

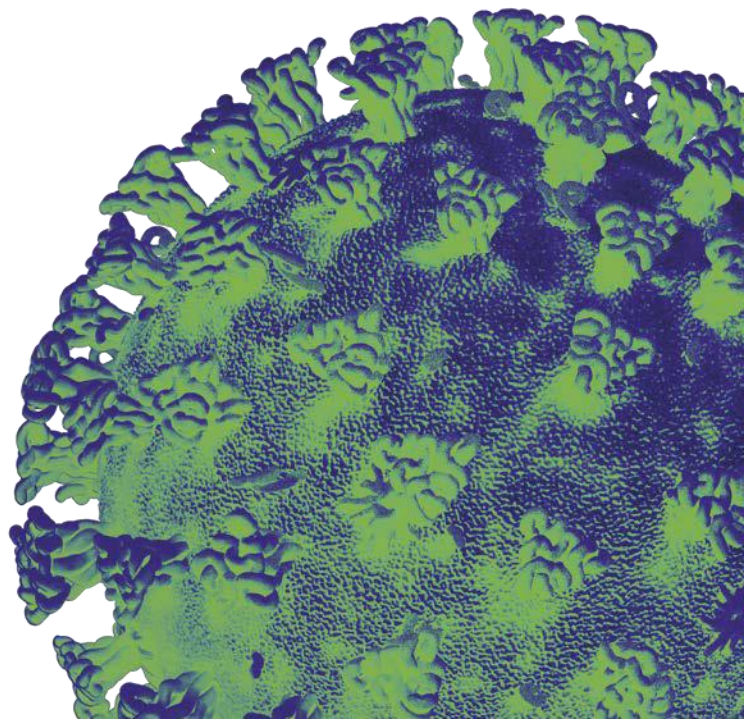
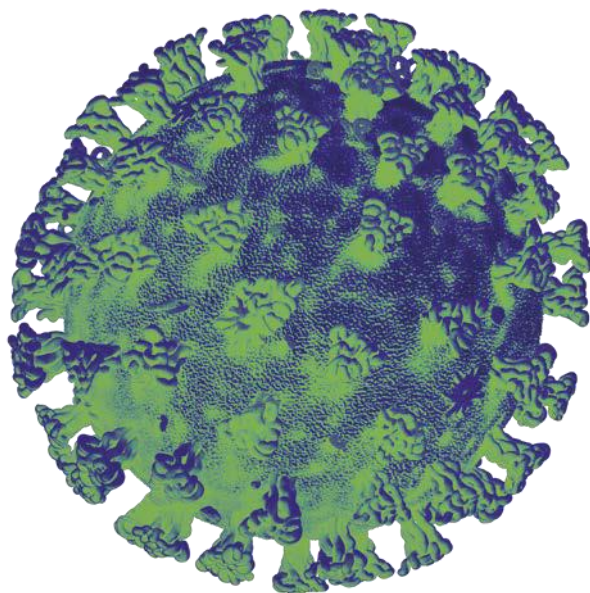
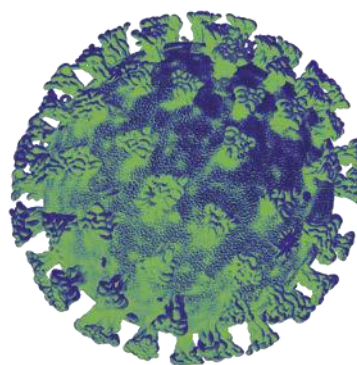


Llywodraeth Cymru
Welsh Government

Technical Advisory Cell

Summary of advice

8 January 2021



Technical Advisory Cell: Summary Brief

8 January 2021

Top-line summary

- The most recent estimate of the Reproduction number (R_t) for Wales from SAGE (as of 6 January) is predicted to be between 0.8 and 1.1. This is the official estimate of the R_t number for Wales based on data available up until 4 January. SAGE estimates that the epidemic is shrinking/growing by between -4% and 1% per day.
- Based on case numbers only, Public Health Wales estimates R_t to be between 1.06 and 1.08 (as of 1 January) and halving time to be 68 days (as at 5 January).
- These estimates have improved since the last report (23 December 2020), however there is greater uncertainty due to changes and disruption over the festive period, as well as the impact of the new variant which may not be fully accounted for.
- As at 11 January, test positivity for Wales (rolling 7 days) is 20.6%, which remains high and above the red circuit breaker. Positivity is particularly high in the North Wales areas of Wrexham (29.7%), Flintshire (25.9%), and Bridgend (28.1%) in South Wales.
- The ONS infection survey data for the most recent week (27 December 2020 to 2 January 2021) shows that an estimated 1 in 70 people had COVID-19. This has shown a decrease after increasing sharply and peaking shortly before Christmas. It is important to stress the uncertainty around these figures since the survey picks up relatively few positive tests overall. Because of the lag between people acquiring COVID-19 and testing positive, it is likely that any impact of the Christmas and New Year period on rates testing positive will not be fully evident until the second week of January.
- There have been increasing detections of VOC 202012/01 (detected using the proxy of S-Gene Target Failure viruses) throughout December and early January, with the variant confirmed across all regions of Wales.
- [Analysis of contact tracing data](#) from Public Health England shows that secondary attack rates (the probability that an infection occurs among susceptible people within a specific group, such as the household or close contacts) are higher where the index case has the new variant strain. This corresponds with other findings which indicate increased transmissibility of the new variant.

