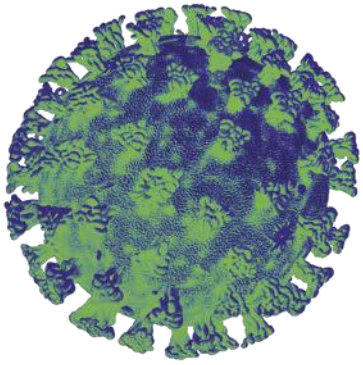
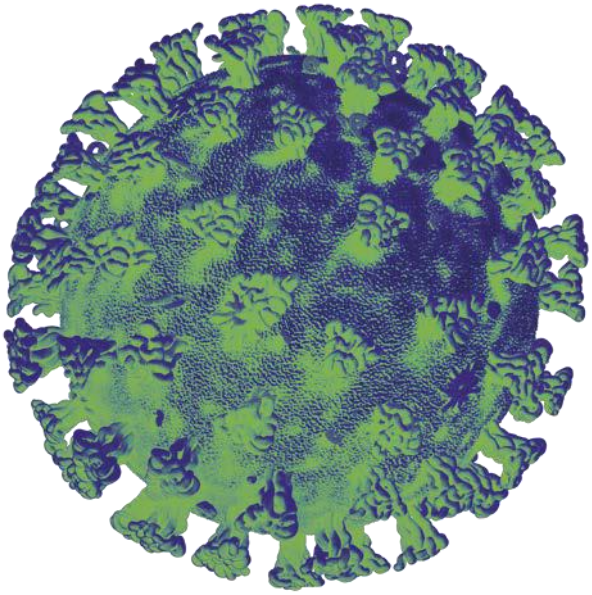
Llywodraeth Cymru
Welsh Government

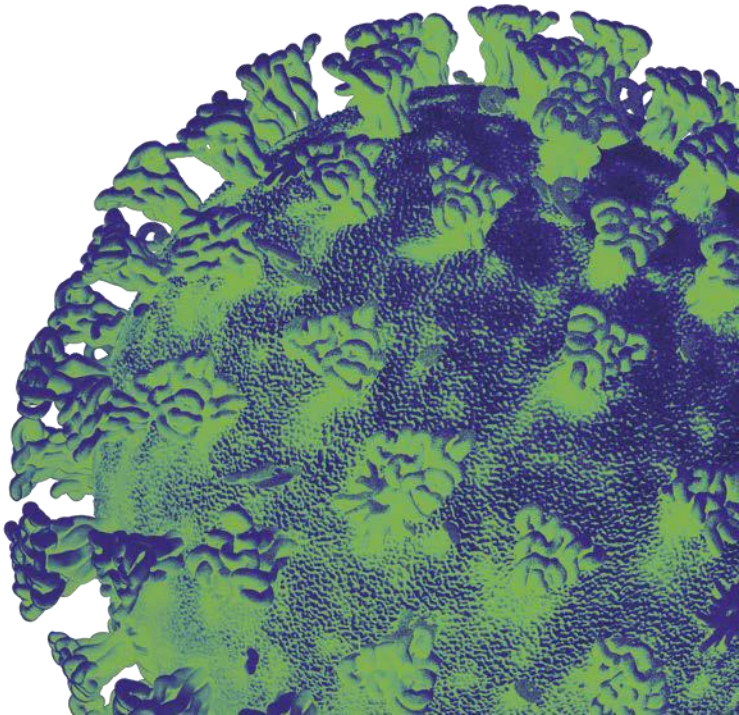
Technical Advisory Cell

Summary of advice

23rd December 2020







Technical Advisory Cell: Summary Brief

23rd December 2020

Top-line summary

- A new variant of coronavirus has been identified in the UK, including Wales. Evidence suggests the new variant is easier to transmit, although there is no evidence that it causes more severe disease. All current guidance around symptoms, social distancing, self-isolation and vaccination applies to the new variant. The Technical Advisory Group and Public Health Wales continue to work as part of the UK investigation to better understand the implications and consider an appropriate response. A separate technical summary on the new variant can be found here.

- The most recent estimate of the Reproduction number (R_t) for Wales from SAGE (as of both 16th and 22nd December 2020) is predicted to be between 1.0 and 1.3, with the epidemic estimated to be growing by between 1% and 4% per day. These values have increased since the last report. It should be noted that these figures may be an underestimate due to the planned system maintenance of the NHS Wales Laboratory Information Management System which resulted in the delayed reporting of 11,000 positive tests.

- The R_t value is estimated by Public Health Wales to be 1.2 (23rd December 2020), with doubling time estimated to be 19.1 days. As above, whilst this figure includes the backlog cases, due to the planned system maintenance, trends for this week should be interpreted with caution, as should short-term changes more generally.

- As of 15th December, cases of COVID-19 per 100,000 of the population in Wales have continued to increase since our last report and test positivity for COVID-19 (the proportion of total tests that were returned positive) is above the red circuit breaker indicator threshold, at 23%.

- As of 17th December, the number of people with confirmed COVID-19 in hospital, has increased by 19% since last week, remaining higher than the April peak and above the red circuit breaker indicator threshold. Overall ICU occupancy (COVID-19 and non-COVID-19 patients) also remains above the red circuit breaker indicator threshold, with data indicating that ICU is at or close to 100% occupied, with a 1:1 staffing ratio for ICU patients not possible, across the majority health boards in Wales.

