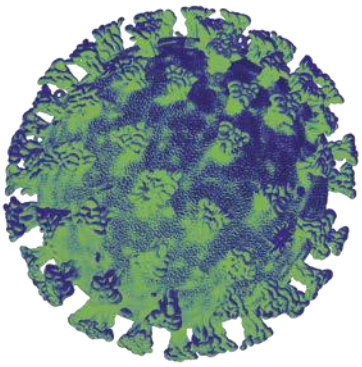
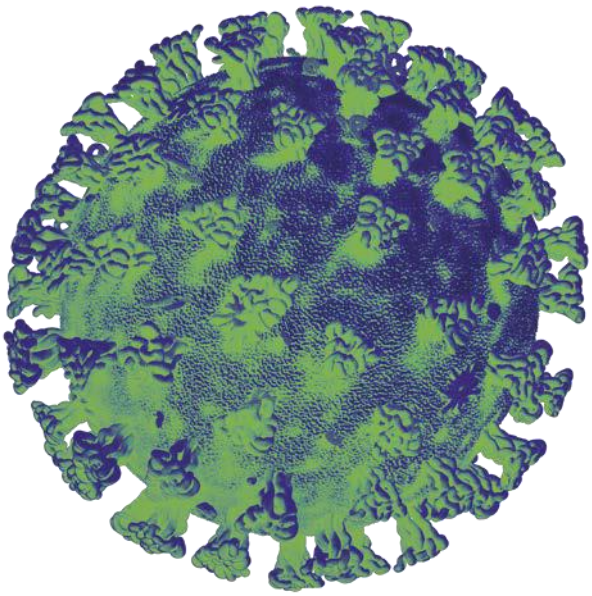
Llywodraeth Cymru
Welsh Government

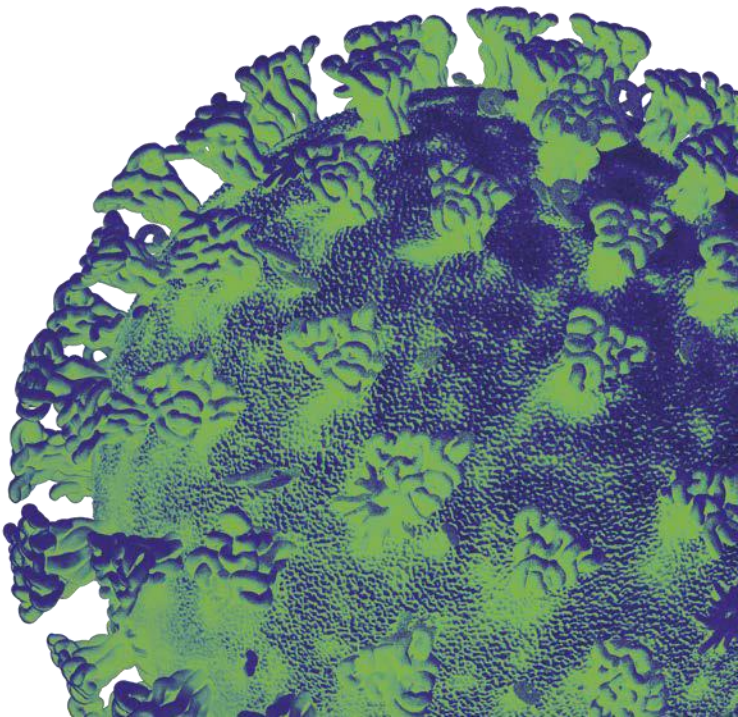
Technical Advisory Cell

Summary of advice

3 March 2021







Technical Advisory Cell: Summary Brief

3 March 2021

- The number of new cases in Wales continues to decrease at a national level across all ages (high confidence). As reported by PHW (25 February), incidence remains stable or decreased in all age groups. The number of new cases remains highest in those aged 85 years and older, however this age group also has seen the largest decrease in cases.

- The most recent estimate of the reproduction number (R_t) from SAGE is between 0.7 and 0.9 for Wales and between 0.6 and 0.9 for the UK.

- There are differences in levels of transmission across Wales, with data suggesting that there are areas where the number of new infections is not declining and may be increasing. For the week ending 26 February, Gwynedd and Conwy in North Wales had the highest number of cases, at 92 and 88 cases per 100,000 population respectively. This is likely to be driven by the ongoing outbreak in Ysbyty Gwynedd, and may not reflect the community infection levels.

- As of 2 March, VOC 202012/01 (first identified in Kent) is dominant in Wales and the UK and has been detected across all health boards Wales. There have been 22 genomically confirmed and probable cases of VOC 202012/02 (the variant linked to South Africa) in Wales. Reducing the number of cases continues to be the most effective way of reducing the risk of the emergence of new variants of concern (high confidence).

- As of 1 March the number of people with confirmed COVID-19 in hospital has decreased, but remains high with a weekly average of approximately 600 beds occupied. Both overall ICU occupancy (COVID-19 and non-COVID-19 patients) and occupancy for COVID-19 patients only have shown a steady decline, however since 5 February, there have still been around 2 to 4 COVID-19 ICU admissions per day. The number of people recovering from COVID-19 has dropped slightly although is still around 900 in the most recent week.

- A nationwide cohort study using data from England and Wales (pre-print, yet to be peer-reviewed), shows that the volume of surgical activity was reduced by 33.6% in 2020, resulting in over 1,568,664 cancelled operations. Surgical activity has yet to return to normal and has been further impacted by subsequent waves of the pandemic, leading to a large backlog of cases.

- Whilst numbers will be higher due to ongoing data entry, a 923,615 first doses of COVID-19 vaccine have been given in Wales, with 96,408 people having received two doses (as at 28 February), which is over 1 million vaccines given in total. As reported

by Public Health Wales on 25 February, vaccination coverage (first dose) is around 90% for people aged 80 years or older.

- As reported by ONS there has been strong increase in antibody positivity recently seen in older age groups, which is likely due to the vaccination.

- The 7 day rolling sum of COVID-19 deaths reported by PHW (25 February) has decreased in the most recent week, but remains high at just under 100 deaths per week. Deaths reported by ONS, which lag rapid PHW surveillance but are more complete, have shown a decrease for 5 successive weeks, with 179 per week reported for week ending 19 February, which is 37 fewer than the previous week.

