

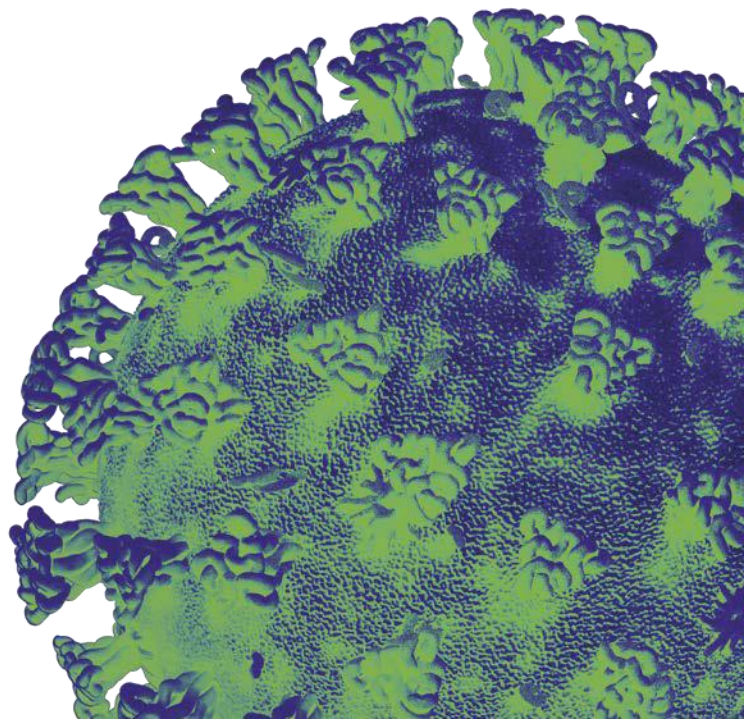
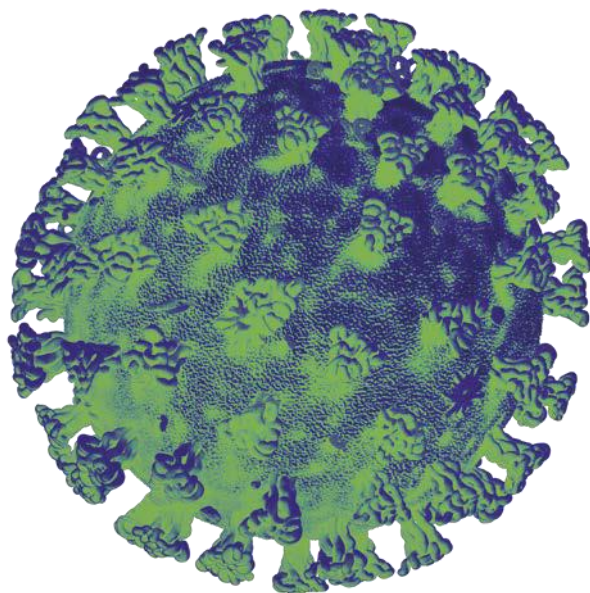
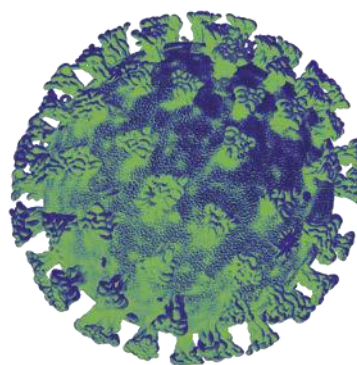


Llywodraeth Cymru  
Welsh Government

# Technical Advisory Cell

## Summary of advice

22 January 2021



## Technical Advisory Cell: Summary Brief

22 January 2021

### Top-line summary

- The most recent estimate of the Reproduction number ( $R_t$ ) for Wales from SAGE (as of 20 January) is between 0.7 and 0.9. This is the official estimate of the  $R_t$  number for Wales based on data available up until 18 January. SAGE estimates that the epidemic is shrinking by between -6% and -3% per day.
- Based on case numbers only, Public Health Wales estimates  $R_t$  to be between 0.71 and 0.73 (as of 15 January) and halving time to be 15.1 days (as at 19 January).
- For the 7 day period ending 21 January, test positivity (rolling 7 days) was 14.9%, which has decreased since last week, but remains high and is above the red circuit breaker in all areas of Wales. Positivity is highest in the North Wales areas of Wrexham (23.9%), Flintshire (21.1%), and Cardiff (21.4%) and Bridgend (16.8%) in South Wales.
- Data from the [ONS infection study](#) indicates that infection rates have levelled off in the most recent week to 1.45%, after falling from the peak seen just before Christmas. Analysis of the new UK variant and other variants of the coronavirus indicates that the most recent decrease in Wales was driven by other variants. Cases compatible with the new variant appear to have increased in recent weeks. Though there is uncertainty with the estimates, it appears that antibody rates have increased in recent months.
- As at 20 January, VOC 202012/01 (VOC1, identified in Kent) continues to increase in all parts of Wales, forming around 70% of recent cases. Six genomically probable or confirmed cases of VOC2020/12/01 have been reported in Wales (the variant linked to South Africa). No cases of the variants linked to Brazil have yet been identified in Wales.
- SAGE noted that whilst there are limitations in the datasets used and uncertainty around the size of any effects, new evidence indicates there is a realistic possibility that when compared to wild-type (non-VOC) variants, infection with the UK variant of concern (VOC 202012/01) is associated with a small increase in absolute risk of death. However, as with other variants, infection with this variant results in mild disease for most people, and the risk of death for each infection remains low.
- It remains the case that there is no evidence of significant antigenic escape from naturally or vaccine acquired immunity for the B.1.1.7 variant (VOC 202012/01)

and there is increasing evidence that immune responses to vaccine will be effective against this variant. There is more concern and more evidence for antigenic escape for variants identified in South Africa and Brazil.