- The proportion of calls to NHS 111 and NHS direct related to possible COVID-19 symptoms, consultations with GPs for respiratory infections and suspected

COVID-19 and the number of ambulance calls possibly related to COVID-19, have increased compared to the previous week.

- As reported by Public Health Wales, increases in the number of deaths in confirmed cases in hospital have been seen this week. For the week ending 11th December 2020, data from the Office for National Statistics (which lags slightly behind PHW data but is more complete) shows that the number of deaths involving COVID-19 increased from 207 deaths (Week 49) to 223 deaths (Week 50), while the total number of deaths in Week 50 was 121 deaths higher than the five-year average.

- The ONS infection survey data shows that test positivity appears to have increased in the most recent week (06 November and 12 December), after falling from a peak at the end of October. 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.

- The latest mobility data shows reductions in Wales compared to the previous week. Mobility has fallen since the introduction of the additional restrictions on hospitality, the closure of entertainment venues and indoor tourist attractions from the 4 December. Further reductions from the 14 December may also be due to remote learning for many students/pupils. Data from both Facebook and Google show that people are spending the most time at home since July (excluding the Firebreak). (high confidence).

- The following papers have been published by the Technical Advisory Group:
    - A policy modelling paper for December 2020 and January 2021 highlighting the current and potential situation in Wales with differing approaches.
    - An updated consensus statement on recommended testing criteria for discharge of asymptomatic patients to care homes

- Papers from SAGE considered by the Technical Advisory Cell are published here.

Growth rate and Reproduction number

- The current daily growth rate estimated by SAGE (as of both 16th and 22nd December 2020) is between 0.01 and 0.04 in Wales, indicating that infections could be shrinking/growing by between +1% and +4% per day.

- The most recent estimate of the Reproduction number (R_t) for Wales from SAGE (as of both 16th and 22nd December 2020) is predicted to be between 1.0 and 1.3. The estimate of R_t is shown as a range without a central estimate.

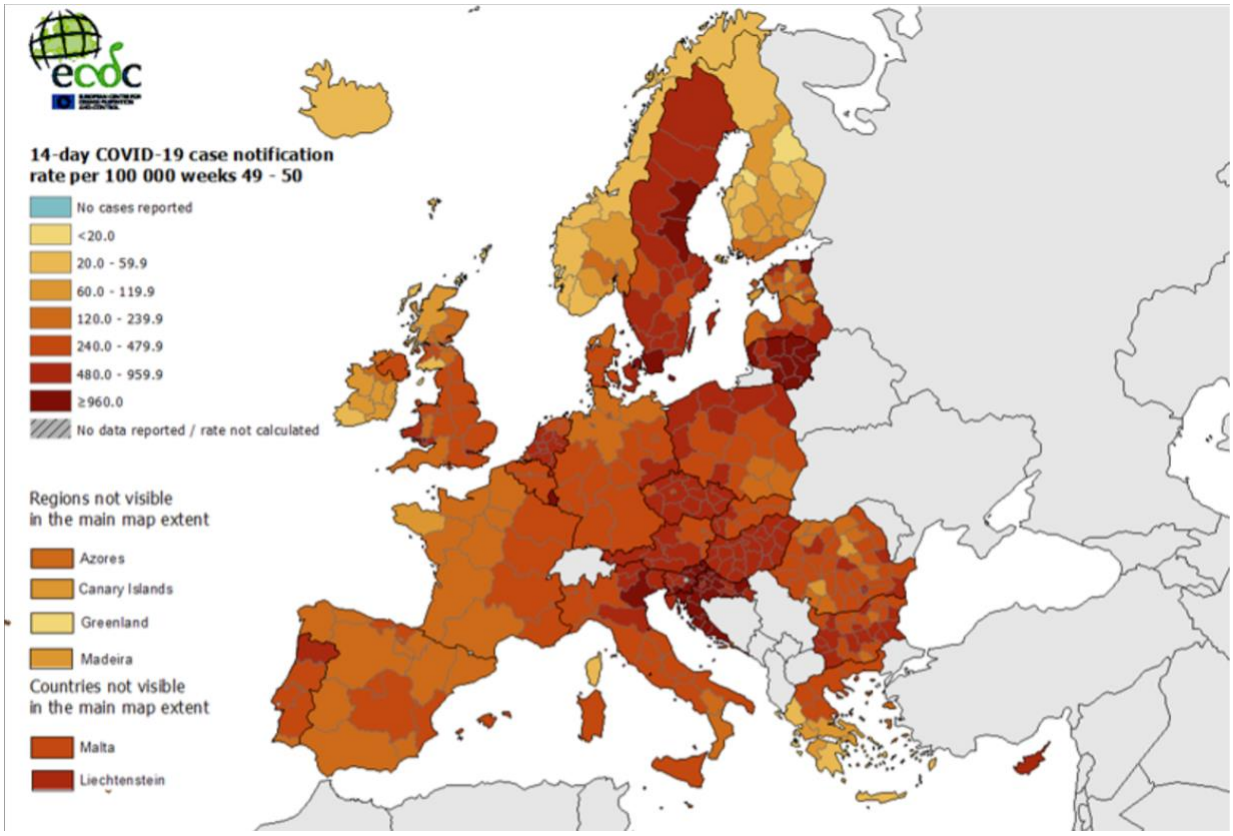
- The consensus R_t value from SAGE is based on a weighted average of models that use cases, hospital admissions, deaths, and contact survey data. Many of these indicators have a 1-3 week time lag from when they would pick up a change in infections.
- As previously noted, these figures may be an underestimate for Wales due to the planned system maintenance of the NHS Wales Laboratory Information Management System which resulted in the delayed reporting of 11,000 positive tests.
- Public Health Wales also estimate R_t for Wales using data on the number of positive cases. Whilst this figure includes the backlog cases, due to the planned system maintenance, trends for this week should be interpreted with caution, as should short-term changes more generally.
- As of 23rd December 2020, R_t in Wales is estimated to be 1.2 (95 % confidence interval 1.18 – 1.21).
- 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.