- Self-reported adherence to current restrictions remains similar to previous weeks, however it is important to note this indicator will be affected by individuals understanding of the rules and the circumstances that apply to them. Mobility is starting to increase and is now above levels seen during the firebreak. It appears that the increase in mobility has coincided with the weekends and better weather as well as schools opening (medium confidence).

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

Growth rate and Reproduction number

- The Reproduction number (R_t) is the average number of secondary infections produced by a single infected individual. R_t is an average value over time, geographies, and communities. This should be considered when interpreting the R_t estimate for the UK given the differences in policies across the four nations. The estimate of R_t is shown as a range (90 or 95% confidence intervals) without a central estimate and is a lagging indicator.

- The most recent estimate of the R_t for Wales from SAGE (as approved on 25 February) is predicted to be between 0.7 and 0.9 (90% confidence interval), based on the latest data available up to 22 February.

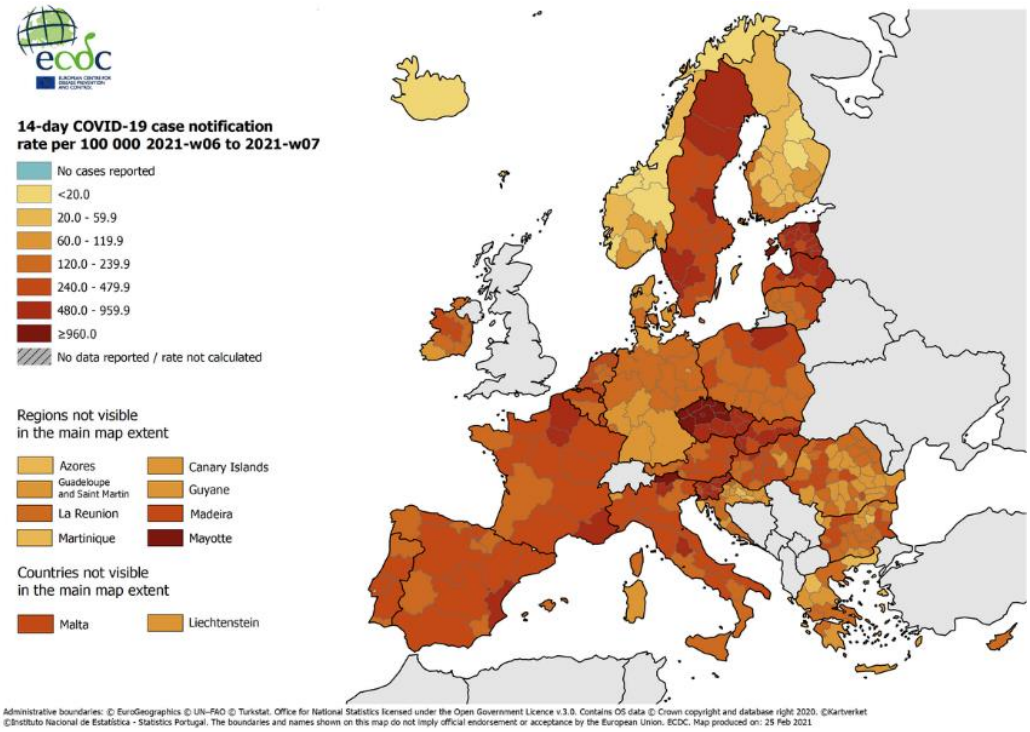
- Growth rate reflects how quickly the numbers of infections are changing day by day. It is an approximation of the percentage change in the number of infections each day. Growth rate is also a lagging indicator and shown as a range (90 or 95% confidence intervals) without a central estimate.

- The current daily growth rate estimated by SAGE (as approved on 25 February) is between -0.05 and -0.02 (90% confidence interval) in Wales, indicating that infections could be shrinking by between -5% and -2% per day.

- Public Health Wales also estimate R_t for Wales using data on the number of positive cases only. These figures should be interpreted with caution as the number of positive cases detected can be a reflection of the amount of testing. It is assumed there is no change in testing patterns for the duration of these estimates. As at 19 February, R_t (95% confidence interval) in Wales is estimated to be 0.9 (0.8 to 0.9).
- 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.

Halving time

- As at 23 February, Public Health Wales estimated the halving time (the time it takes for the number of cases to half) to be 79 days, using data from 06/02/2021 to 19/02/2021. The 95% confidence interval for this estimate is between a halving time of 18 days and a doubling time of 34 days. It should be noted that as the growth rate of cases tends to zero, the estimates of doubling times tends to infinity.
- 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.
- The map below shows the 14-day average notification rate per 100,000 people in Europe.



- As of 25 February, the World Health Organisation reports a world total of 112.2 million confirmed cases and 2.49 million deaths, although for both counts, the daily incidence has fallen to about half of that of the peak of the first half of January 2021. Except for

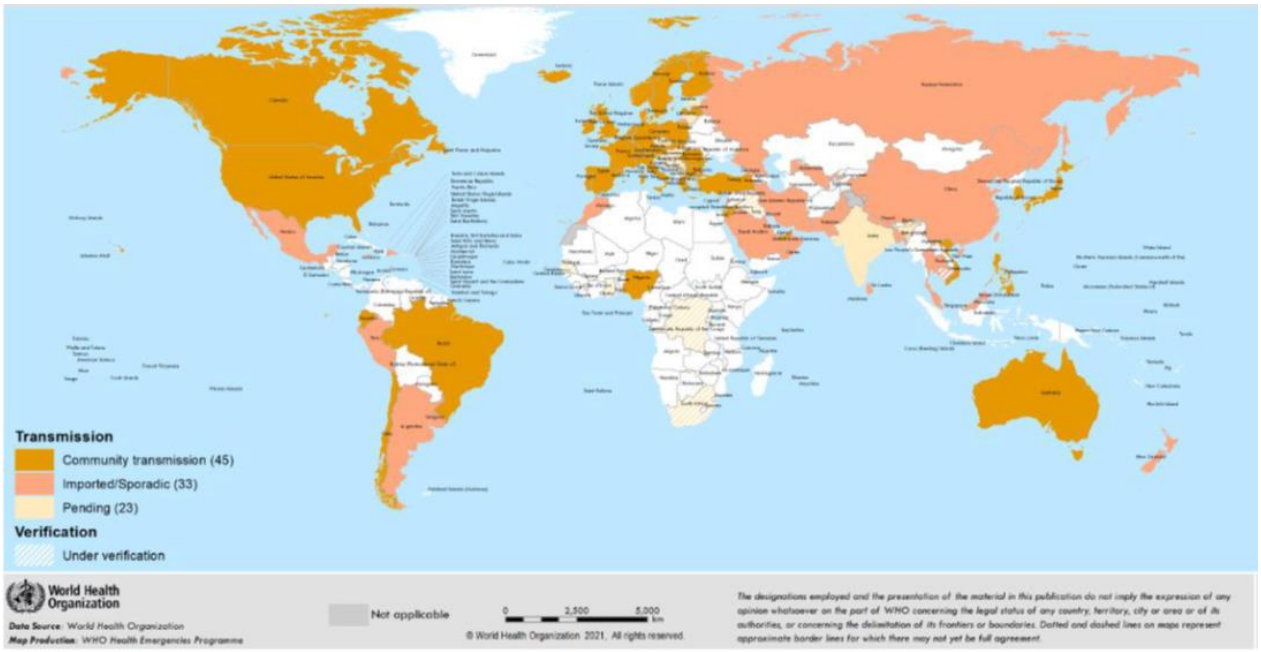
a few countries (Israel, Bahrain, United Arab Emirates and the UK where the vaccine is beginning to take effect on infections and deaths), this world decline is due to the maintenance of non-pharmaceutical interventions (NPIs) of varying levels of stringency.