- As at 20 January, the proportion of calls to NHS 111 and NHS Direct, the number of ambulance calls, and GP consultations for any Acute Respiratory Infection (ARI) or suspected COVID-19 have decreased.
- As of 21 January, the number of people with confirmed COVID-19 in hospital has shown a plateau and signs of reducing over recent weeks, but remains high and above the April peak. Both overall critical care occupancy (COVID-19 and non-COVID-19 patients) and occupancy for COVID-19 patients only remains high and close to the April peak.
- The weekly number of deaths reported through rapid mortality surveillance by Public Health Wales has decreased in the most recent week, but remains higher than the peak seen in the first wave. Data on deaths from the [Office for National statistics](#), which is more complete but subject to a time lag, shows that for the week ending 15<sup>th</sup> January, 40% of all deaths involved COVID-19, with 13 more than the previous week, and the highest number of deaths involving COVID-19 registered in a week since the pandemic began. Data should be treated with caution due to the festive holiday period.
- In an [additional report this week from the ONS](#) covering the time period between 9 March and 28 December, mortality rate was shown to be higher in men when compared to women. Elementary occupations, health and care, leisure, plant and machine operatives and other service occupations had the highest mortality rates. Looking at specific healthcare occupations, nursing staff had higher rates of death involving COVID-19. Rates of death involving COVID-19 in men and women who working in teaching and educational professions were not raised. Overall, the analysis shows that jobs with regular exposure to COVID-19 and those working in close proximity to others continue to have higher COVID-19 death rates; but does not prove conclusively that rates of death are necessarily caused by differences in occupational exposure.
- As at week ending 23 January, a total of 264,538 doses of COVID-19 vaccine (516 of which were second dose) have been given in Wales. The actual number of doses will be higher due to ongoing data entry.
- Adherence data from IPSOS MORI shows improvements in self-reported understanding and compliance compared to before alert level 4 started, this supports the previous weeks survey results from Public Health Wales. Mobility data for the latest week (mostly the third whole week in January) shows some

slight increases. Patterns of mobility continue to be in line with the firebreak – with levels mostly between the first and second week of the firebreak.

- Papers from SAGE considered by the Technical Advisory Cell are published [here](#).
- A [paper on infection risks at indoor exercise facilities](#) was published by the Technical Advisory Group this week.

### **Growth rate and Reproduction number**

- The current daily growth rate estimated by SAGE (as of 20 January) is between -0.06 and -0.03 (90% confidence interval) in Wales, indicating that infections could be shrinking by between -6% and -3% per day
- The most recent estimate of the Reproduction number ( $R_t$ ) for Wales from SAGE (as of 20 January) is predicted to be between 0.7 and 0.9 (90% confidence interval). The estimate of  $R_t$  is shown as a range without a central estimate.
- It is important to note that it is difficult to disentangle the impact of current measures and changes in mixing over the festive period.
- Public Health Wales also estimate  $R_t$  for Wales using data on the number of positive cases. As at 15 January,  $R_t$  in Wales is estimated to be between 0.71 and 0.73 (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. These estimates should be interpreted with caution as they may be effected by changes in testing patterns over the holidays.
- The estimates of  $R_t$  are shown as a range without a central estimate. A growth rate that is lower but still positive, or an  $R_t$  number above 1, indicates that the epidemic is growing exponentially.

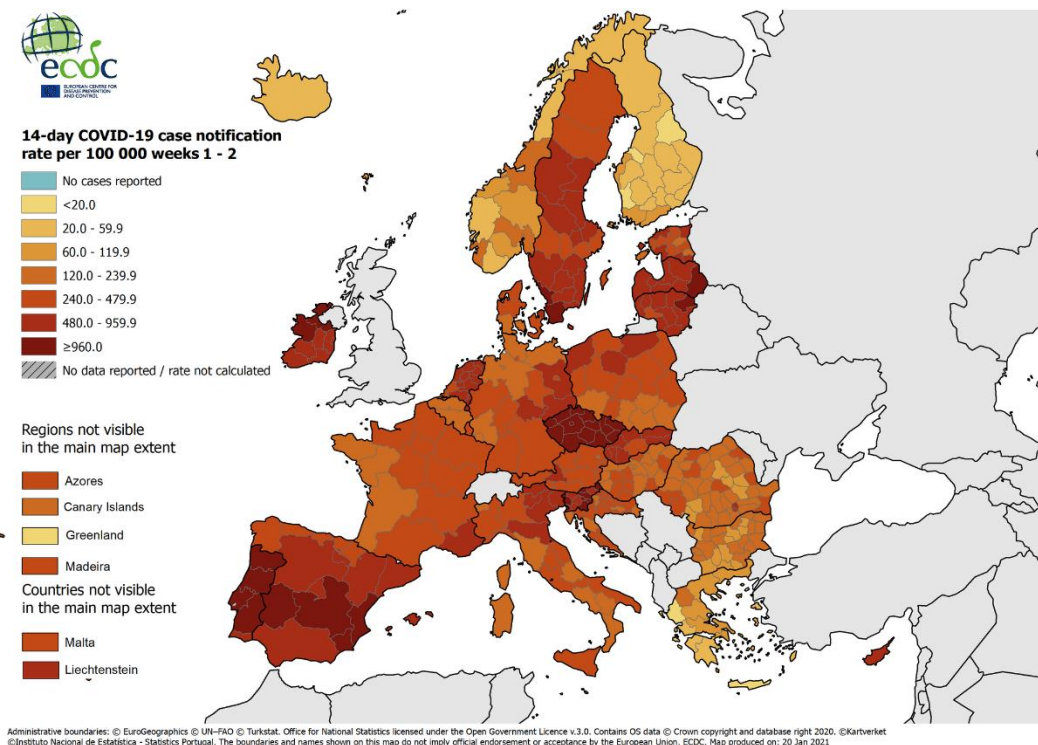
### **Halving time**

- As at 19 January, Public Health Wales estimated the halving time (the time it takes for the number of cases to half) to be 15.1 days (95% confidence interval 9.6 to 35.8 using data from 02/01/2021 to 15/01/2021 (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. The UK is not included due to Brexit.