Doubling time

- As at 22nd December 2020, Public Health Wales estimated the doubling time (the time it takes for the number of cases to double) to be 19.1 days using data from 05/12/2020 to 18/12/2020.
- Doubling 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 49-50.



- Data on the picture across Europe, including caveats around data lags and variable testing policies is available here.

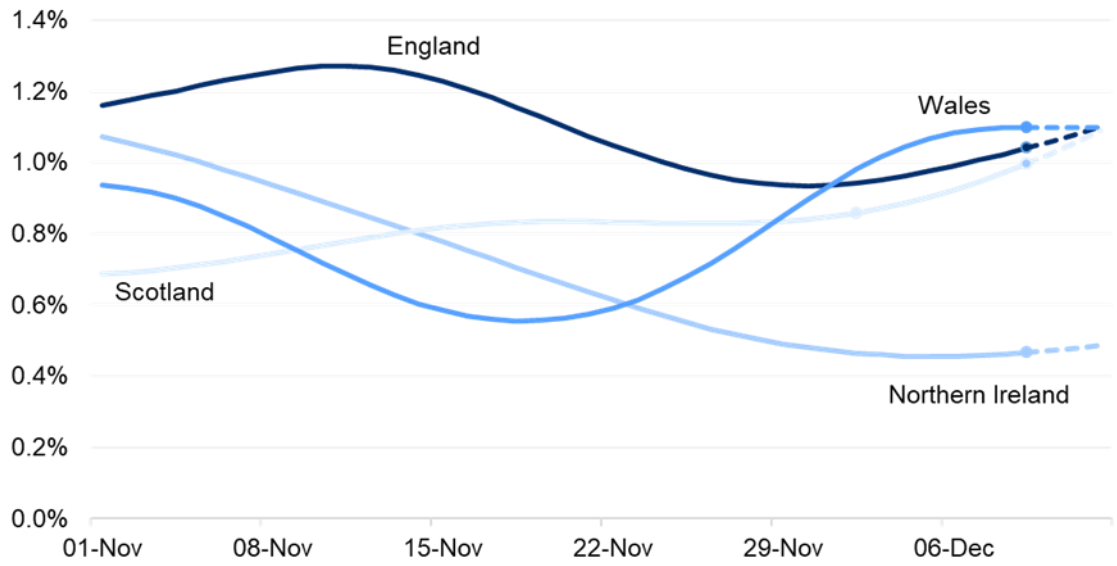
ONS infection study results

- The ONS infection survey data shows that test positivity appears to have increased in the most recent week (06 November and 12 December), after falling from a peak at the end of October.

- 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 1st November 2020 across the 4 UK Nations.

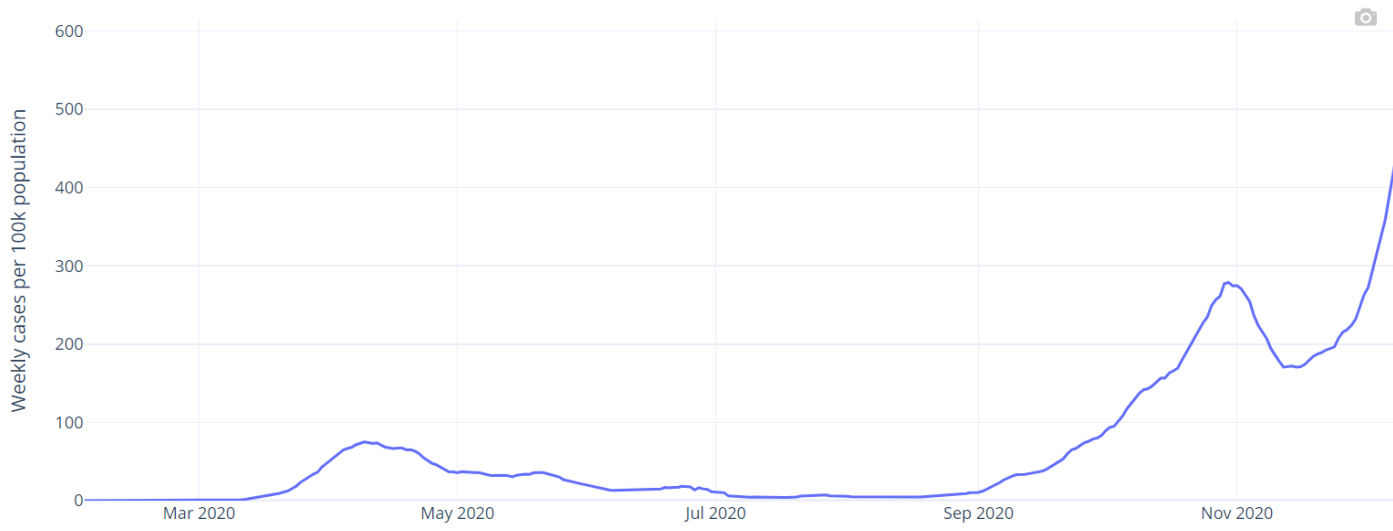
- There is some uncertainty around the individual point estimates for the nations. Estimates for the last few days of the series, shown as dashed lines in the chart below, have more uncertainty.