- Several countries are starting to plan the relaxation of NPIs, the leading country being Israel where gyms, non-essential shops, restaurants, etc. are starting to be opened up. In Europe, although planning has started, most countries are taking a cautious approach to opening up in a similar manner to the UK. Although many countries did not close schools entirely, education provision generally will some of the earliest parts to see relaxation of controls.

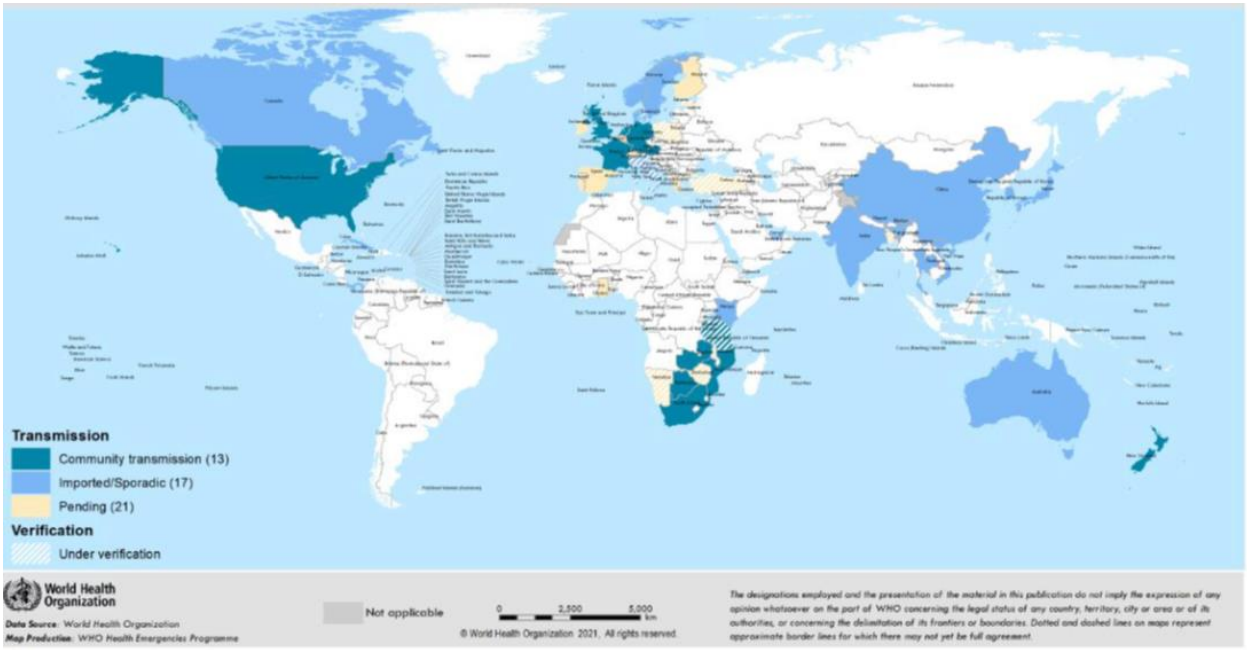
- The variants of concern continue to spread around the world but at different rates as the following maps illustrate. As has been reported in previous weeks, the WHO expects the 'Kent' variant to become the dominant world variant within a short time period and it is fast becoming so. The variants first identified in Brazil and South Africa are spreading more slowly but the latter is more worrying because it is showing evidence of being partially vaccine resistant.

- The following charts show where each variant of concern (VOC) has been verified across the world. The full report (23 February) from the World Health Organisation is available here.

- **VOC 202012/01** (the variant first identified in the UK) has now been verified in 88 countries (in orange on map below).



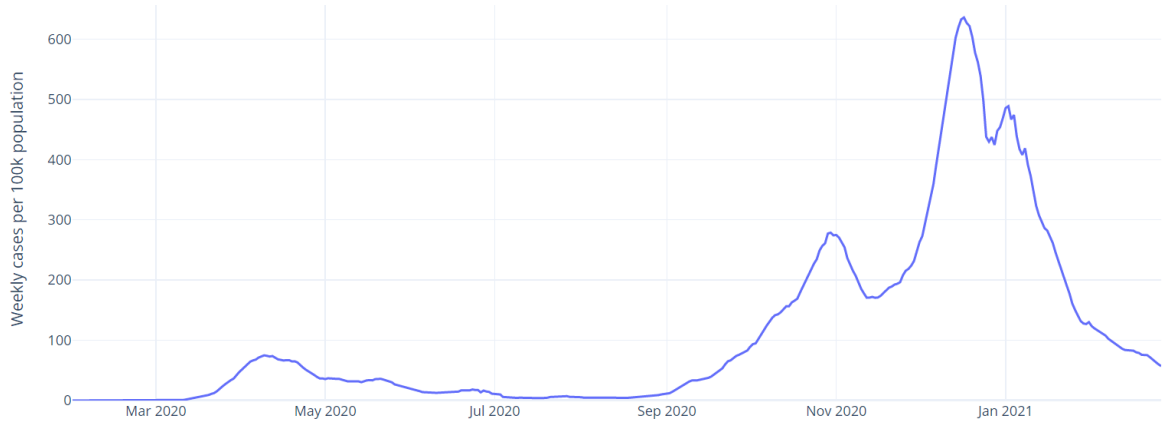
- **VOC 501Y.V2** (the variant first identified in South Africa) has been verified in 37 countries. This has not changed since last week, however 9 countries are under investigation which is 2 more than last week (in blue on map below).