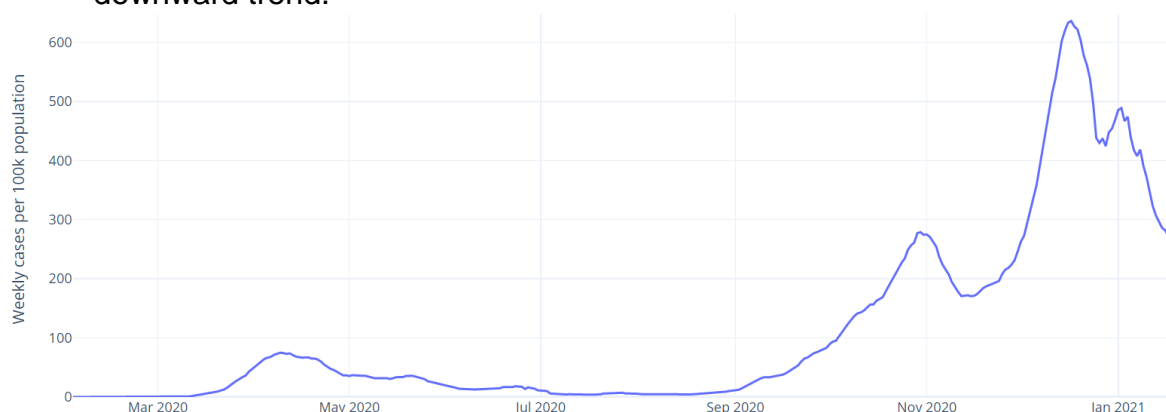
- The general situation in Europe is one of a steady state or slowly reducing levels of infection except for two countries, Spain and Portugal, where daily infection rates are rising rapidly.
- On Thursday 21.01.2021, Spain recorded its highest number of new cases of 44,357 and 404 deaths bringing the total of deaths to over 55,000. The country has vaccinated more than 1 million people but it is not expected that enough will have been vaccinated (i.e. 70%) to allow open access to holiday makers before the middle of the summer at the earliest.
- On Friday, 22.01.2021, Portugal recorded its highest number of deaths and one of the highest levels of infections in the world. It is suggested that this is due to increasing infection rates caused by the UK variant in particular, with reports that the variant is responsible for around 20% of the cases sequenced in Portugal. Concern is now increasing as this proportion has increased significantly from one week ago, with a warning that the strain could make up 60% of all infections before the end of the month.
- Countries experiencing a steady, high (i.e. not rising) level of new cases include France, Germany, Austria, Belgium, Czechia, Estonia, Hungary, Latvia, Norway,

Slovakia and Slovenia. Like the UK, these countries are controlling their pandemics by maintaining restrictions and strict controls

- Countries which have declining daily infection rates include Bulgaria, Croatia, Denmark, Finland, Italy, Greece, Lithuania, Netherlands, Poland, Romania and Sweden. This reverses many of the very rapid rises experienced through October, November and December, especially the Baltic States.
- Elsewhere, infection rates have started to level out in many South American countries (Brazil, Chile, Peru, Paraguay, Uruguay) and fall in some (Argentina), but the picture is patchy with some countries experiencing rises (Bolivia, Colombia). This is unusual because it is currently the summer months in these countries.
- Data on the picture across Europe, including caveats around data lags and variable testing policies is available [here](#).

## Case numbers

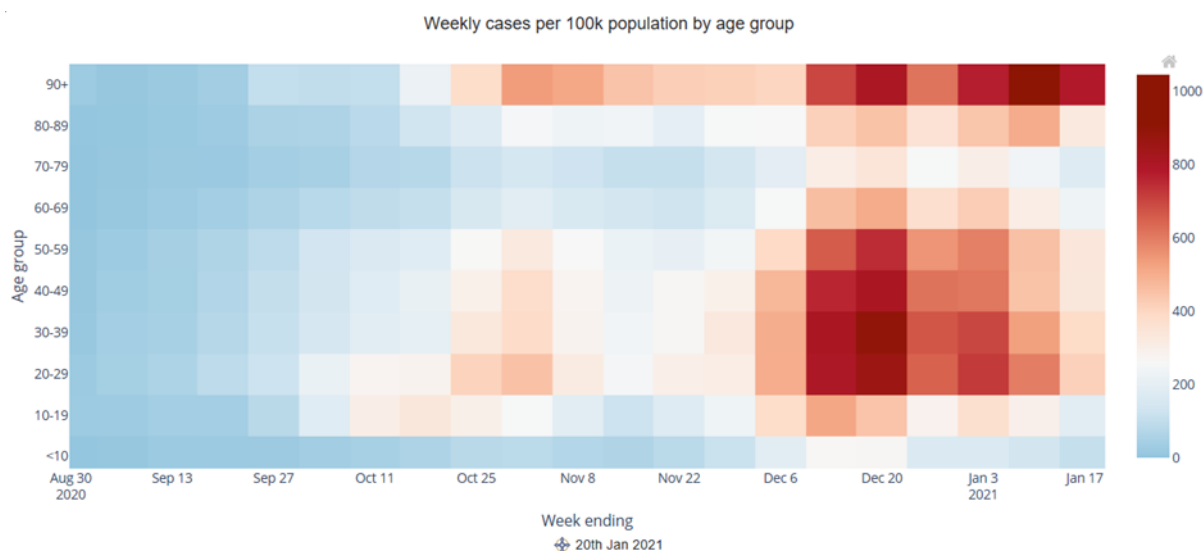
- The figure below shows that numbers of confirmed COVID-19 cases per day (7 day rolling sum, per 100,000 of the population). Cases continue to show a downward trend.