- As at 6 January, the proportion of calls to NHS 111 and NHS Direct related to possible COVID-19 symptoms remained stable compared to the previous week. GP consultations for any Acute Respiratory Infection (ARI) have decreased whilst GP consultations for suspected COVID have increased compared to the previous week. The number of ambulance calls possibly related to COVID-19 have decreased in the most recent week.
- As of 8 January, the number of people with confirmed COVID-19 in hospital has remained above the April peak and has continued to increase. Overall ICU occupancy (COVID-19 and non-COVID-19 patients) indicates that ICU is at, or close to, 100% occupied, with a 1:1 staffing ratio for ICU patients not possible across Wales.
- While data should be treated with caution due to the festive holiday period, deaths reported by Public Health Wales (as of 6 January) and the Office for National statistics (week ending 1 January) have continued to show an upward trend since our last report.
- As at week ending 3 January, a total of 49,428 doses of COVID-19 vaccine (25 of which were second dose) were given in Wales. The actual number of doses will be higher due to ongoing data entry.
- It takes 2-3 weeks for a vaccine to induce an immune response, which means vaccinated people could still become infected during this time and there will be a lag of around four weeks before the benefits of vaccines in preventing hospital admissions will be seen, and longer for deaths.
- Mobility data shows large reductions in movement, but mainly after the 24 of December. Compared to the firebreak period, the first four days of alert level 4 restrictions did not see mobility reduce as much. On the 25/26 December 2020 mobility was particularly low. Since Monday January 4 mobility looks to be in line with that seen during the firebreak period – with levels somewhere between the first (when schools were fully closed during half term) and second week. Further data expected this week will give further clarity to mobility levels in the first full week of this year. New adherence data will be available to report within the next two weeks.
- The Technical Advisory Group published [advice](#) on the variant of concern and education in Wales, noting that with the new COVID-19 variant becoming dominant and the current prevalence and test positivity rates, current non-pharmaceutical intervention measures, with primary or secondary schools open

fully, would be unlikely to be sufficient to maintain R_t below 1 and that R_t would be lower with schools closed due to reduced social mixing.

- Papers from SAGE considered by the Technical Advisory Cell are published [here](#), including the paper '[Mitigations to Reduce Transmission of the new variant SARS-CoV-2 virus](#)' from three SAGE sub-groups (the Scientific Pandemic Influenza Group on Behaviours, the Environmental and Modelling Group, and Transmission Group). This paper highlights:
 - The importance of reinforcing adherence to existing mitigation measures in light of the new variant, recommending encouraging adherence to non-pharmaceutical interventions through a combination of recognising population efforts to date, providing a clear rationale for actions, creating acceptable solutions where risk is hard to avoid, provision of support and culturally appropriate communications.
 - There is high confidence that the new variant requires the previously identified personal, procedural, engineering and societal mitigations to reduce transmission, but a step change in rigour of application is likely needed given that the new variant is likely to represent a significantly increased transmission risk.

Growth rate and Reproduction number

- It is important to note that the following estimates cannot yet fully reflect the most recent changes in transmission from the past two to three weeks. This is because there is a delay between initial infection, developing symptoms and the need for hospital care and the time of death.
- The current daily growth rate estimated by SAGE (as of 6 January) is between -0.04 and 0.01 (90% confidence interval) in Wales, indicating that infections could be shrinking/growing by between -4% and +1% per day.
- The most recent estimate of the Reproduction number (R_t) for Wales from SAGE (as of 6 January) is predicted to be between 0.8 and 1.1 (90% confidence interval). The estimate of R_t is shown as a range without a central estimate.
- Public Health Wales also estimate R_t for Wales using data on the number of positive cases. These estimates should be interpreted with caution as they may be effected by changes in testing patterns over the holidays. As of 1 January, R_t in Wales is estimated to be between 1.06 and 1.08 (95% confidence interval).

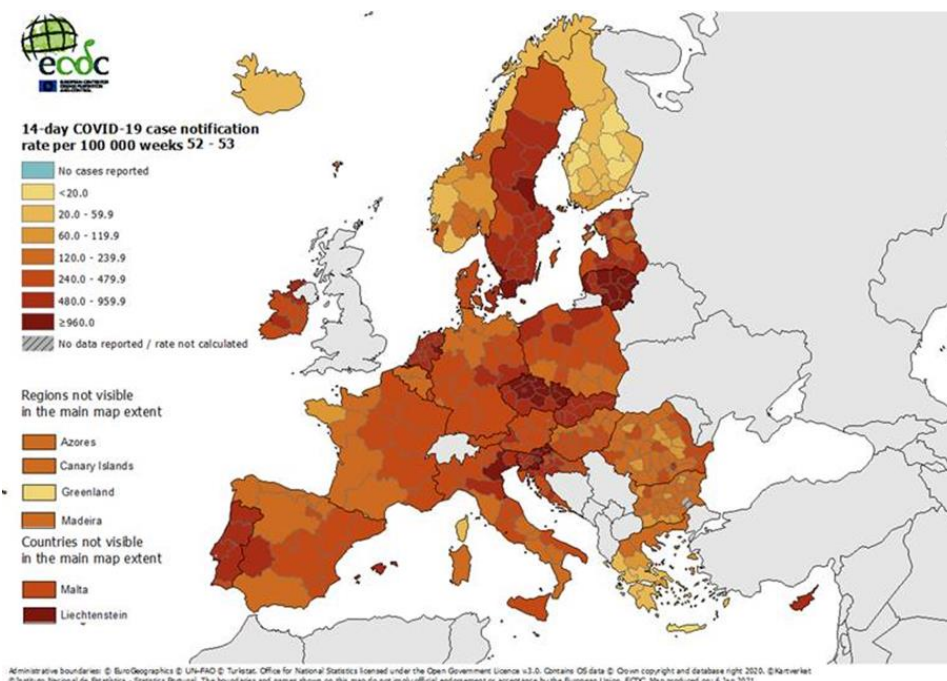
- Care should still be taken when interpreting R_t and growth rate estimates for the UK, due to their inherently lagged nature, testing availability and, as these figures mask variation in the number of infections, how rates of transmission are changing in some parts of the country.
- A growth rate that is lower but still positive, or an R_t number above 1, indicates that the epidemic is growing exponentially.
- Estimates should be interpreted with caution and the confidence intervals taken into account.

Halving time

- As at 5 January, Public Health Wales estimated the halving time (the time it takes for the number of cases to half) to be 68.0 days (95% confidence interval 9.3 to -12.8) using data from 19/12/2020 to 01/01/2020 (see Figure below).
- Halving time (and R_t and growth rates), gives an indication of the rate of change and therefore it should be treated with caution for the reasons outlined above.

International update

- The map below shows the 14-day average notification rate per 100,000 people in the EU for weeks 52 – 53.
- The UK is not included in the ECDC map below due to Brexit.