- **VOC P.1** (first originated in Brazil) has been reported in six additional countries (verified in three). To date, this variant is reported in 21 countries across five of the six WHO regions. So far, local transmission has been reported in at least three countries in one WHO region (in green on map below).

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.

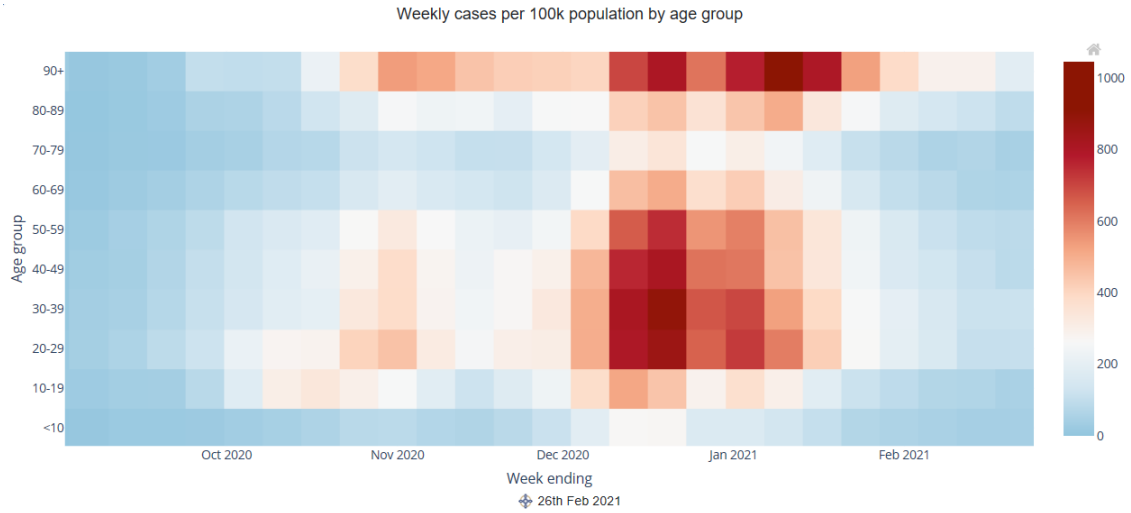


Source: Data from Public Health Wales as of 2 March, time period to 26 February

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. The darker red indicates an increased number of weekly cases.

- According to Public Health Wales, During week 07, incidence decreased or remained stable all age groups. Incidence was highest in those aged 85+.



Source: Welsh Government dashboard, data from Public Health Wales as at 26 February.

Covid-19 Infection Study results (Office for National Statistics)

- Analysis of data from the ONS infection survey is helpful because it provides 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.

- However there is a greater lag in data from the infection survey than from other sources such as Public Health Wales. It is also important to stress the uncertainty around these estimates. 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 sequencing data from Public Health Wales for positive cases may be more robust and less subject to a time lag, even though it generally only includes people who have chosen to be tested.

- Work is underway to understand the current differences between results from the Covid Infection Survey and figures published by PHW.

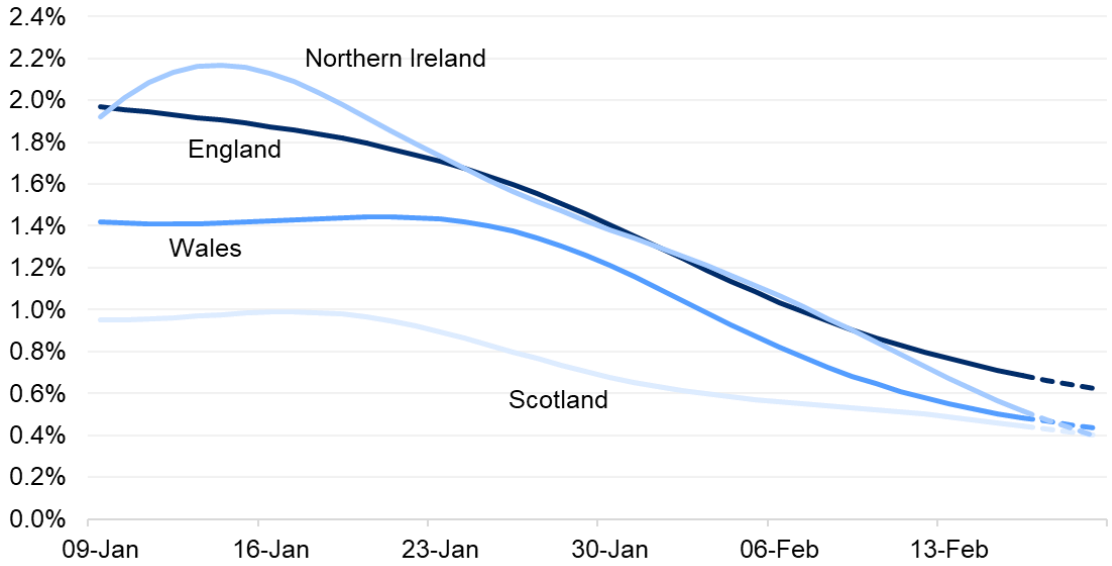
Estimated positivity

- The positivity rate in Wales has continued to decrease in the most recent week.

- For the week 13 to 19 February 2021, an average of 0.48% of the community population had COVID-19 (95% credible interval: 0.36% to 0.62%).

- This equates to approximately 1 person in every 205 (95% credible interval: 1 in 275 to 1 in 160), or 14,700 people during this time (95% credible interval: 11,100 to 18,800).

- The figure below shows the latest estimates for positivity rates (%) since 9 January 2021 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.