- For the week 06 to 12 December, an average of 1.10% of the community population had COVID-19 (95% credible interval: 0.78% to 1.46%).
- This equates to approximately 1 person in every 90 (95% credible interval: 1 in 130 to 1 in 70), or 33,400 people during this time (95% credible interval: 23,800 to 44,300).
- The positivity rate has increased in recent weeks, after falling from a peak at the end of October.
- 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) were reducing, however this has been followed by a subsequent increase in cases.



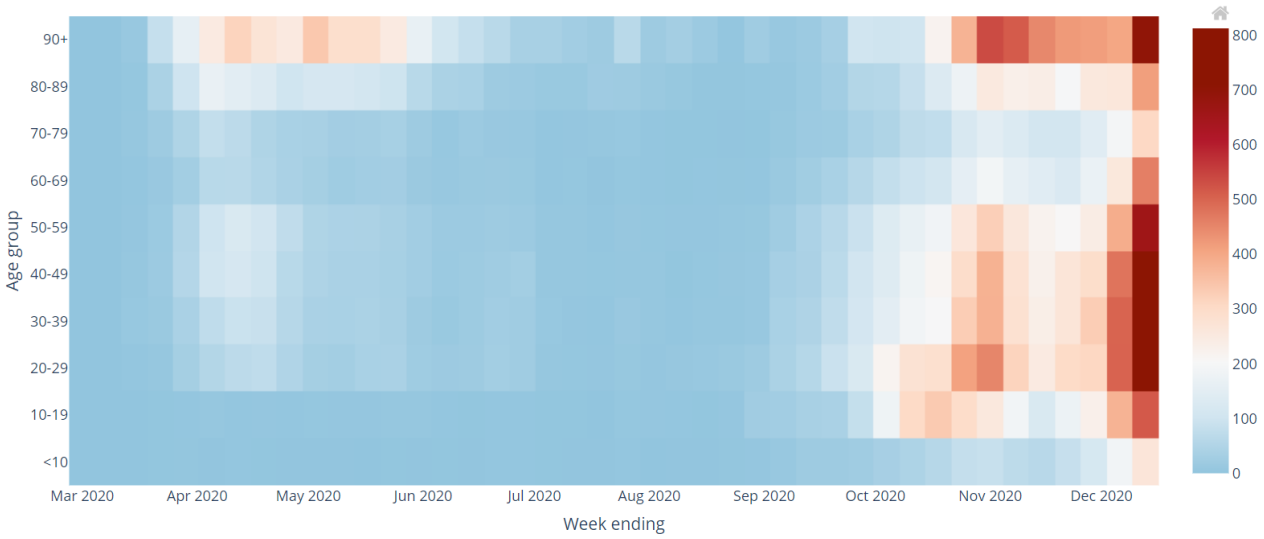
- Due to planned system maintenance, trends for the week including 11th and 12th December should be interpreted with caution, as should short-term changes more generally.

Source: Data from Public Health Wales as of 15th December 2020

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 17th December, incidence increased in all age groups, with incidence being highest in those ages 18-44 years.



Source: Welsh Government dashboard, data from Public Health Wales as at 21/12/2020

Deaths

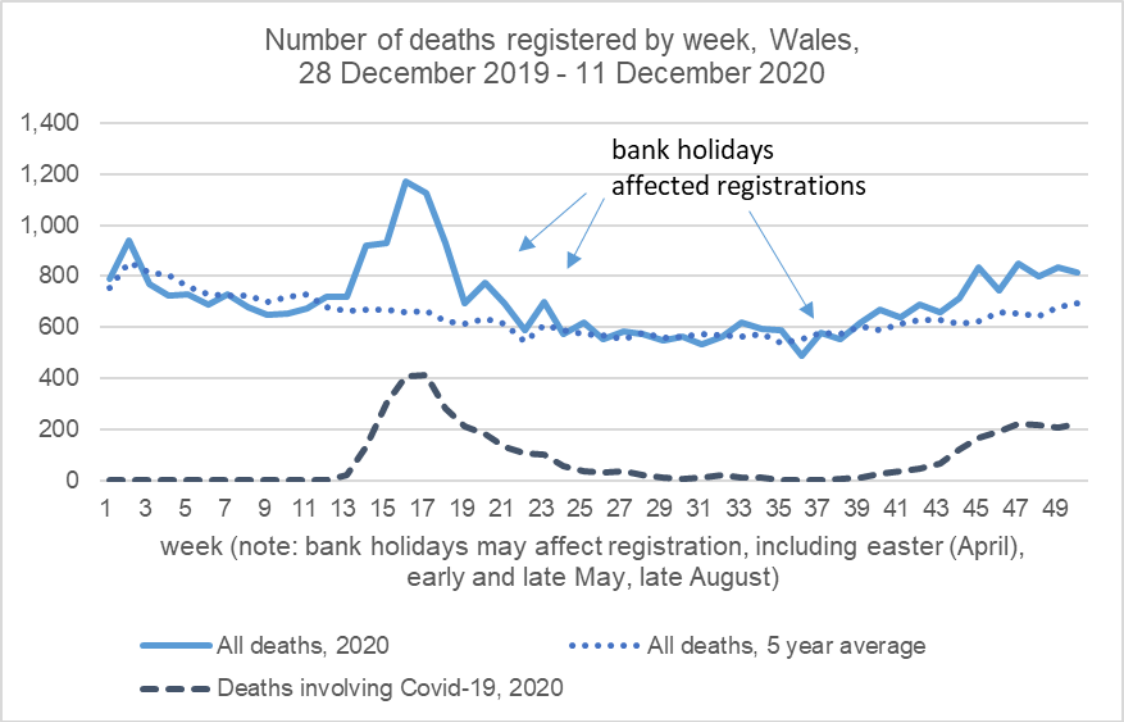
- The Figure below shows the 7 day rolling sum of COVID-19 deaths reported by Public Health Wales as at 15th December 2020, showing an increase recently.

