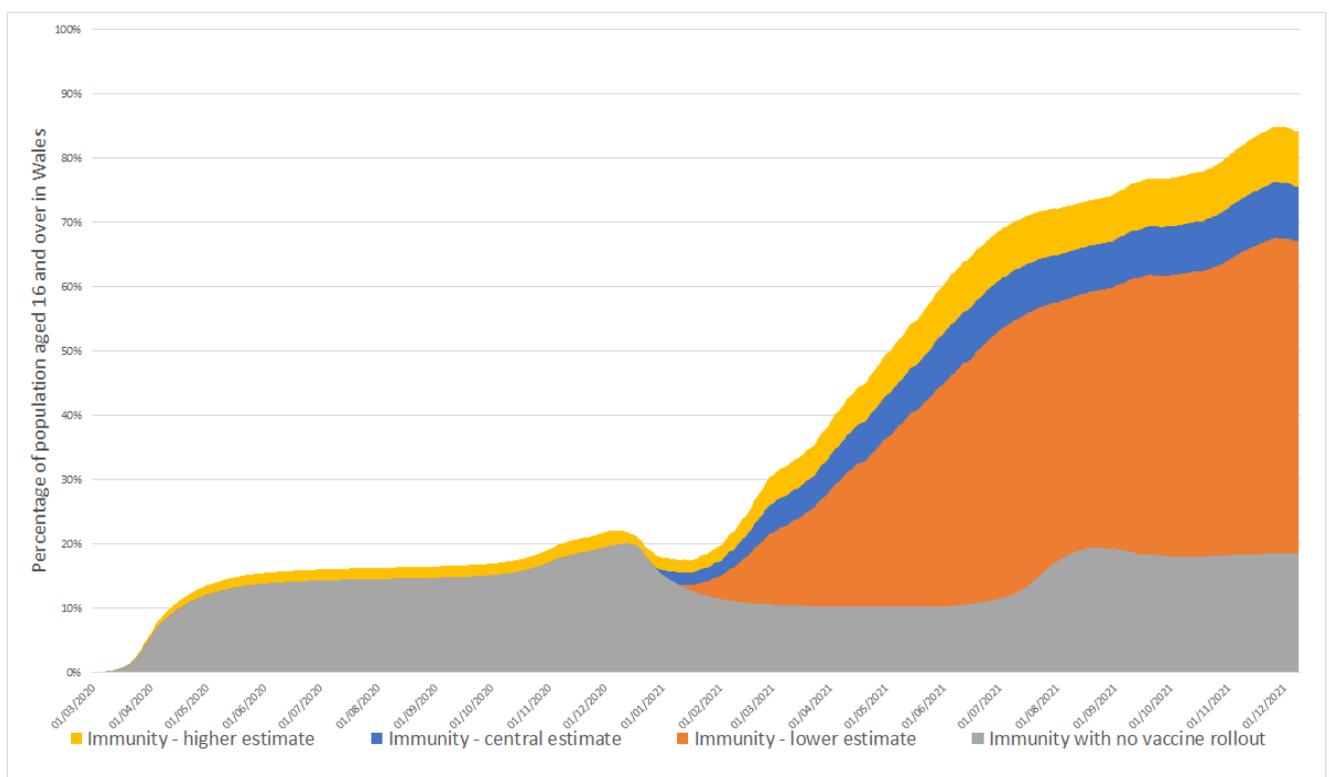


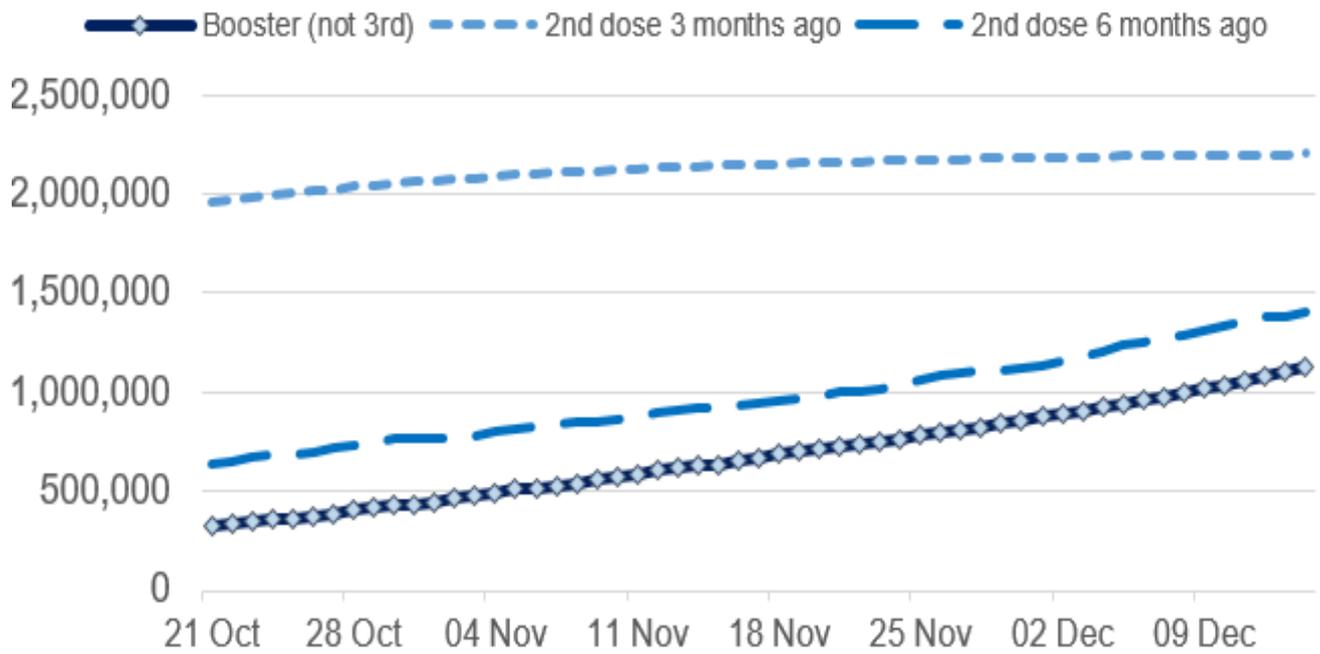
Figure 23: Immunity estimates and antibody status of individuals aged 16 and over in Wales



¹ TAG advice on the Delta variant, published 18 June 2021

Figure 24: Boosters of individuals aged 12+ - Data from 1 December