**Source:** Data from Public Health Wales as of 20 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.

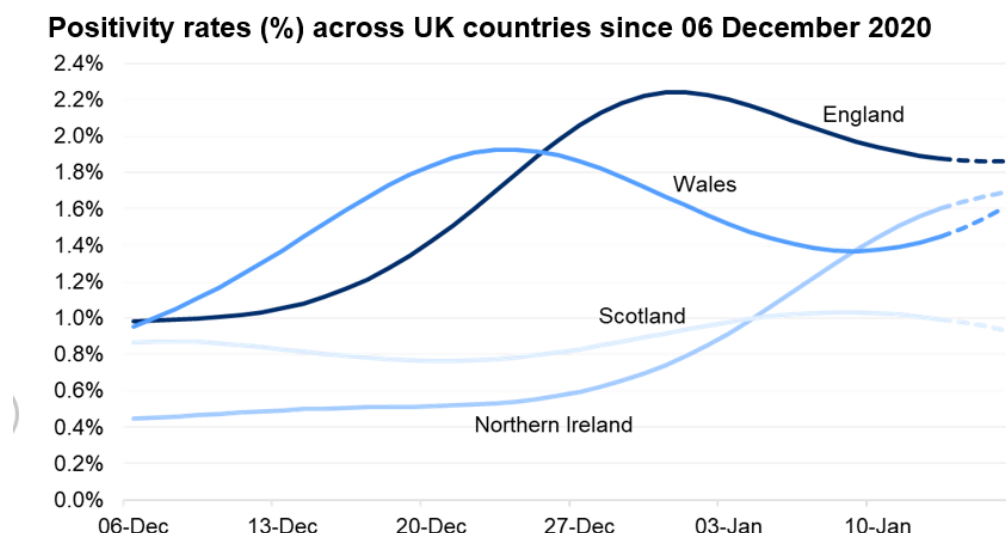


**Source:** Welsh Government dashboard, data from Public Health Wales as at 20 January.

- According to Public Health Wales, during Week 02, incidence decreased in all age groups, with the highest incidence was seen in those aged 85 years and older.

### Covid-19 Infection Study results

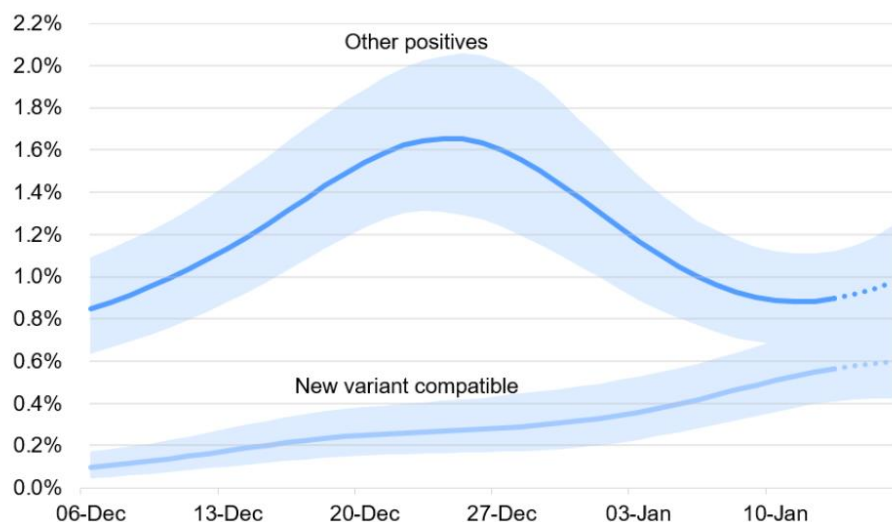
- The ONS infection survey data for the most recent week (10 to 16 January 2021) indicates that the positivity rate in Wales has levelled off in the most recent week, after falling from the peak seen just before Christmas.
- For the week 10 to 16 January 2021, an average of 1.45% of the community population had COVID-19 (95% credible interval: 1.18% to 1.74%).
- This equates to approximately 1 person in every 70 (95% credible interval: 1 in 85 to 1 in 60), or 44,000 people during this time (95% credible interval: 36,000 to 52,800).
- The Figure below shows the latest estimates for positivity rates (%) since 6 December 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, 20/01/21

#### Analysis of cases compatible with the new variant

- Cases compatible with the **new variant** appear to have increased in recent weeks in Wales. Analysis of the new UK variant and other variants of the coronavirus indicates that the most recent decrease in Wales was driven by other variants.
- The Chart below shows estimated percentage of positive cases compatible with the new UK variant and other positive cases.



Source: Coronavirus (COVID-19) Infection Survey, ONS

The lines and shading represent the modelled trend and 95% credible intervals based on the latest data. Estimates for the last few days of the series, shown as dashed lines in the chart, have more uncertainty.

- 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

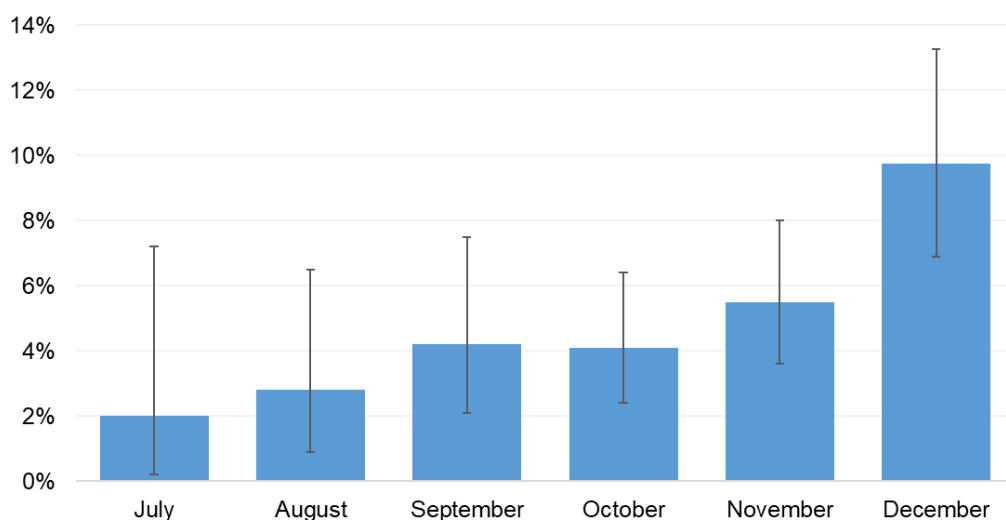


factors such as testing capacity or the number of people coming forward for testing. The results are for private households only – the ‘community population’ – and do not apply to those in hospitals, care homes or other institutional settings.

- 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.