Source: Welsh Government dashboard, data from Public Health Wales as at 18/12/2020

- 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 registered by week in Wales from 28 December 2019 to 11 December 2020 and shows signs of a decrease. This Figure also shows the number of all cause deaths registered by week.



- In Wales, the number of deaths involving COVID-19 increased from 207 deaths (Week 49) to 223 deaths (Week 50), while the total number of deaths in Week 50 was 121 deaths higher than the five-year average.

- Of the deaths registered in the week ending 11 December 2020, there were provisionally 223 deaths involving COVID-19 registered in Welsh residents. This was 27% of all deaths and 16 more than the previous week.

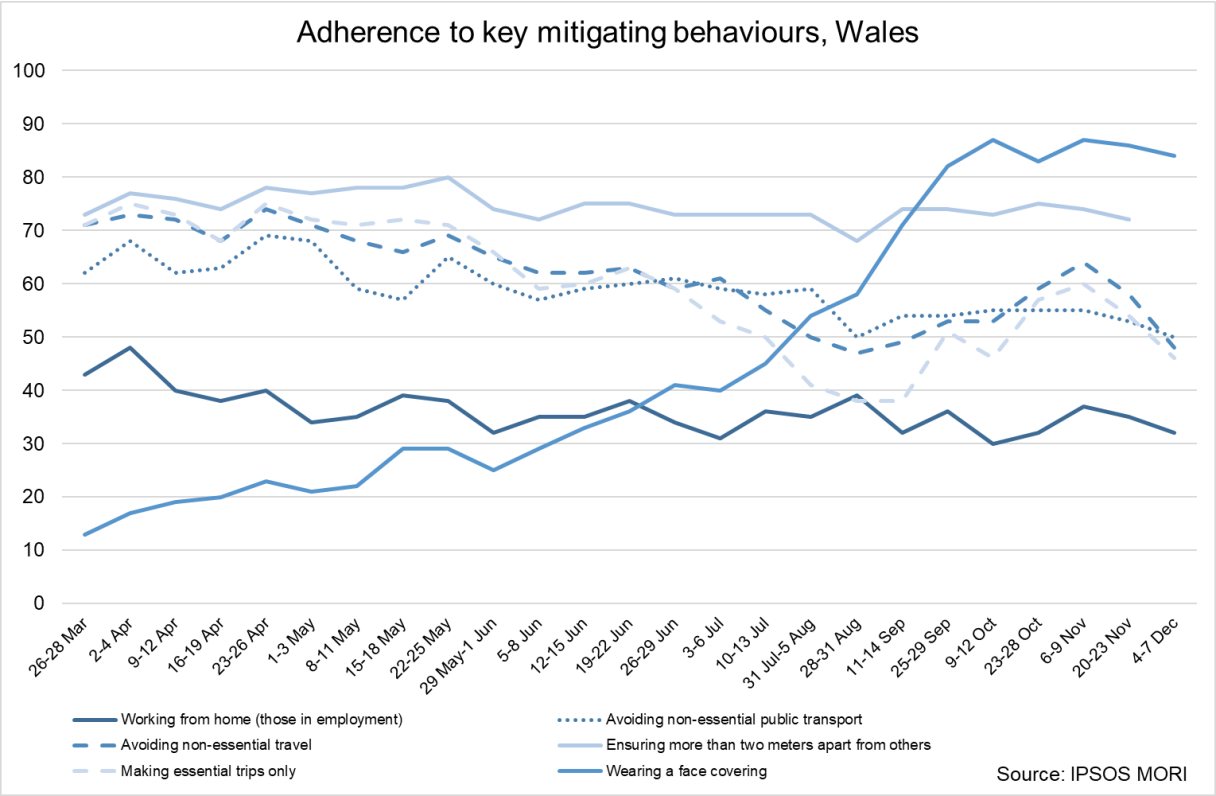
- Numbers will likely be subject to fluctuation and the very slight drop for the latest 2 weeks should not be over interpreted.

Source data: Office for National Statistics

Adherence and understanding of current measures

- 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.