Numbers reported to have received a 2nd dose of COVID-19 vaccination 3 and 6 months ago and boosters given - Wales



¹ TAG advice on the Delta variant, published 18 June 2021

What does the situation look like going forward?

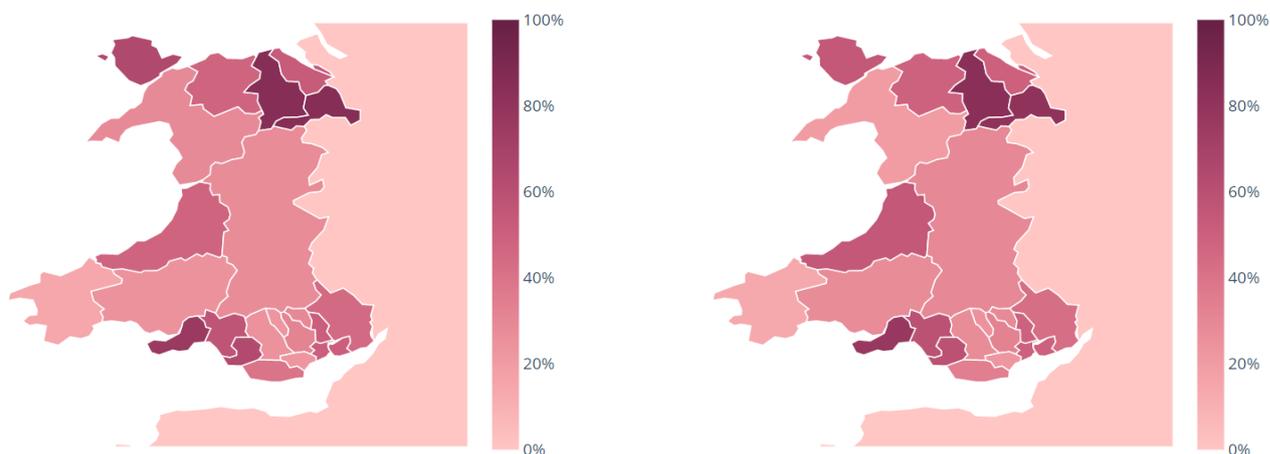
Based on the current rates observed with current restrictions:

- **Cases (right)** – the probability of incidence reaching greater than 500 per 100,000 between 19 December – 25 December and 26 December – 1 January is above 80% for 1 local authority across both periods (Denbighshire). *Source: Imperial College London*
- Due to uncertainty surrounding the Omicron variant and its increasing prevalence across the UK, SPI-M-O has been unable to produce consensus Medium-term Projections for hospital admissions and deaths this week.
- The delay between infection, developing symptoms, the need for hospital care and death means the epidemiological data cannot fully reflect the recent rapid increase of the Omicron variant. SPI-M-O hope to produce Medium-term Projections again in the near future when the impact of Omicron is better reflected in the epidemiological data.

These projections are based on current trends and will not fully reflect the impact of policy or behavioural changes over the past two or three weeks, nor the potential impact of the Omicron variant. These are not forecasts or predictions.

Figure 25: Probability of greater than 500 per 100,000 cases by local authority

Probability of incidence greater than 500 per 100k - 19/12-25/12  Probability of incidence greater than 500 per 100k - 26/12-01/01



¹ TAG advice on the Delta variant, published 18 June 2021

Key risks and sources

Key risks

Area	Assessment
Transmission, incidence and prevalence	Overall cases of COVID-19 and test positivity are generally fluctuating across Wales, with a rapid rise in Omicron cases.
NHS Capacity	COVID-19 pressure on the NHS fluctuates. The number of hospitalisations has generally decreased throughout November and is currently at comparable levels to early April 2021. Non-COVID-19 urgent & emergency pressures continue to result in high levels of total hospital bed occupancy and combined with backlogs and staffing challenges, continues to constrain flow throughout the health and care system. There is the potential for significant harm in the community (and our hospitals) for people with non-COVID illnesses or injuries, which may exceed the direct harm from COVID-19.
Mortality	COVID-19 deaths remain stable and low in the most recent week.
Variants	As at 14 December 2021, Wales has had 83,123 (+3,523 compared to last week) confirmed cases of the dominant Delta variant, 11,315 (+1,434 compared to last week) confirmed cases of AY4.2 VUI-21OCT-01, and 62 confirmed cases of Omicron. No other variants of concern were confirmed by genomic sequencing in Wales.
Immunity and Vaccines	As at 14 December 2021, a total of 5,905,839 doses of COVID-19 vaccine were given in Wales and recorded in the COVID-19 Welsh Immunisation System. <i>Source: PHW</i> It is estimated that 76% of people aged 12 and over in Wales had some immunity against COVID-19 infection. - 9th December
International	Arriving traveller numbers decreased this week. The proportion of travellers testing positive increased slightly, with numbers remained relatively low.

Key Sources for this update

[Technical Advisory Cell brief | GOV.WALES](#)

[COVID Infection Survey results | GOV.WALES](#)

[Rapid COVID-19 virology | Public Health Wales](#)

[Hospital occupancy | GOV.WALES](#)

¹ TAG advice on the Delta variant, published 18 June 2021

[Higher Education | GOV.WALES](#)

[School attendance | GOV.WALES](#)

[Variants of Concern Technical Briefing | Public Health England](#)

¹ TAG advice on the Delta variant, published 18 June 2021