### Antibodies

- In December, 9.8% of people who provided blood samples tested positive for antibodies to COVID-19 (95% confidence interval: 6.9% to 13.3%).
- This equates to 1 in 10 people aged 16 and over (95% confidence interval: 1 in 14, to 1 in 8) or 247,000 people aged 16 and over during this time (95% confidence interval: 175,000 to 337,000).
- Though there is uncertainty with the estimates, it does appear that antibody rates have increased in recent months.
- Antibody levels in the blood can decline over time, meaning that some people who have previously had COVID-19 may subsequently test negative for antibodies. For this reason, these figures should be regarded as estimates of monthly prevalence, not cumulative exposure.



The blue bars give point estimates and the vertical lines indicate the 95% confidence intervals. Source: Coronavirus (COVID-19) Infection Survey, ONS, 15/01/21

- Full results are published [here for Wales](#) and [here from the ONS](#).

### **Vaccination in Wales**

- As at 25 January, a total of 270,833 first doses of COVID-19 vaccine have been given in Wales. 543 people have received two doses.
- The actual number of doses will be higher due to ongoing data entry.
- Vaccinations data is available from the [PHW tableau](#).

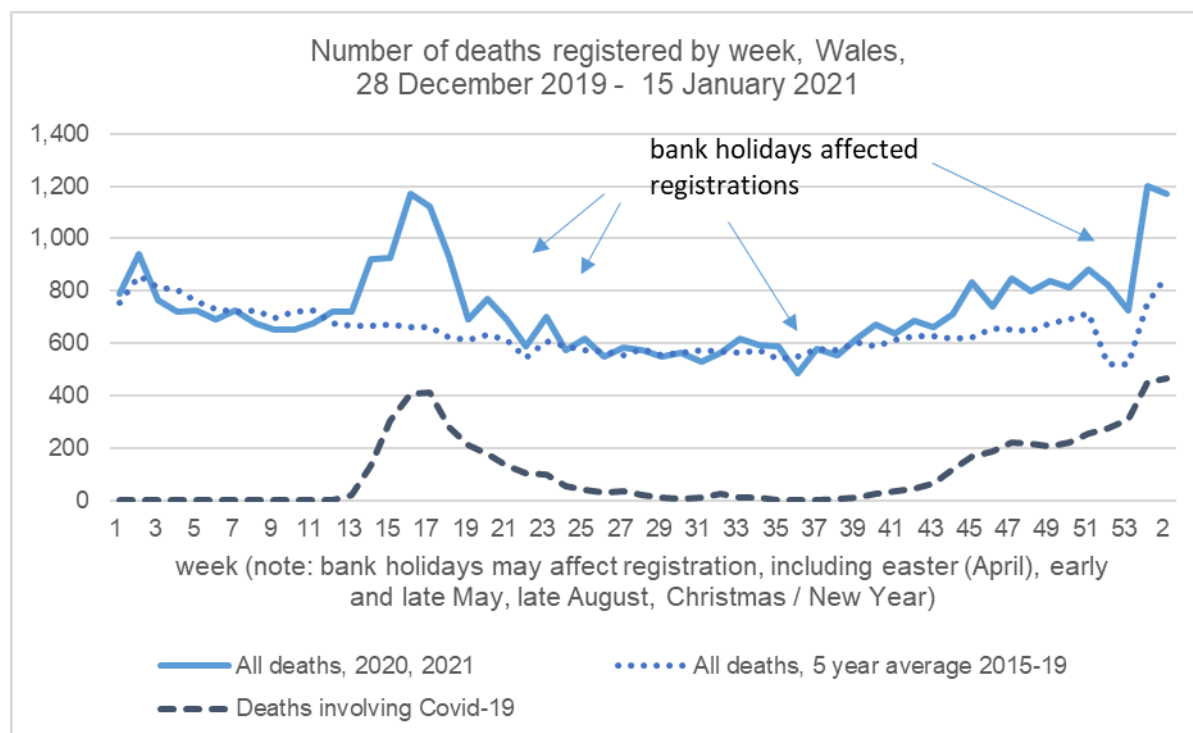
## Deaths

- The Figure below shows the 7 day rolling sum of COVID-19 deaths reported by Public Health Wales rapid mortality surveillance as at 22 January 2021. The weekly number of deaths reported has decreased in the most recent week. Care should be taken in interpreting the most recent trends.



**Source:** Welsh Government dashboard, data from Public Health Wales as at 22 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 15 January 2021.