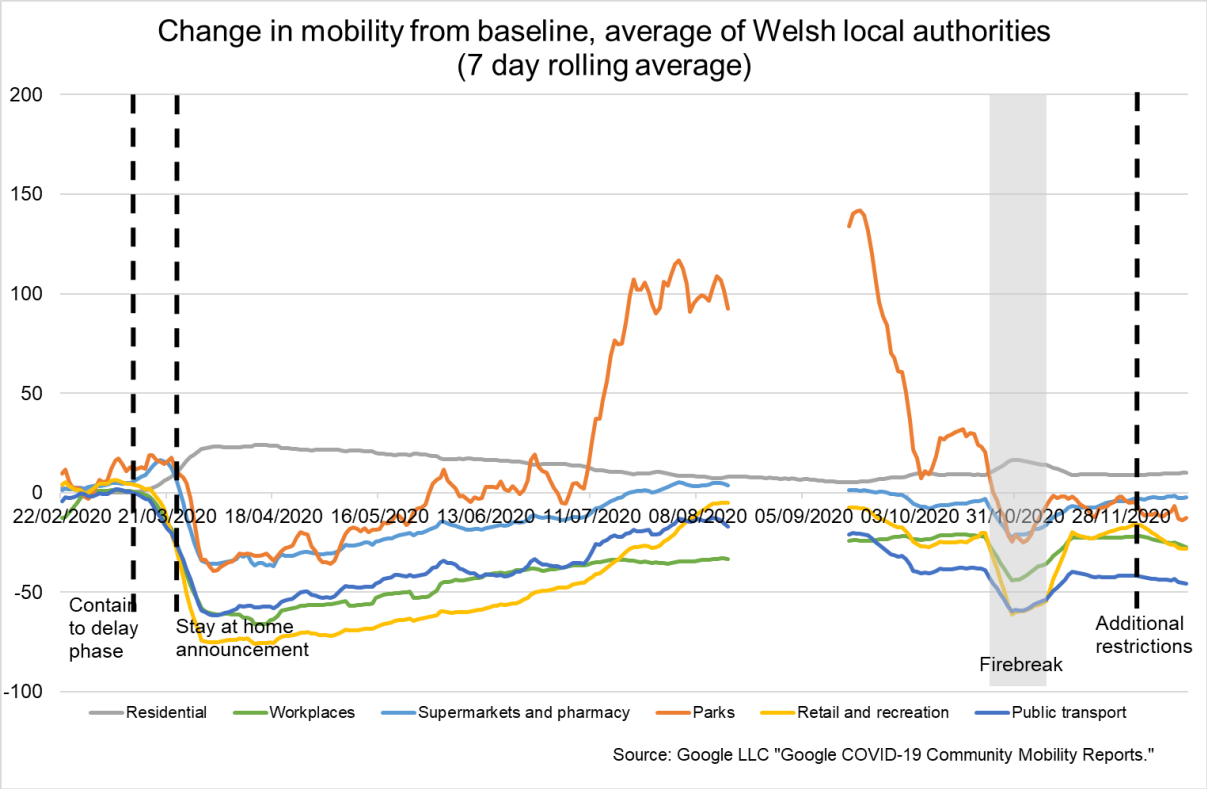
- The latest results from the [Public Engagement Survey on Health and Wellbeing during Coronavirus Measures] for the period 30 November – 6 December show that 36% of people say they understand the current restrictions in Wales 'very well'. A further 50% reported understanding the restrictions 'fairly well'. The results also show that 39% of people said they were following coronavirus restrictions 'completely' and a further 50% reported majority compliance. The percentage reporting 'completely' is lower than the last survey (47%). 35% reported having people outside their household/permitted extended household come into their house, whilst 21% reported going into others people's houses.

Mobility

- The latest mobility data shows reductions in Wales compared to the previous week. Mobility has fallen since the introduction of the additional restrictions on hospitality, the closure of entertainment venues and indoor tourist attractions from the 4 December. Further reductions from the 14 December may also be due to remote learning for many students/pupils. Data from both Facebook and

Google show that people are spending the most time at home since July (excluding the Firebreak). (high confidence)

- Mobility of Facebook users in Wales shows movement was 15% below the baseline for the week to the 19 December. This is down from 11% the week before. The percentage of users staying put (near to home) was 29%, higher than the week before (27%). Apart from the firebreak, the percentage of users staying put was last higher in mid-July. 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 19 December shows that requests for driving directions in Wales are down from the previous week to 90% of the baseline (from 92%). Requests for driving directions are similar to before the firebreak (89%). Requests for walking directions and requests for public transport directions are down 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 15 December shows increases in residential (i.e people spending time at home) compared to the week before at 10% above the baseline. As with the Facebook data, aside from the firebreak it is the highest since July. Workplaces show a reduction (at 27% below the baseline, down from 24%). Retail & recreation shows a further fall in the last week (28% below the baseline, down from 22% the week before) whilst supermarkets & pharmacy shows a slight increase (2% below the baseline, up from 3%). Public transport and parks also show reductions 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 11 December shows a decrease in trips compared to the week before. Trips starting in Wales fell by 3 percentage point to 30% 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 8965 Welsh patients recruited to COVID-19 urgent public health studies, an increase of 886 in last 7 days.

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

As at 17th December 2020

Due to the planned system maintenance, trends for this week should be interpreted with caution, as should short-term changes more generally.

- The proportion of calls to NHS 111 and NHS direct related to possible COVID-19 symptoms increased compared to the previous week.

- Overall GP consultations for any Acute Respiratory Infection (ARI) and GP consultations for suspected COVID have increased compared to the previous week.

- The number of ambulance calls possibly related to COVID-19 have increased.