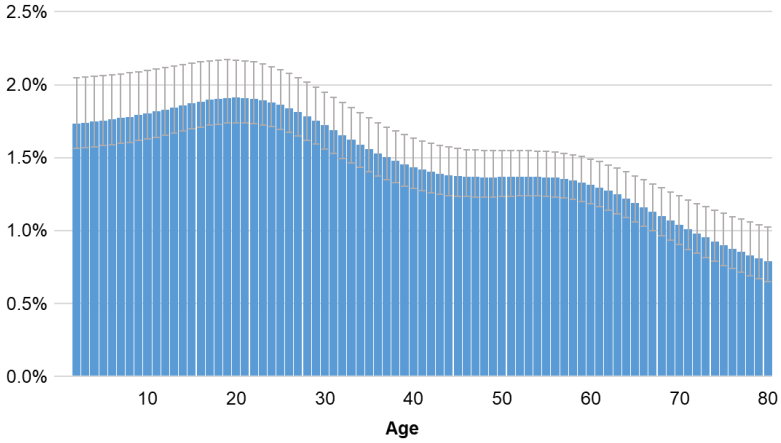


Source: Coronavirus (COVID-19) Infection Survey, ONS, 24/02/21

- The percentage of people testing positive for strains compatible with the new variant, not compatible with the new variant, and where the virus is too low for the variant to be identifiable have all decreased in the most recent week.

- The charts below show the percentage testing positive by age on 13 January and 16 February 2021. Rates of positive cases vary by age, and appear to have decreased in all age groups in recent weeks.

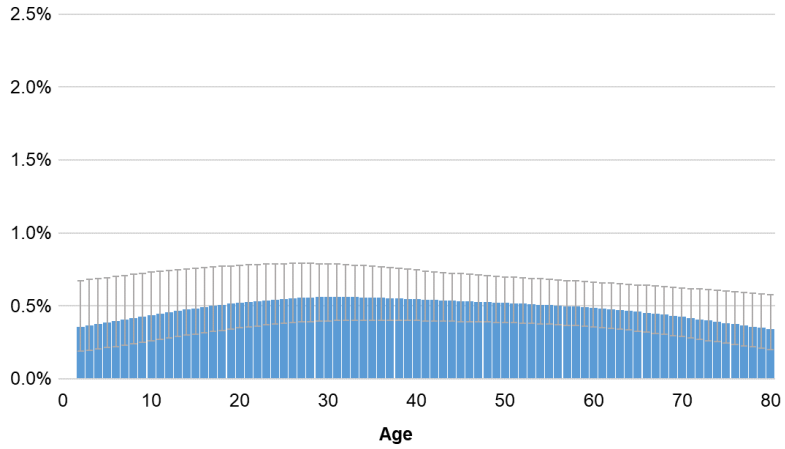
The percentage testing positive by age on 13 January 2021



Source: Coronavirus (COVID-19) Infection Survey, ONS, 24/02/21

The blue bars give point estimates and the vertical lines indicate the 95% confidence intervals. Modelled estimates shown for single years of age (aged 2 – 80) on 13 January 2021.

The percentage testing positive by age on 16 February 2021



Source: Coronavirus (COVID-19) Infection Survey, ONS, 24/02/21

The blue bars give point estimates and the vertical lines indicate the 95% confidence intervals. Modelled estimates shown for single years of age (aged 2 – 80) on 16 February 2021.

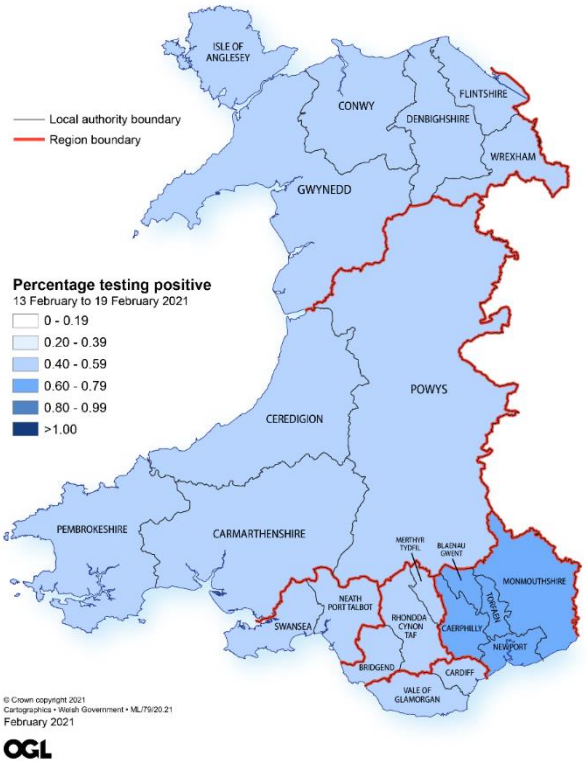
Regional analysis:

- Regional modelled estimates are now available for Wales. Estimates are provided for the seven days up to 19 February 2021 based on modelling the entire seven-day period.

- Rates of positive cases are highest in the region including Caerphilly; Blaenau Gwent; Torfaen; Monmouthshire and Newport.

- Due to smaller sample sizes, there is a higher degree of uncertainty in estimates for individual regions, as indicated by larger credible intervals. The categories used in the map below have been updated and therefore are not comparable with last week's map.

Estimates of the percentage of the population in Wales testing positive for the coronavirus (COVID-19) by region 13 February to 19 February



Source: Coronavirus (COVID-19) Infection Survey, ONS, 24/02/21

- See here for analysis from the ONS and here from the Welsh Government.