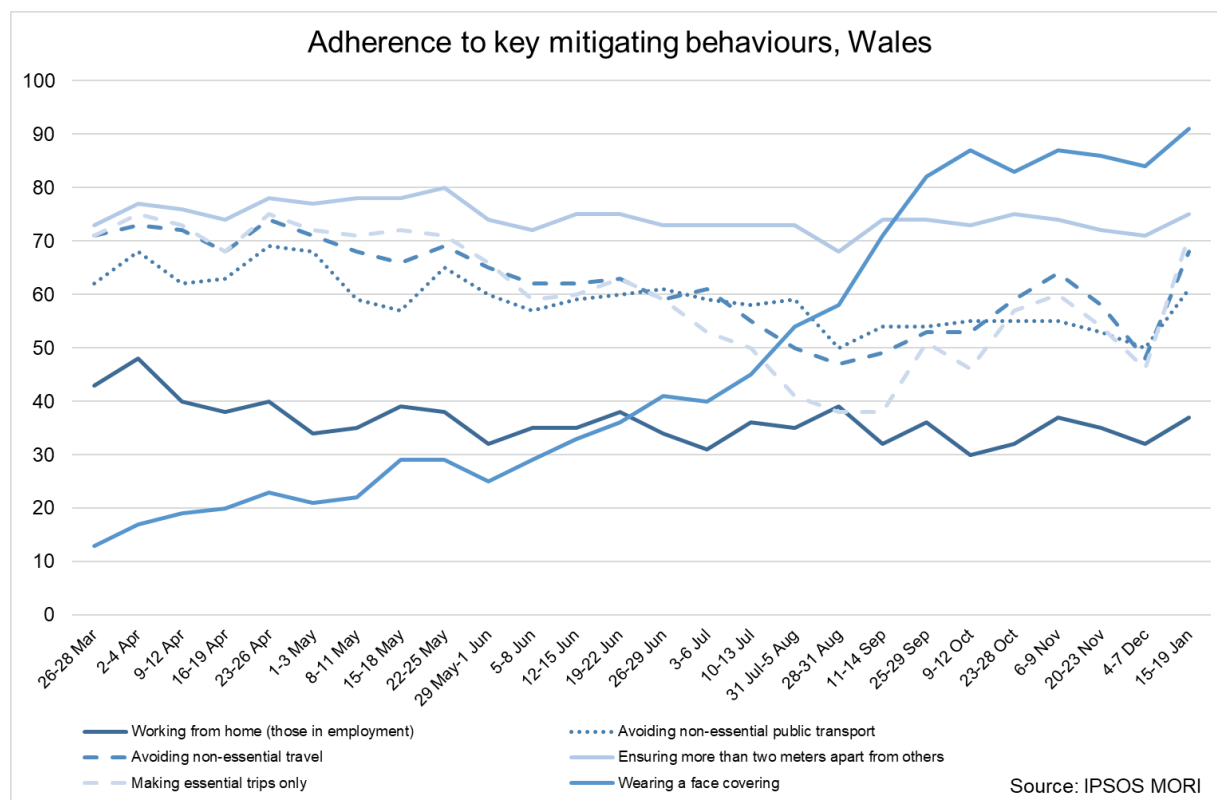


Source data: [Office for National Statistics](#)

- In Wales, the number of registered deaths involving COVID-19 increased from 454 (Week 1) to 467 (Week 2), the highest recorded at any point during the pandemic.

### Adherence and understanding of current measures

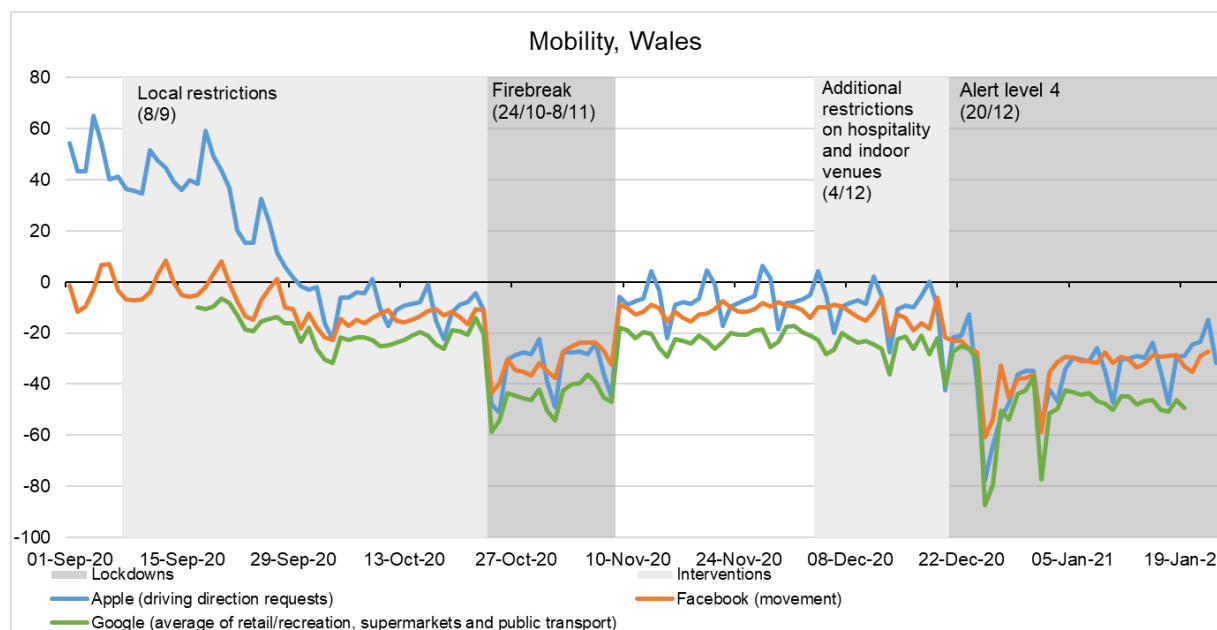
- There is new data from IPSOS MORI this week. The results from Public Health Wales are the same as last week.
- The most recent [IPSOS MORI data](#) for the period 15-19 January for Wales shows increases from the last survey which was before alert level 4 was introduced (4-7 December). Those who reported wearing a face covering was at its highest since collection started whilst those who reported making essential trips only was the highest since May and higher than the survey during the firebreak. 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 4 January – 10 January show that 52% of people say they understand the current restrictions in Wales ‘very well’. A further 39% reported understanding the restrictions ‘fairly well’. These results are higher than those in mid-December before alert level 4 started. The results also show that 49% of people said they were following coronavirus restrictions ‘completely’ and a further 41% reported majority compliance, again higher than in mid-December. 20% reported having people outside their household/permitted extended household come into their house, whilst 15% reported going into others people’s houses, both of these are lower than in mid-December.