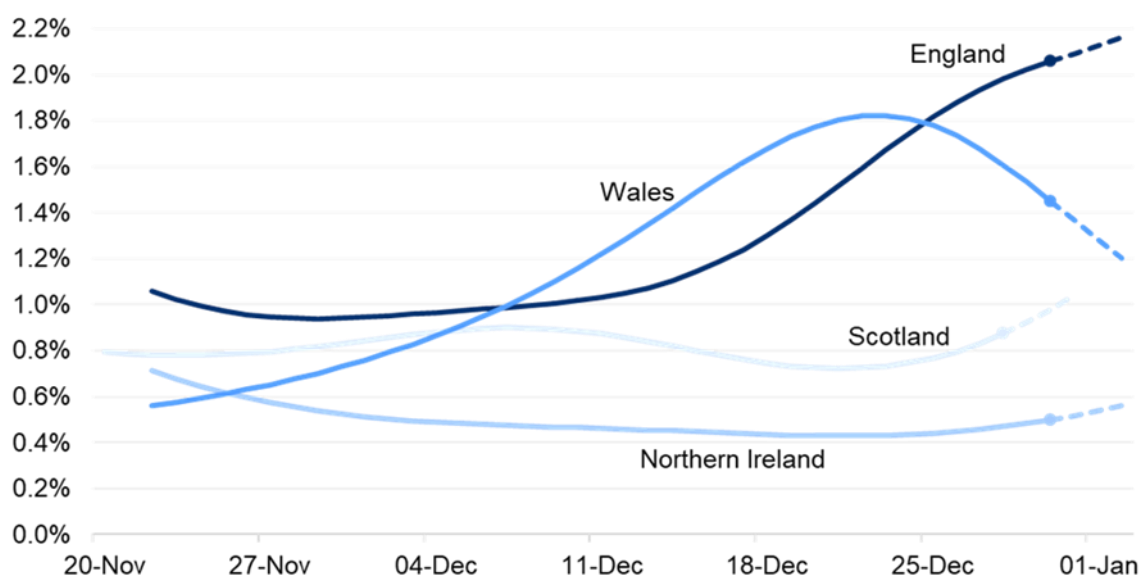


- The very recent general situation is improving across much of Europe but there are still some countries experiencing rises in infection rates. In detail:

- Countries where incidence is falling include: Austria, Belgium, Bulgaria, Croatia, Denmark, Finland, France, Germany, Greece, Hungary, Italy, Netherlands, Poland, Portugal and Romania.
- Countries which have a steady state infection rate or at the high point and about to descend include: Sweden, Spain, Lithuania, Estonia, Latvia, Slovenia.
- Countries that are experience rises include: Czechia, Slovakia, Norway and Ireland.
- Elsewhere, many countries in South America are experiencing rises in cases despite it being summer in the southern hemisphere, likely due to the festive period. South Africa is experiencing a rapid rise, likely due to their new variant which, like the UK variant, is more infectious.
- Data on the picture across Europe, including caveats around data lags and variable testing policies is available [here](#).

ONS infection study results

- The ONS infection survey data for the most recent week (27 December 2020 to 2 January 2021) shows that the positivity rate in Wales decreased, after increasing sharply and peaking shortly before Christmas. See [here](#) for the previous week's results (12 to 18 December 2020) which estimated that around 1 in 60 people had COVID-19, compared to an estimated 1 in 70 for the most recent week.
- These data are helpful because they are the only estimates of infection covering asymptomatic as well as symptomatic cases, and they are not affected by other factors such as testing capacity or the number of people coming forward for testing. The results are for private households only – the 'community population' – and do not apply to those in hospitals, care homes or other institutional settings.
- The Figure below shows the latest estimates for positivity rates (%) since 22 November 2020* across the 4 UK Nations.
- There is some uncertainty around the individual point estimates for the nations. Estimates for the last few days of the series, shown as dashed lines in the chart below, have more uncertainty.



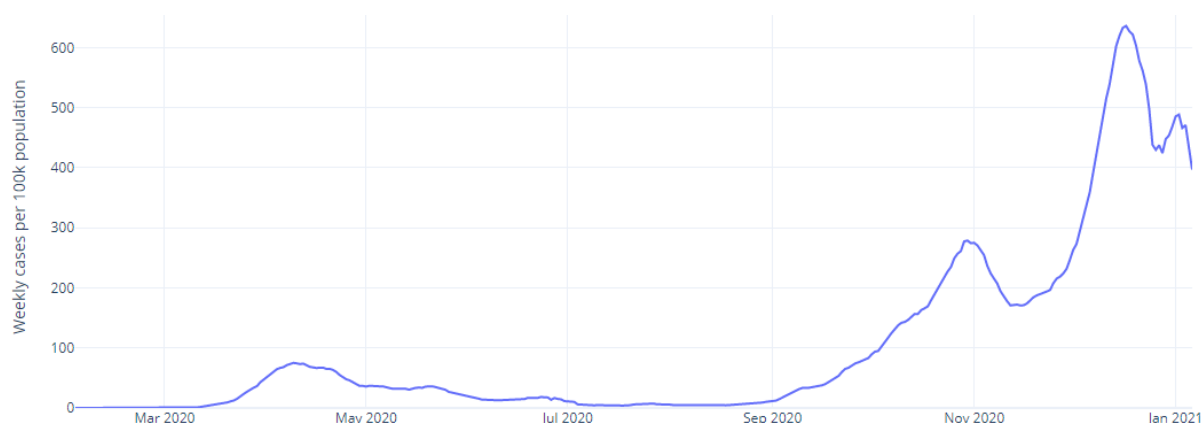
Source: Coronavirus (COVID-19) Infection Survey, ONS, 06/01/21

*Data for Scotland goes up to 31 December 2020 instead of 02 January 2021 due to bank holidays.

- For the week 27 December 2020 to 02 January 2021, an average of 1.45% of the community population had COVID-19 (95% credible interval: 1.11% to 1.85%).
- This equates to approximately 1 person in every 70 (95% credible interval: 1 in 90 to 1 in 55), or 44,100 people during this time (95% credible interval: 33,700 to 56,300).
- The positivity rate has decreased in the most recent week, after peaking shortly before Christmas.
- Analysis of the new and other variants of the coronavirus indicates that the trend in Wales has been driven by the other variants. Cases compatible with the new variant are relatively low. Please note that there is a greater lag in data from the infection survey than from other sources such as Public Health Wales.
- Because of the lag between people acquiring COVID-19 and testing positive, it is likely that any impact of the Christmas and New Year period on rates testing positive will not be fully evident until the second week of January.
- It is important to stress the uncertainty around these figures. Since the survey picks up relatively few positive tests overall, the results can be sensitive to small changes in the number of these positive tests.
- Full results are published [here](#).