- The all-Wales number of laboratory confirmed COVID-19 episodes and testing positivity continue to increase. Sample positivity was above 21% in week 50.

- During week 50, incidence increased in all age groups, with incidence being highest in those ages 18-44 years.

- Confirmed case incidence and testing episode positivity has increased in all health board regions of Wales.

- At a national level, confirmed case admissions to hospitals increased compared to the previous week. Confirmed cases who are inpatients in hospital and admissions to critical care wards also increased compared to the previous week.

- Recent surveillance data suggest that COVID-19 infections in Wales continue to increase and remain geographically wide spread, with the majority of local authority (LA) areas experiencing increasing overall trends in confirmed case incidence in the most recent weeks, following decreases between weeks 44 and 46.

- High numbers of incidents continue to be reported, mainly in residential care homes and school settings.

- A Wales-wide ‘fire-break’ restriction was in place between 23rd October and 9th November. A decrease in confirmed case incidence had been observed following the fire-break, but this was temporary and incidence has continued to increase this week and is now at the highest ever level.
- Restrictions are currently in place limiting opening hours and sale of alcohol in hospitality.

- A Wales-wide lockdown will begin on 28th December for an initial three-week period.

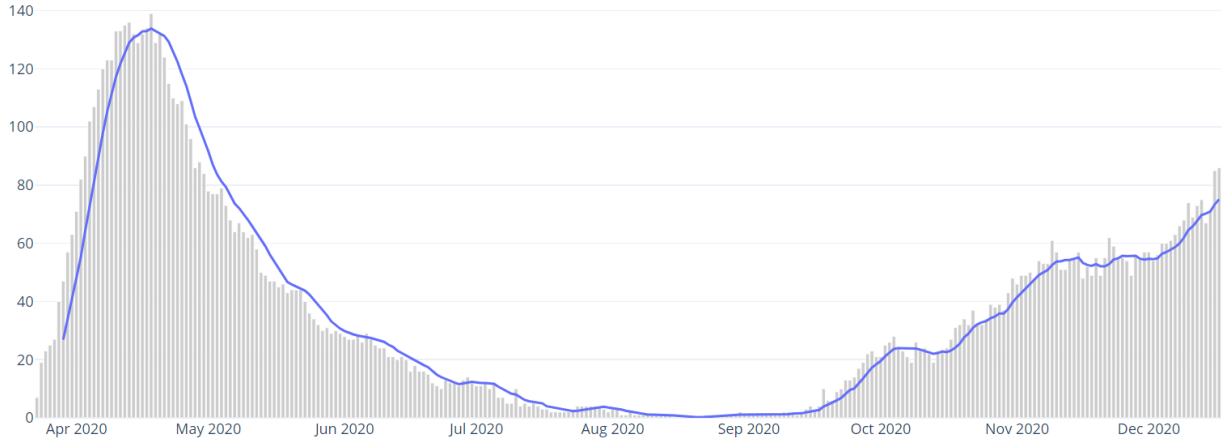
- The Public Health Wales dashboard is available here and includes local authority analysis.

Hospital occupancy

- It is important to note that the total number of available ICU beds has fallen in recent weeks as Local Health Boards have made their reporting more consistent in terms of only reporting available ICU beds that can be staffed.

- 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 17th December).

- 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 17th December).



- The table below details the overall occupancy of ICU beds across health boards in Wales, 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.

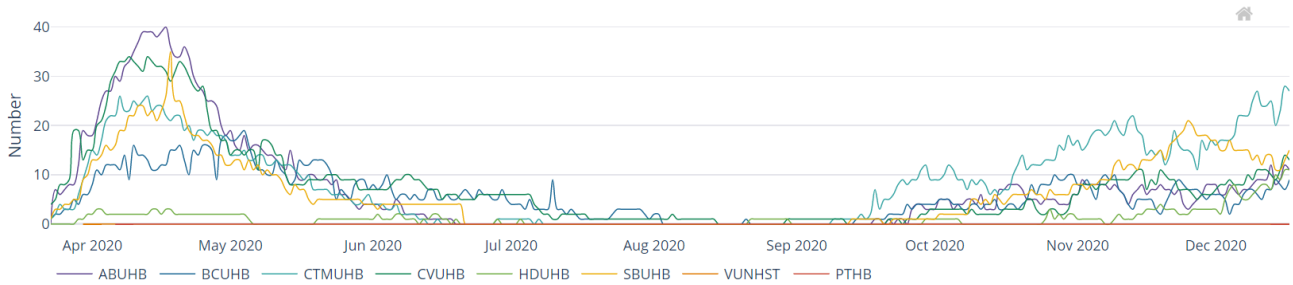
- Occupancy figures are based on ICU capacity reported to us by local health boards (199) beds in total at reporting date). However, once we get beyond

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.