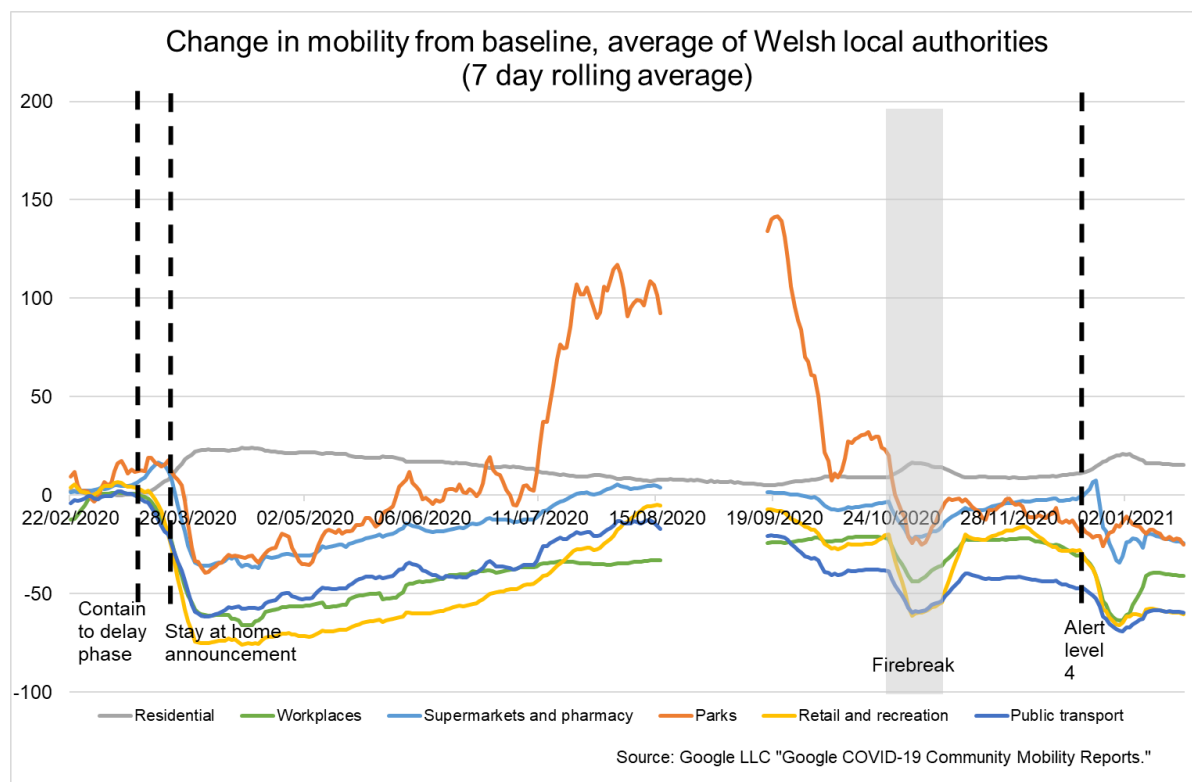
## Mobility

- Mobility data for the latest week (mostly the third whole week in January) shows some slight increases. Patterns of mobility continue to be in line with the firebreak – with levels mostly between the first and second week of the firebreak.



- Mobility of [Facebook users](#) in Wales shows movement was 30% below the baseline for the week to the 22 January. This is the same as the week before. The percentage of users staying put (near to home) was 35%, slightly lower than the week before (36%). 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 23 January shows that requests for driving directions in Wales are up from the previous week at 71% of the baseline (up from 68%). Requests for walking directions were up whilst requests for public transport directions were similar relative to the baseline compared to last week. The baseline is the 13<sup>th</sup> of January 2020.
- The [Google mobility data](#) to the week of the 19 January shows a small reduction in residential (i.e people spending time at home) compared to the week before at 15% above the baseline (down from 16%). Workplaces show a decrease (at 41% below the baseline, down from 40%). Retail & recreation shows a small decrease from last week (60% below the baseline, down from 58% the week before) whilst supermarkets & pharmacy shows a fall (24% below the baseline, down from 21%). Public transport and parks show a reduction 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 17<sup>th</sup> – September 10<sup>th</sup> due to the data not meeting quality thresholds.





- Anonymised and aggregated mobile phone data from O2 for the week to the 15 January shows a similar level of trips compared to the week before. Trips starting in Wales rose by 1 percentage point to 50% 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 10,533 Welsh patients recruited to COVID-19 urgent public health studies, an increase of 656 since last report.

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

As at 20 January

- The proportion of calls to NHS 111 and NHS Direct related to possible COVID-19 symptoms decreased compared to the previous week.
- Overall GP consultations for any Acute Respiratory Infection (ARI) and suspected COVID have decreased this week 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 has continued to decrease in the most recent week. Sample positivity for testing episodes was 17% in week 02.
- During week 02, incidence decreased in all age groups, incidence was highest in those aged 85+
- Confirmed case incidence and testing episode positivity has decreased in all regions of Wales in recent weeks.
- At a national level, confirmed case admissions to hospitals were stable compared to the previous week. Confirmed cases who are inpatients in hospital decreased in the most recent week, however admissions to critical care wards increased to the highest ever level.
- Recent surveillance data suggest that COVID-19 infections in Wales is decreasing in most regions of Wales. Cases remain geographically widespread, however the majority of local authority (LA) areas are seeing decreasing overall trends in confirmed case incidence in the most recent week.
- The number of incidents reported in recent weeks has decreased but remains high 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](#).
- VOC 202012/01 (VOC1, identified in Kent) continues to increase in all parts of Wales with around 70% of recent cases being VOC1. 6 genomically probable or confirmed cases of VOC2020/12/01 have been reported from Wales (the variant linked to South Africa), and there have been 878 genomically confirmed cases of VOC 202012/01. No cases of the variants linked to Brazil have yet been identified in Wales.
- Influenza and Respiratory Syncytial Virus (RSV) are not currently circulating in Wales.

### **Local authority analysis from Public Health Wales**

(Period covering 10 to 16 January 2021)

- All local authorities, are in the highest threshold for 7-day incidence (> 50 per 100,000) and test positivity (>5%).
- Please use caution in interpreting trends for the most recent period as testing data is not always complete and figures will be subject to future revision if late data feed through.

## 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 21 January 2021).



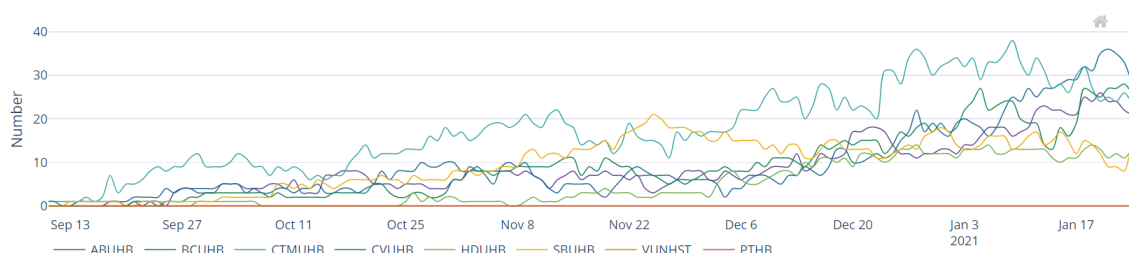
- The Figure below shows the confirmed COVID-19 intensive care unit (ICU) occupancy over the first and second wave of the pandemic (7 day rolling average, as at 21 January 2021).