Case numbers

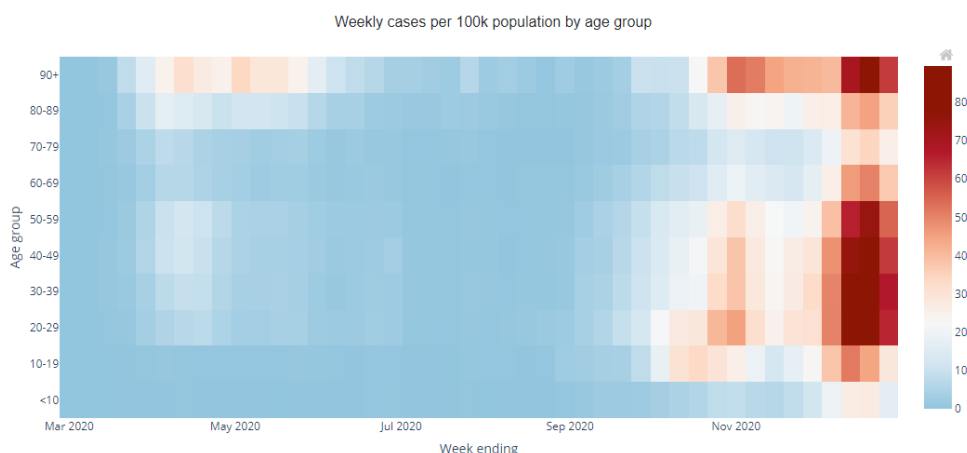
- The figure below shows that numbers of confirmed COVID-19 cases per day (7 day rolling sum, per 100,000 of the population). Cases showed a reduction following a peak in mid-December. An increase in cases has been seen during the last week of 2021. **Please use caution in interpreting trends for the most recent period as testing patterns may have altered over the Christmas period.**



Source: Data from Public Health Wales as of 6 January

Age profile

- The Figure below shows the number of confirmed COVID-19 episodes per 100,000 population, by week of sample collection and age group.
- According to Public Health Wales, as at 6 January, incidence increased in most age groups following a decrease in the previous week, with incidence being highest in those ages 18-44 years.



Source: Welsh Government dashboard, data from Public Health Wales as at 3 January.

Vaccination in Wales

- As at week ending 3 January 2021, a total of 49,428 doses of COVID-19 vaccine (25 of which were second dose) were given in Wales.
- This number includes 1,024 people who received their vaccination in Wales, but were resident outside of Wales.
- The actual number of doses will be higher due to ongoing data entry.

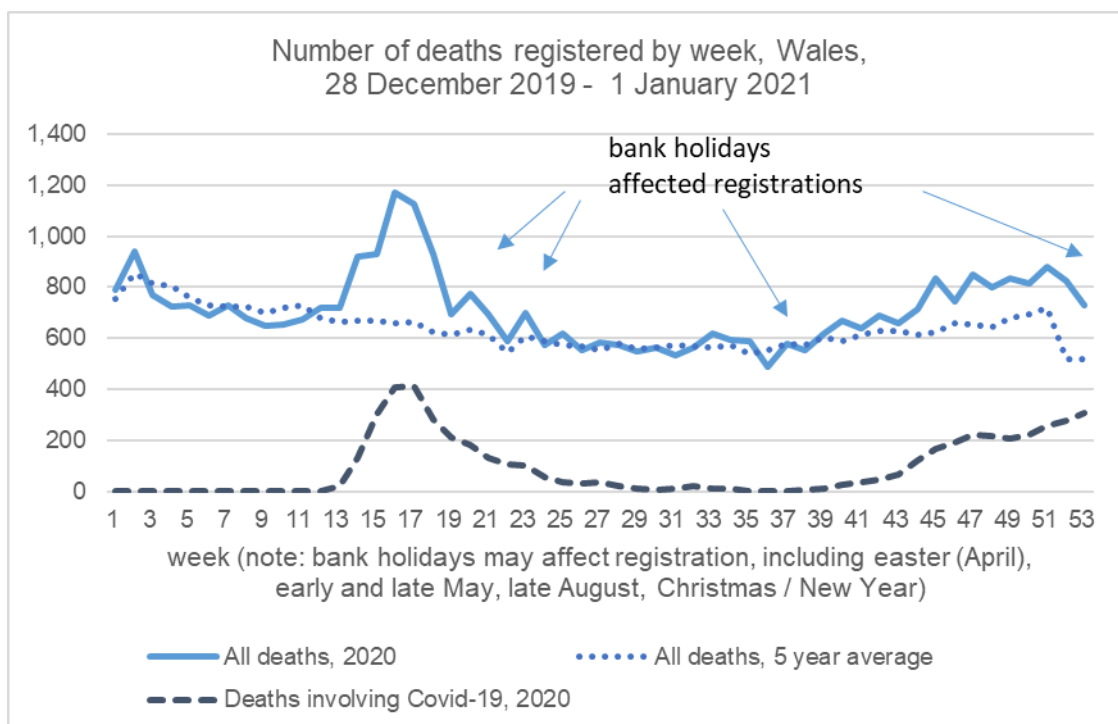
Deaths

- The Figure below shows the 7 day rolling sum of COVID-19 deaths reported by Public Health Wales as at 6 January 2021, showing an increasing trend recently.



Source: Welsh Government dashboard, data from Public Health Wales as at 6 January.

- It is important to note that this data includes reports of a death of a hospitalised patients in Welsh hospitals or care homes where COVID-19 has been confirmed with a positive laboratory test and the clinician suspects COVID-19 was a factor that caused death. It does not include patients who may have died from COVID-19 but who were not confirmed by laboratory testing, those who died in other settings, or Welsh residents who died outside of Wales. The true number of deaths will be higher.
- The Office for National Statistics (ONS) reports on both suspected and confirmed COVID-19 deaths using data available on completion of the death registration process and whilst subject to a time lag, is more complete.
- The Figure below shows ONS data of the number of deaths involving COVID-19 registered by week in Wales and the number of all cause deaths registered by week from 28 December 2019 to 1 January 2021.