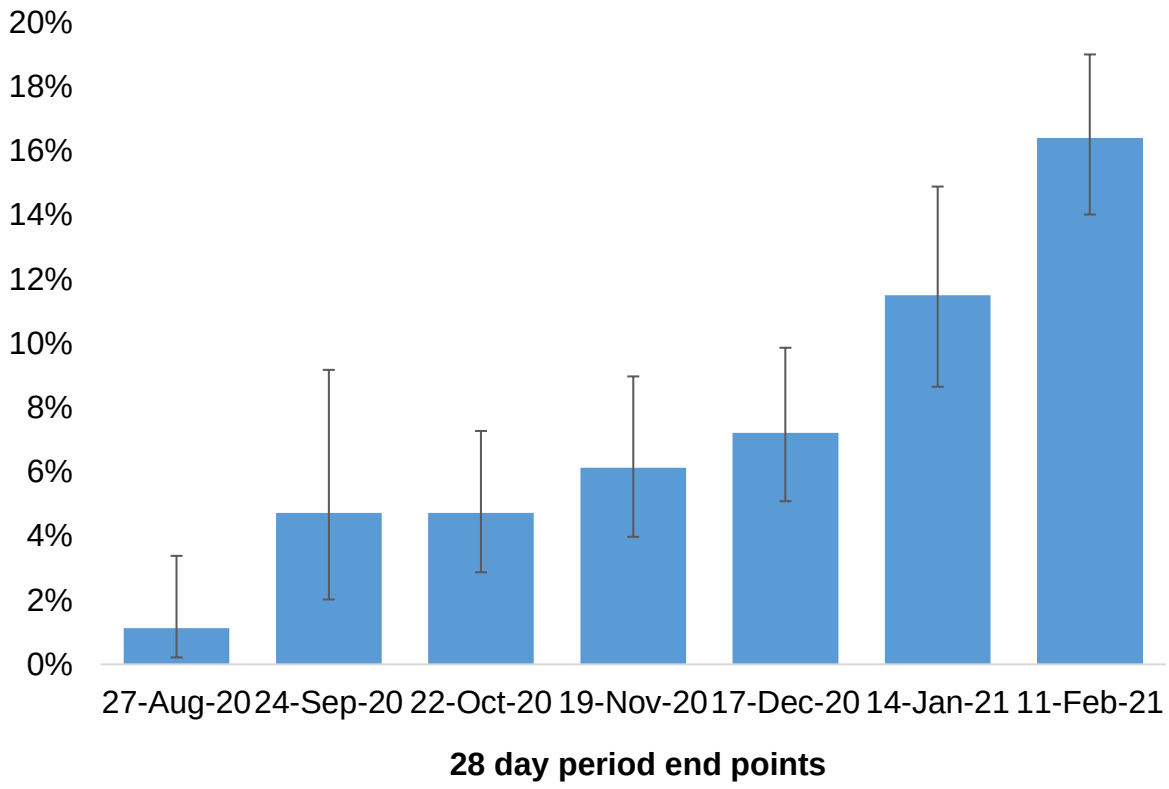
Antibodies

- In the 28 days up to 11 February 2021, 16.4% of people who provided blood samples tested positive for antibodies to COVID-19 (95% confidence interval: 14.0% to 19.0%).

- 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.

Estimated percentage of the population in Wales testing positive for coronavirus (COVID-19) antibodies, July 2020 to February 2021



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

The blue bars give point estimates and the vertical lines indicate the 95% confidence intervals. Estimates shown for 28 day periods from 31 July 2020 to 11 February 2021.

- As shown in the animation available here, there has been strong increase in antibody positivity recently seen in older age groups, which is likely due to the vaccination program being rolled out.

- In the 28 days up to 11 February 2021, the percentage of people aged 80 years and over testing positive for antibodies was 18.5% (95% Confidence Interval: 8.7% to 32.5%).

- For those aged 16 to 24 years, 27.1% (95% Confidence Interval: 16.6% to 39.9%) tested positive for antibodies.

- The percentage of people testing positive for antibodies for the other age groups ranged from 8.3% to 17.8%.

- Caution should be taken in over-interpreting the latest estimates. Confidence intervals are wide and the sample size is relatively low, meaning there is higher uncertainty in these figures.

- In the 28 days up to 11 February 2021, the percentage of people testing positive for antibodies appeared to be higher for females at 20.3% (95% Confidence Interval: 16.7% to 24.4%) than males at 12.3% (95% Confidence Interval: 9.5% to 15.6%).

- For more information, see here for Wales and here from the ONS.

Vaccination in Wales

- As at 28 February, 923,615 first doses of COVID-19 vaccine have been given in Wales, with 96,408 people having received two doses (as at 28 February), which is over 1 million vaccines given in total.

- The actual number of doses will be higher due to ongoing data entry.

- Vaccinations data, including coverage 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 23 February. The weekly number of deaths reported has decreased in the most recent week, but remains high at just under 100 per week. Care should be taken in interpreting the most recent trends.

Source: Welsh Government dashboard, data from Public Health Wales as at 26 February

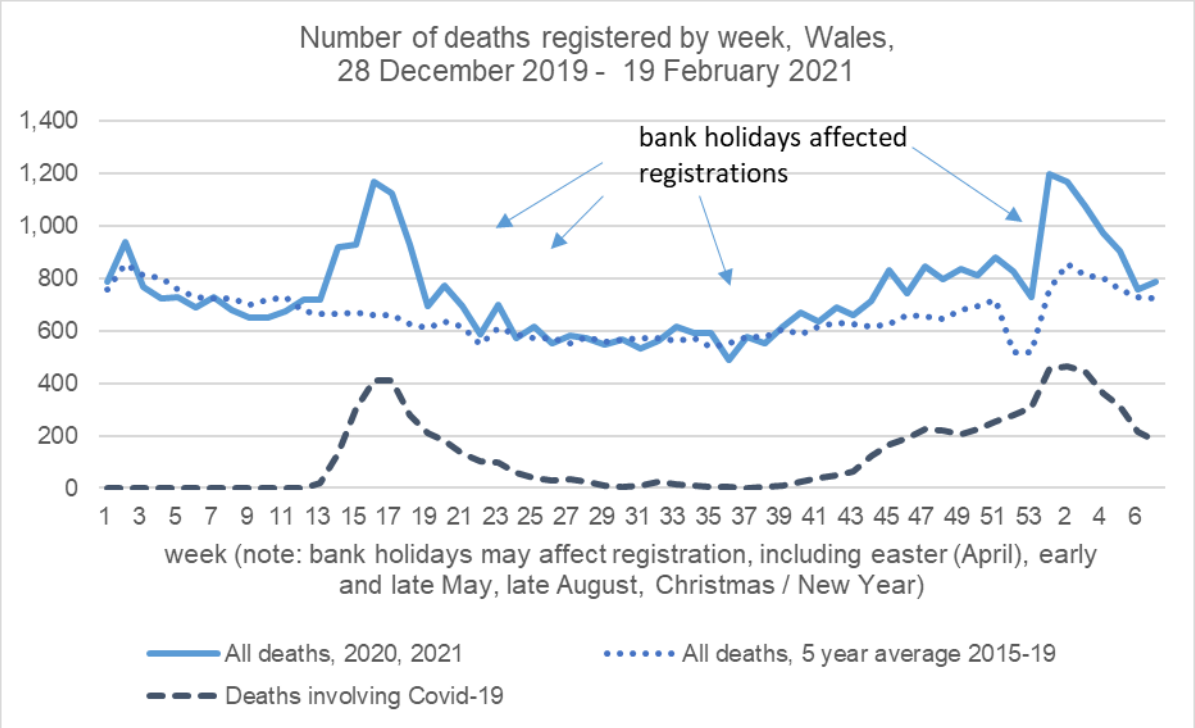
- It is important to note that this data includes reports of a death of a hospitalised patients in Welsh hospitals or care homes where COVID-19 has been confirmed with a positive laboratory test and the clinician suspects COVID-19 was a factor that caused death. It does not include patients who may have 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.