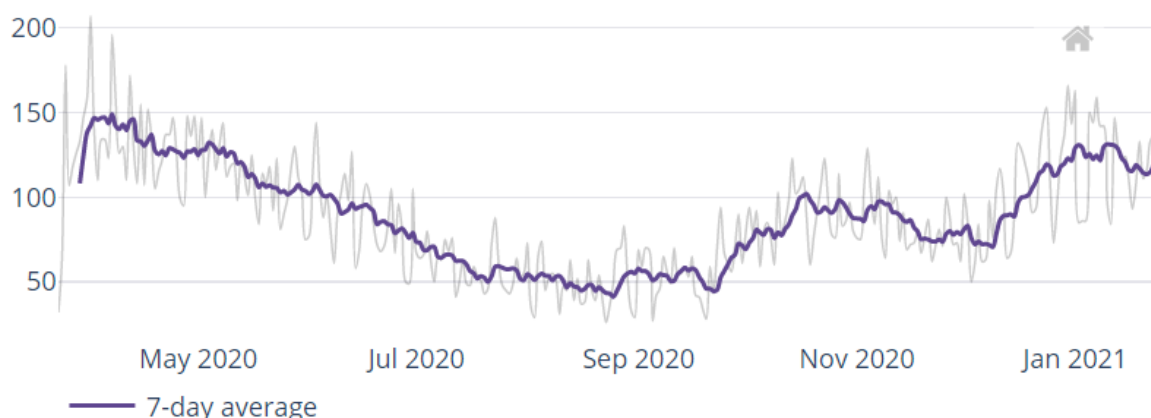
- As of 21 January, the number of people with confirmed COVID-19 in hospital has plateaued and reduced over recent weeks, but remains high and above the April peak. Overall ICU occupancy (COVID-19 and non-COVID-19 patients) is also high and close to the April peak.
- When considering data on capacity (245 beds) and occupancy (203 beds) reported to us by local health boards, Level 3 ICU across Wales is approximately 83% occupied with both COVID and non-COVID patients (as of 25 January). However, there are normally approximately 152 critical care beds (Level 3 ICU equivalent) and so hospitals are creating additional critical care bed capacity due

to increased demand. Therefore, critical care units in Wales are at or over 100% occupied for their normal critical care capacity and 1:1 nursing staffing ratio for all critical patients may not be possible for many patients, even with non-critical care staff helping to care for patients.

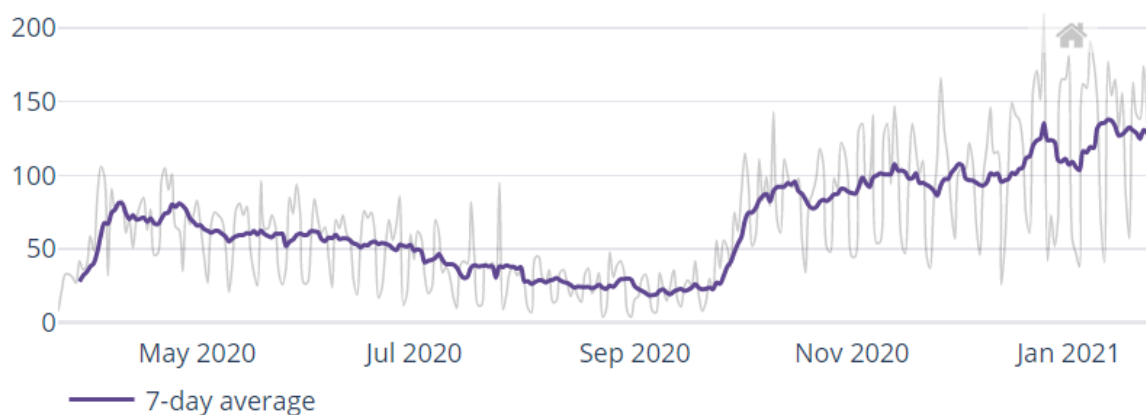
- The Figure below shows the total number of people who have tested Covid-19 positive and are in ICU in hospitals across the different health boards in Wales. Data as of 25 January 2021.



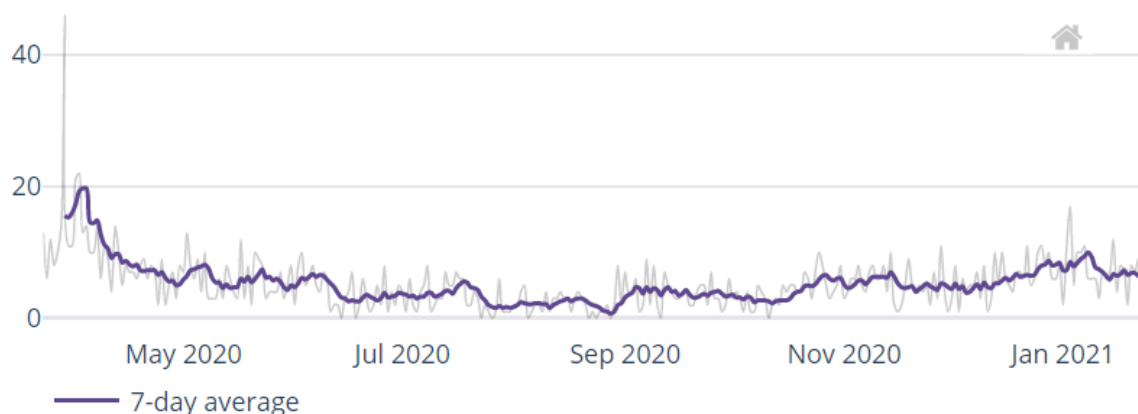
- The Figure below shows the number of people admitted to hospital and are either suspected or confirmed as having Covid-19. The purple line represents the total number over a rolling 7 day average, whilst the fainter grey lines show the actual figures at that time. Data as of 25 January 2021.



- 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 25 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 25 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.