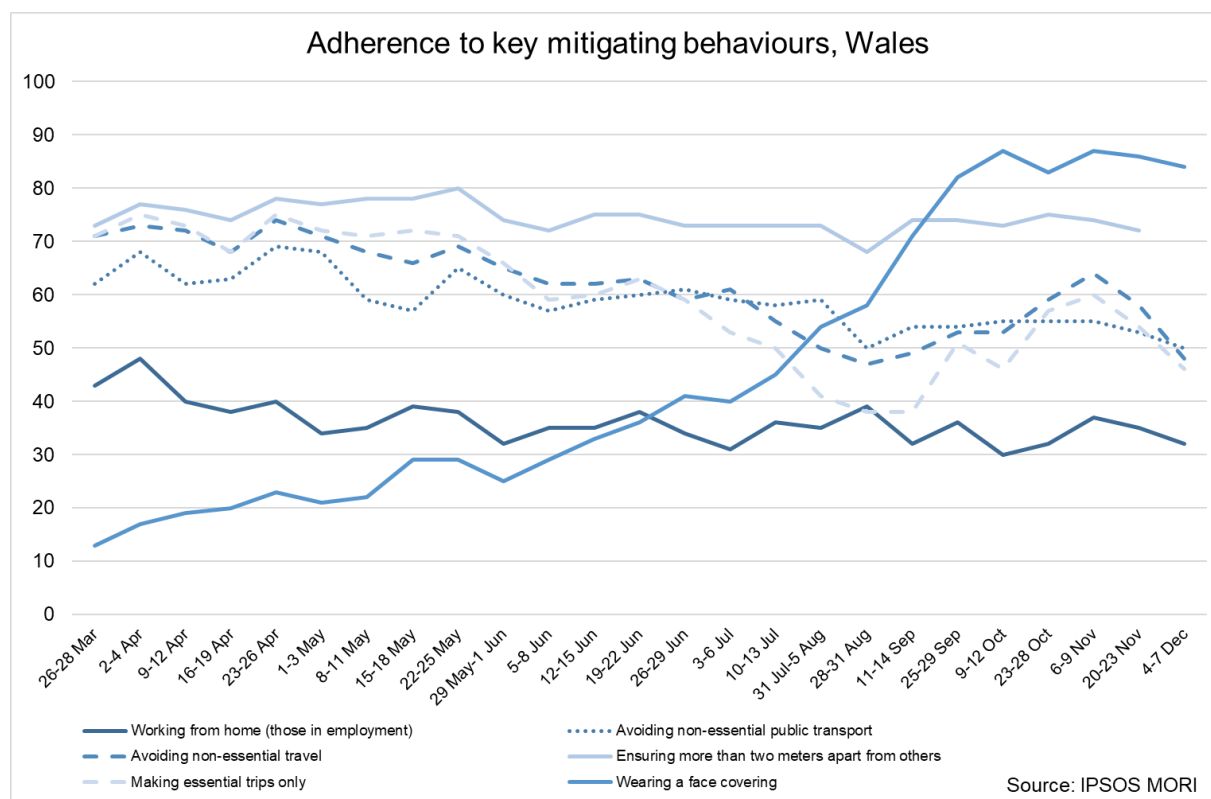
Source data: [Office for National Statistics](#)

- In Wales, the number of deaths involving COVID-19 increased from 278 (Week 52) to 310 (Week 53) while the total number of deaths in Week 53 was 209 higher than the five-year average.
- **The previous weeks contained New Year, Boxing Day and Christmas bank holidays which would have affected the number of deaths registered. The trends for the most recent weeks should therefore be interpreted with caution.**

Adherence and understanding of current measures

- The following data is collected fortnightly and the newest is from before Christmas. It is reported here for information; new data will be available to report within the next two weeks.
- The most recent [IPSOS MORI data](#) for the period 4-7 December for Wales shows further reductions in some categories from the last survey. There were reductions in people making essential trips only and avoiding non-essential travel compared to two weeks ago. It should be noted that this is self-reported adherence and will be affected by individuals understanding of the rules and the circumstances that apply to them.
- The figure below represents data collected online by IPSOS MORI as part of a multi-country survey on the Global Advisor platform. Each of the waves has

included c.500 respondents in Wales. The sample is broadly representative of the adult population aged 16-74. Data is weighted to reflect the age and gender profile of the Welsh population aged 16-74. All samples have a margin of error around them. For a sample of around 500, this is +/- 4.8 percentage points.



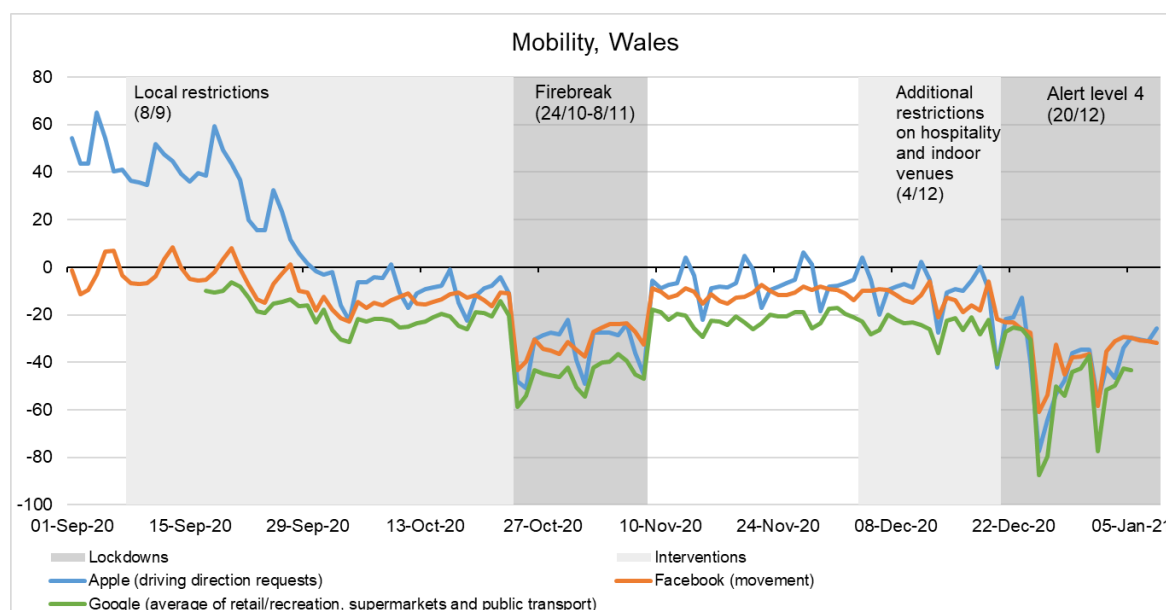
- The latest results from the [Public Engagement Survey on Health and Wellbeing during Coronavirus Measures](#) for the period 14 December – 20 December show that 42% of people say they understand the current restrictions in Wales ‘very well’. A further 41% reported understanding the restrictions ‘fairly well’. The results also show that 38% of people said they were following coronavirus restrictions ‘completely’ and a further 47% reported majority compliance. 31% reported having people outside their household/permitted extended household come into their house, whilst 19% reported going into others people’s houses.