- Of the deaths registered in the week ending 19 February 2021, there were provisionally 179 deaths involving COVID-19 registered in Welsh residents. This was 23% of all deaths and 37 fewer than the previous week. The number of registered deaths involving Covid has declined for five successive weeks.

- 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 19 February 2021.

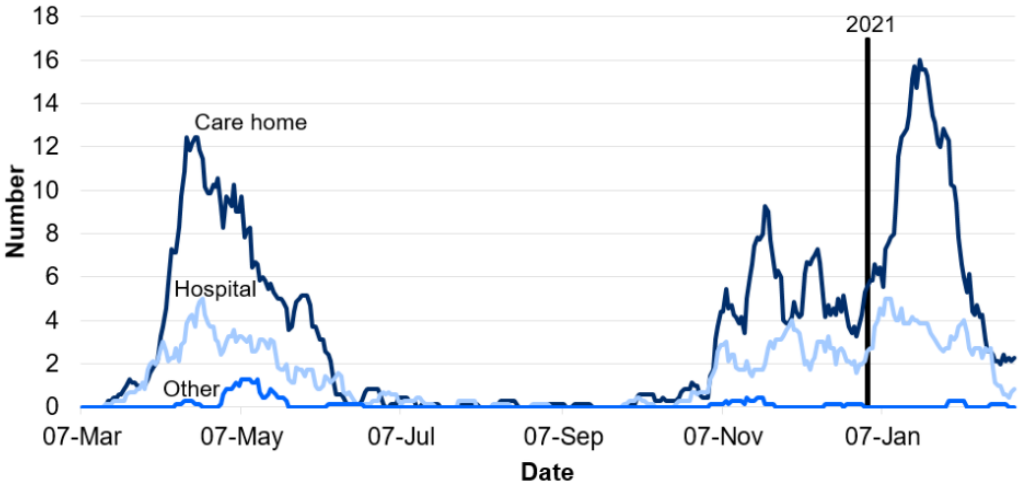


Source data: [Office for National Statistics]

Care homes

- Over the last few weeks the number of COVID-19 related deaths has been decreasing. Following a peak of 20 per day on 21 January 2021, there are now around 3 deaths per day in care home residents, which is similar to the number observed at the beginning of November 2020 and on 10 June 2020.

- The chart below shows the number of deaths of adult care home residents with confirmed or suspected COVID-19 by location of death and day of notification (7-day rolling average), between 7 March 2020 and 26 February 2021.

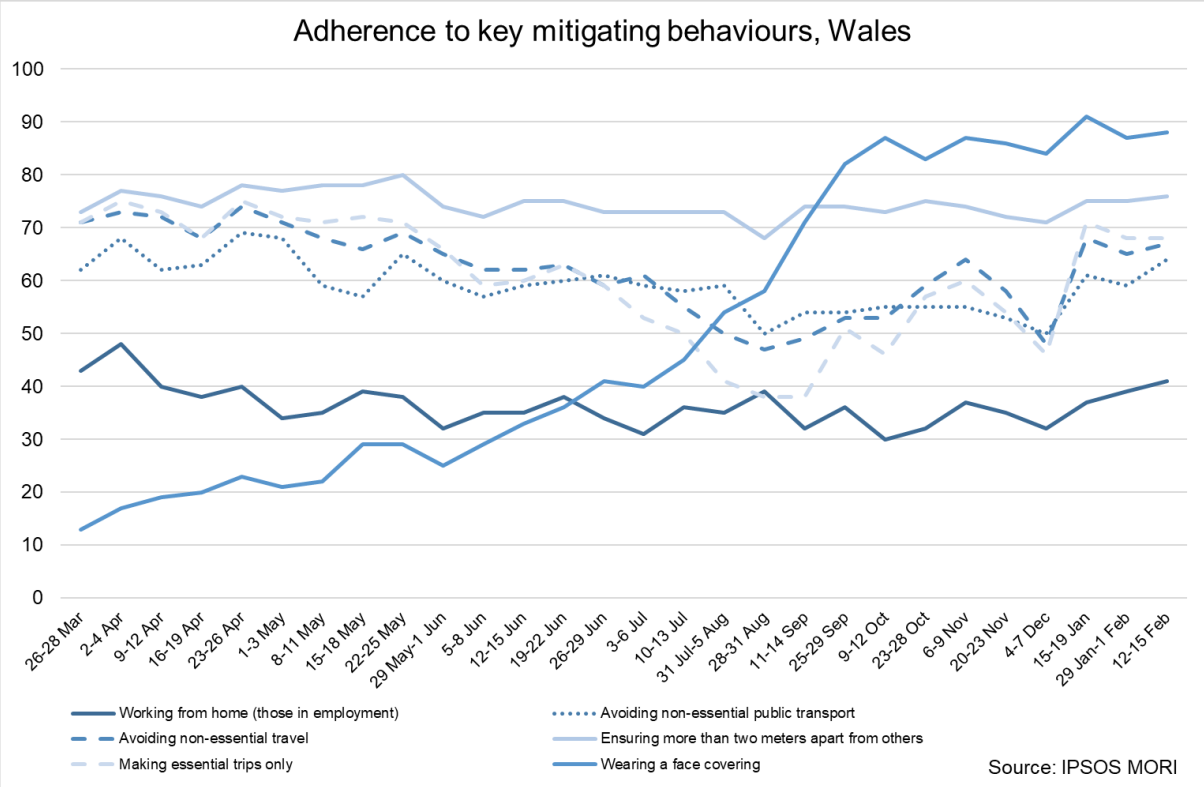


Source: Notifications of Service User Deaths received by Care Inspectorate Wales

- Further information on care home deaths from Care Inspectorate Wales is available here. Please note these are provisional figures to help monitor the impact of COVID-19. They are not comparable with data from Public Health Wales.