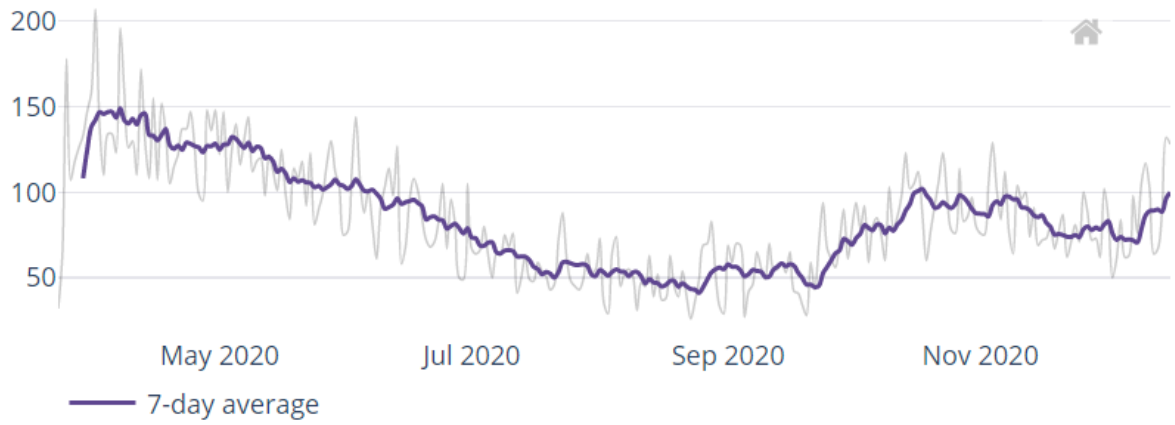
- COVID-19 hospital and ICU occupancy have increased over recent weeks. As of 17th December 2020, 1:1 care for all patients in ICU was not possible in most haelth boards, with ICU 119% occupied for 1:1 care; see table below.

Health Board	Level 3 ICU occupancy (% of 1:1 ratio beds occupied)	Total L3 ICU Occupancy %	COVID19 Suspected patients	COVID19 Positive patients
ABUHB	78.3%	85.7%	0	11
BCUHB	119.2%	75.6%	0	9
CTMUHB	144.0%	100.0%	0	27
CVUHB	142.9%	100.0%	1	13
HDUHB	95.5%	95.5%	0	11
SBUHB	128.6%	92.3%	1	15
Wales	119.7%	91.5%	2	86

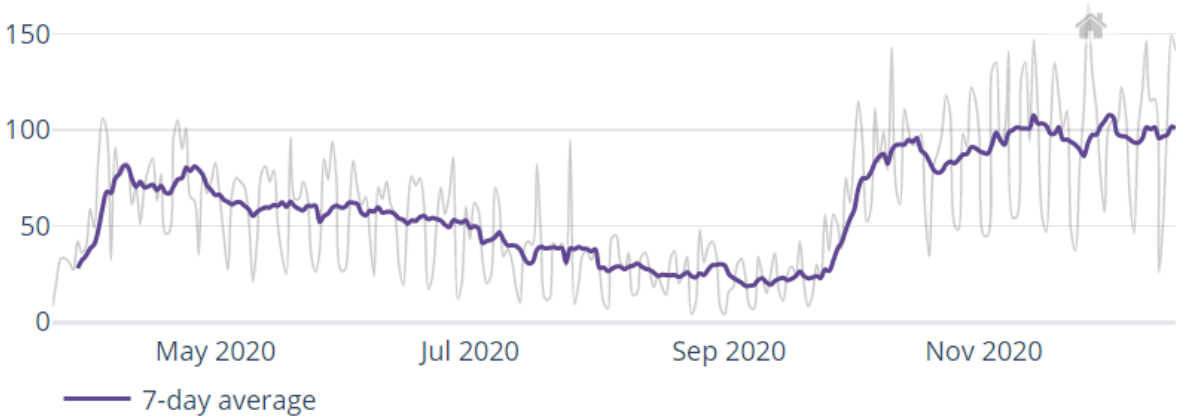
- The Figure below shows the total number of people who have tested Covid-19 positive and are in ICU in hospitals across the different health boards in Wales. Data as of 17th December 2020.



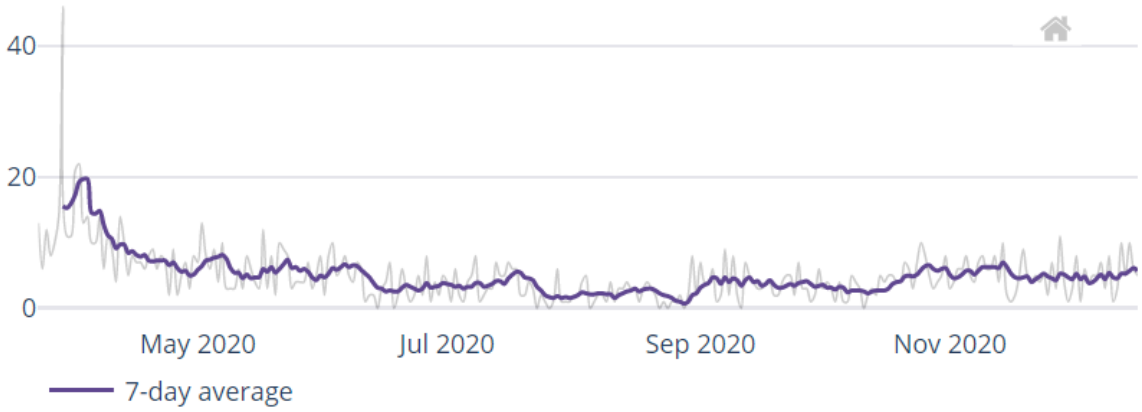
- The Figure below shows the number of people admitted to hospital and are either suspected or confirmed as having Covid-19. The purple line represents the total number over a rolling 7 day average, whilst the fainter grey lines show the actual figures at that time. Data as of 17th December 2020.



- 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 17th December 2020.



- 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 17th December 2020.



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.