Mobility

- The mobility data shows large reductions in movement, but mainly after the 24 of December. Compared to the firebreak the first four days of alert level 4 restrictions did not see mobility reduce as much. On the 25/26 December mobility was particularly low. Both the Facebook and Google residential data show very high levels of people staying at home on the 25/26, but not as high as in March when lockdown was first introduced.
- The first few days of alert level 4 saw high levels of mobility in supermarkets (possibly due to increased grocery shopping in the run up to Christmas), but large

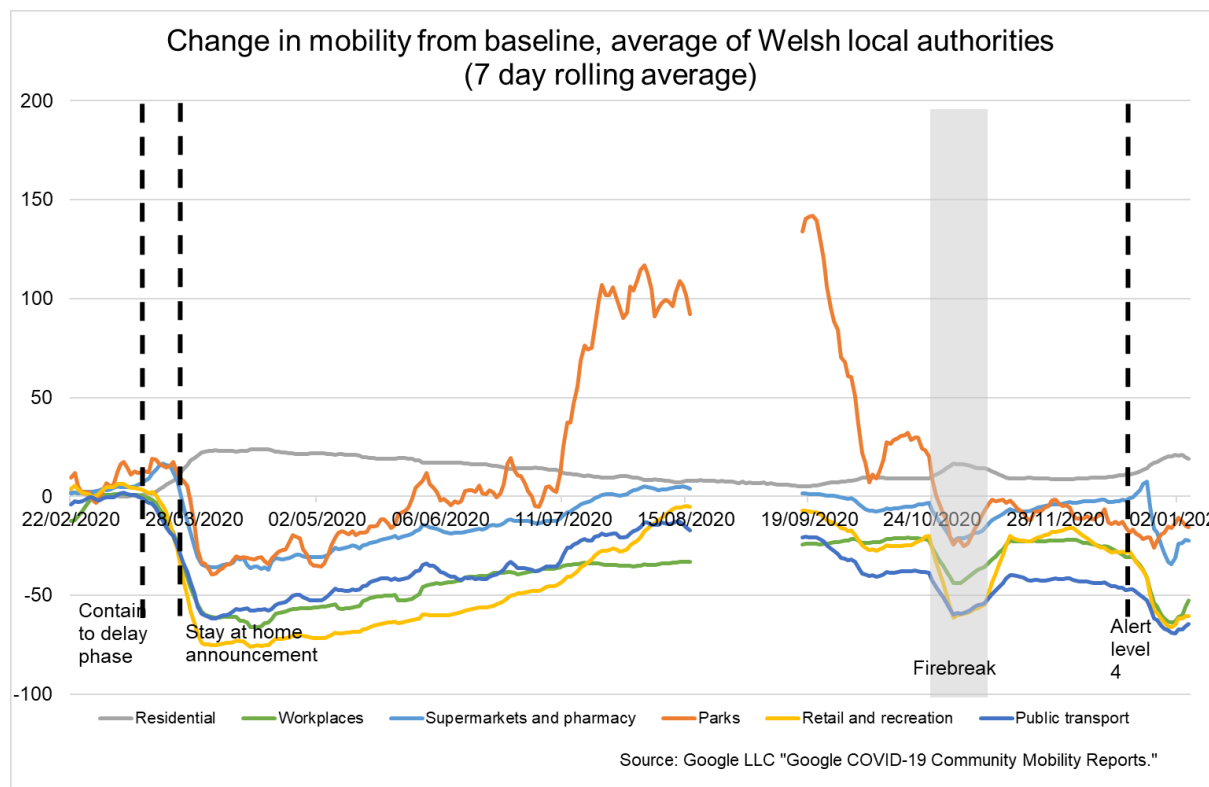
reductions in workplaces (possibly due to people finishing for Christmas and also closure of a number of businesses under alert level 4). Retail and recreation did not fall as much as the first few days of the firebreak, this could be due to shops being able to offer click and collect.

- Since Monday January 4 mobility looks to be in line with the firebreak – with levels somewhere between the first (when schools were closed/half term) and second week. Further data expected this week will give further clarity to mobility levels in the first full week of this year.



- Mobility of [Facebook users](#) in Wales shows movement was 31% below the baseline for the week to the 8 January. This is up from 43% the week before, which includes the period over Christmas when mobility was very low. The percentage of users staying put (near to home) was 36%, lower than the week before (42%). The baseline is the average value, for the corresponding day of the week, during the 4-week period 2 February – 29 February 2020.
- [Apple data](#) for the week to the 8 January shows that requests for driving directions in Wales are up from the previous week to 66% of the baseline (from 53%). The previous week includes the period over Christmas when mobility was very low. Requests for walking directions and requests for public transport directions are up relative to the baseline compared to last week. The baseline is the 13th of January 2020.
- The [Google mobility data](#) to the week of the 5 January shows a small reduction in residential (i.e people spending time at home) compared to the week before at 19% above the baseline (down from 20%). As with the other mobility data, the previous week includes Christmas when mobility was very low. Workplaces show an increase (at 53% below the baseline, up from 62%). Retail & recreation shows a small increase from last week (60% below the baseline, up from 64% the week before) whilst supermarkets & pharmacy shows an increase (22% below the baseline, up from 33%). Public transport and parks also show increases compared to the previous week.

- The figure below shows the change in mobility in Wales using Google mobility data. The figures are based on the average of the local authorities that have data. The baseline is the median value, for the corresponding day of the week, during the 5-week period Jan 3–Feb 6, 2020. The data for several categories is not available for August 17th – September 10th due to the data not meeting quality thresholds.



- Anonymised and aggregated mobile phone data from O2 for the week to the 1 January shows a decrease in trips compared to the week before. Trips starting in Wales fell by 14 percentage point to 42% below the baseline. The baseline for the O2 data is the same day of the week in the first week of March.

Research

- There are currently 9757 Welsh patients recruited to COVID-19 urgent public health studies, an increase of 792 since last report.

COVID-19 weekly surveillance and epidemiological summary from Public Health Wales

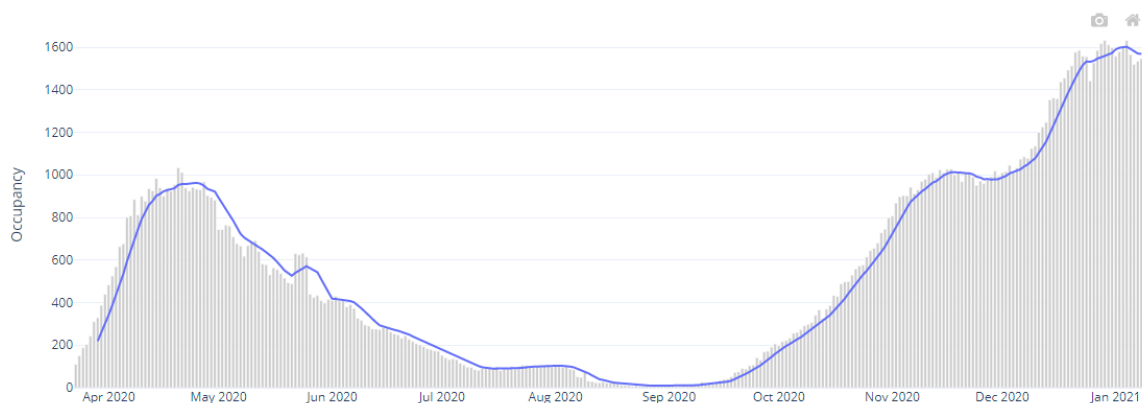
As at 6 January

- The proportion of calls to NHS 111 and NHS Direct related to possible COVID-19 symptoms remained stable compared to the previous week.

- Overall GP consultations for any Acute Respiratory Infection (ARI) have decreased whilst GP consultations for suspected COVID have increased compared to the previous week.
- The number of ambulance calls possibly related to COVID-19 have decreased in the most recent week.
- The all-Wales number of lab confirmed COVID-19 episodes increased in the most recent week following a decrease in week 52. Sample positivity was above 23% in week 53.
- During week 53, incidence increased in most age groups following a decrease in week 52, with incidence being highest in those ages 18-44 years.
- High numbers of incidents continue to be reported, mainly in residential care homes.
- Most school pupils are currently being taught online, with some face-to-face learning for vulnerable children and children of critical workers. Schools surveillance information is available on the [Public Health Wales dashboard](#).
- There have been increasing detections of VOC 202012/01 (detected using the proxy of S-Gene Target Failure viruses) throughout December and early January. The first detected genomically confirmed VOC confirmed case was in November and since then the virus has been confirmed in 16/22 local authority areas across all regions of Wales.
- All-cause deaths have increased compared to the 5 year average. Increases in the number of deaths in confirmed cases in hospital have been seen, however the overall number of deaths has remained stable compared to the recent weeks.
- In deaths where information is available from PHW rapid mortality surveillance, chronic heart disease, diabetes and chronic respiratory disease are the most commonly reported risk factors (in 36%, 28% and 22% of deaths respectively).
- Influenza and Respiratory Syncytial Virus (RSV) is not currently circulating in Wales.
- The Public Health Wales dashboard is available [here](#) and includes local authority analysis.

Hospital occupancy

- The figure below shows the confirmed COVID-19 hospital occupancy over the first and second wave of the pandemic (7 day rolling average, as at 8 January 2021).



- The Figure below shows the confirmed COVID-19 intensive care unit (ICU) occupancy over the first and second wave of the pandemic (7 day rolling average, as at 8 January 2021).



- The table below details the overall occupancy of ICU beds across health boards in Wales as at 8 January 2021, including overall ICU occupancy as a percentage of the number of beds that it is possible to staff at 1:1 ratio (based on there being 152 available across Wales). The number of confirmed or suspected COVID-19 patients in ICU has increased since last week.
- Occupancy figures are based on ICU capacity reported to us by local health boards. However, once we get beyond around 150 ICU total beds occupied, it means they cannot be staffed at the 1:1 nursing ratio that is required for Level 3, and patient care will be affected.

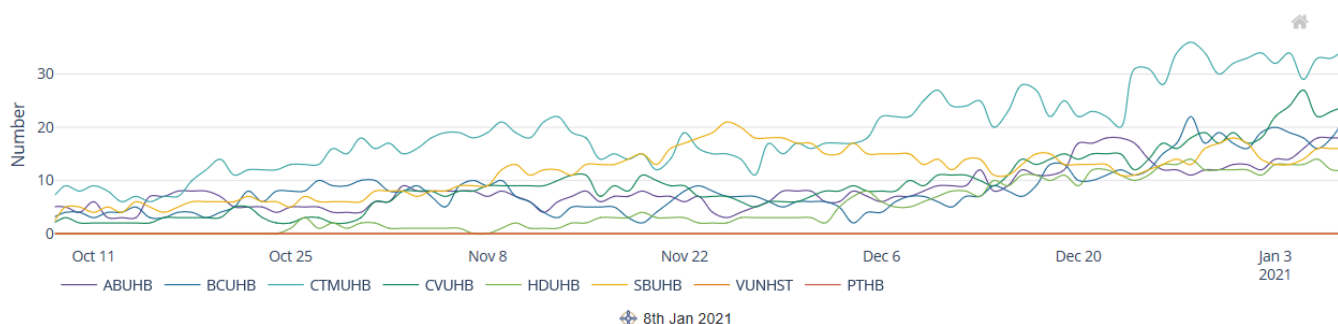
- COVID-19 hospital and ICU occupancy have increased over recent weeks. As of 8 January 2021, 1:1 care for all patients in ICU was not possible in most health boards, with ICU 138.2% occupied for 1:1 care; see table below.

Health Board	Level 3 ICU occupancy (% of 1:1 ratio beds occupied)	Total L3 ICU Occupancy %	COVID19 Suspected patients	COVID19 Positive patients
ABUHB	126.1%	100.0%	3	18
BCUHB	146.2%	79.2%	1	22
CTMUHB	172.0%	91.5%	0	35
CVUHB	171.4%	100.0%	0	24
HDUHB	104.5%	92.0%	0	12
SBUHB	103.6%	82.9%	0	16
Wales	138.2%	90.5%	4	127

8th Jan 2021

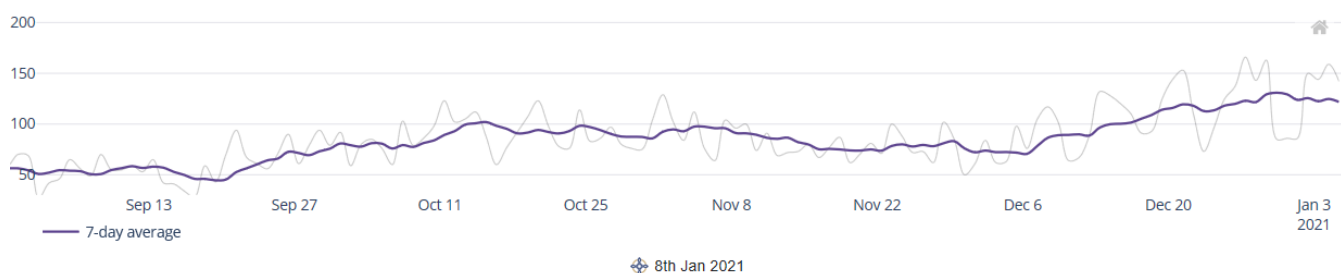
- The Figure below shows the total number of people who have tested Covid-19 positive and are in ICU in hospitals across the different health boards in Wales. Data as of 8 January 2021.

Daily L3 ICU Confirmed COVID19 Patients

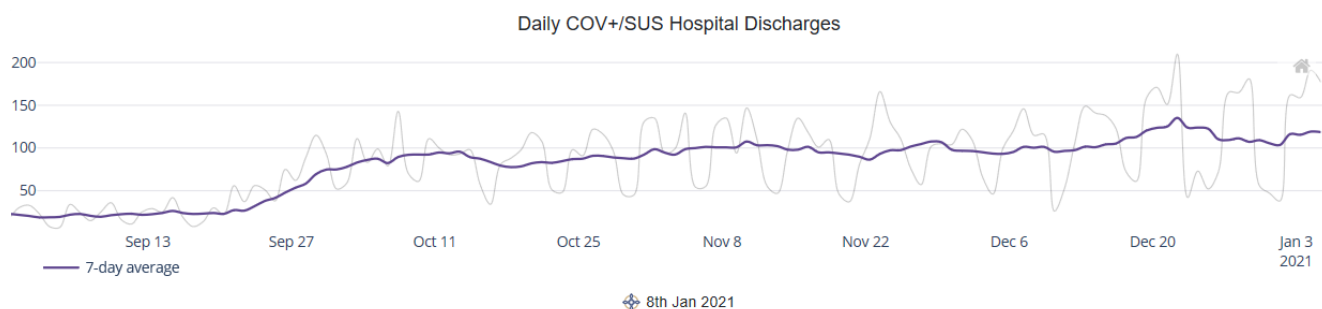


- The Figure below shows the number of people admitted to hospital and are either suspected or confirmed as having Covid-19. The purple line represents the total number over a rolling 7 day average, whilst the fainter grey lines show the actual figures at that time. Data as of 8 January 2021.

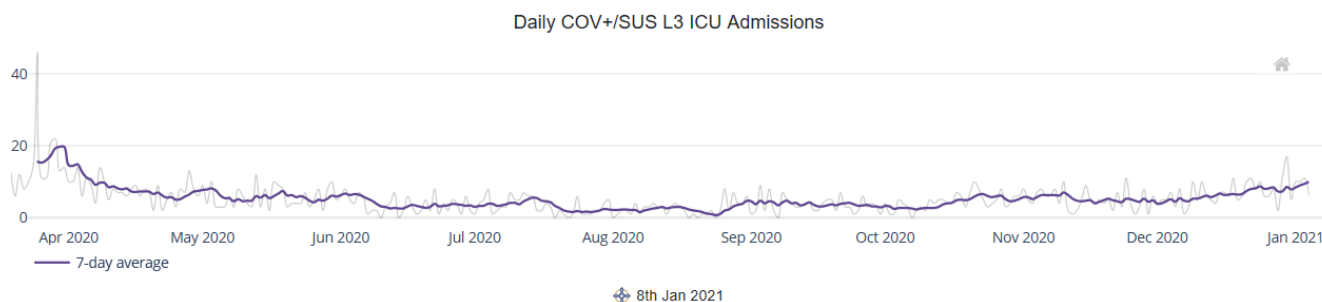
Daily COV+/SUS Hospital Admissions



- The Figure below shows the number of hospital discharges of people who are either suspected or confirmed as having Covid-19. The purple line represents the total number over a rolling 7 day average, whilst the fainter grey lines show the actual figures at that time. Data as of 8 January 2021.



- The Figure below shows patients admitted to the intensive care units and are either suspected or confirmed as having Covid-19. The purple line represents the total number over a rolling 7 day average, whilst the fainter grey lines show the actual figures at that time. Data as of 8 January 2021.



Professional Head of Intelligence Assessment (PHIA) probability yardstick

- Where appropriate, TAC advice will express Likelihood or confidence in the advice provided using the PHIA probability yardstick to ensure consistency across the different elements of advice.