Adherence and understanding of current measures

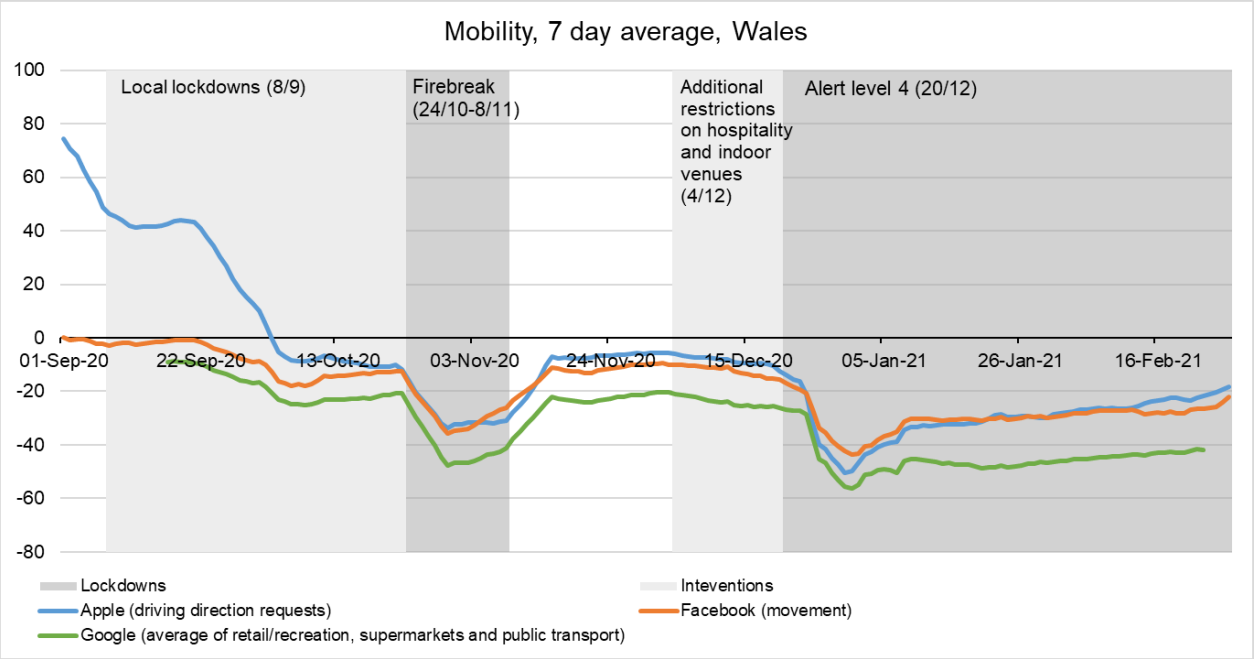
- There is new data from Public Health Wales this week. The results from IPSOS MORI are the same as last week.
- The most recent IPSOS MORI data for the period 12 – 15 February for Wales shows a similar picture to the last survey wave which was 2 weeks prior (29 January - 1 February). It should be noted 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.



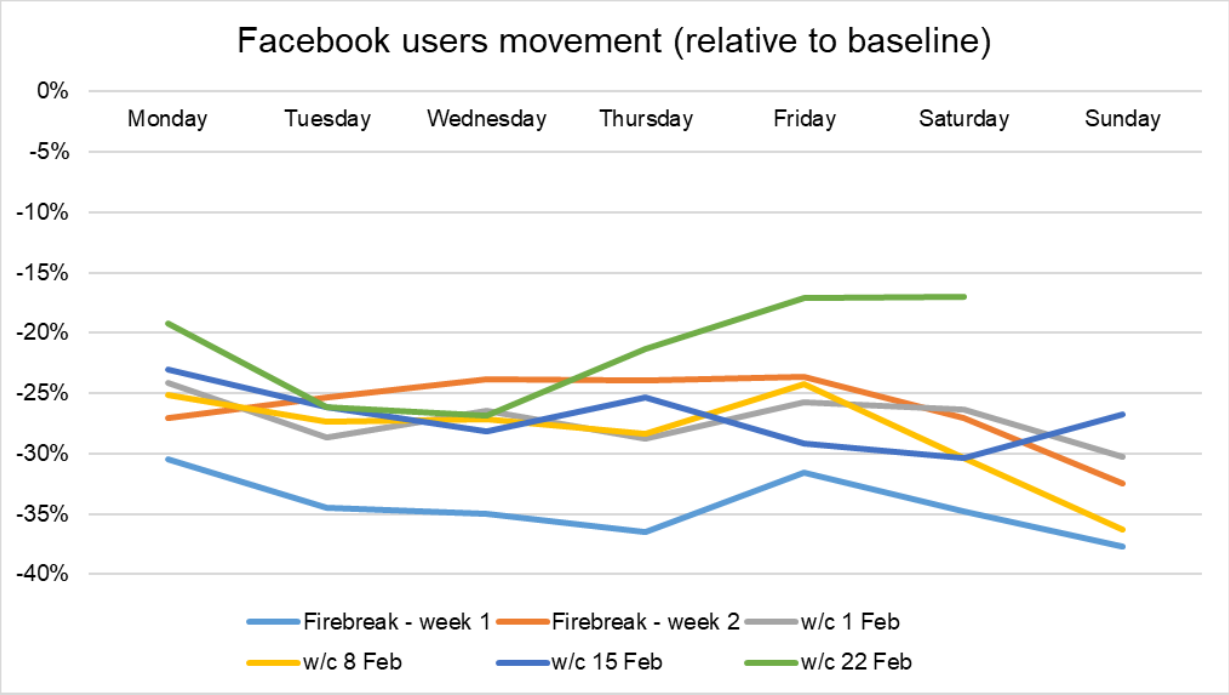
- The latest results from the [Public Engagement Survey on Health and Wellbeing during Coronavirus Measures] for the period 15 February – 21 February show that 53% of people say they understand the current restrictions in Wales 'very well'. A further 41% reported understanding the restrictions 'fairly well'. The survey also shows that 46% of people said they were following coronavirus restrictions 'completely' and a further 46% reported majority compliance. 19% reported having people outside their household/permitted extended household come into their house, whilst 14% reported going into others people's houses. These results have been broadly the same since alert level 4 started.

Mobility

- Mobility data for the final week in February from Facebook and Apple show increases in mobility compared to the previous week. Data from Google and O2 for the previous week in February show a mixed pattern, for example with small increases in workplaces but a small reduction in trips. The more recent data is showing mobility higher than the firebreak.



- The increases in the last week coincide with better weather and schools returning. The mobility data from Facebook shows increased movement on Friday 26 February and Saturday 27 February in particular.

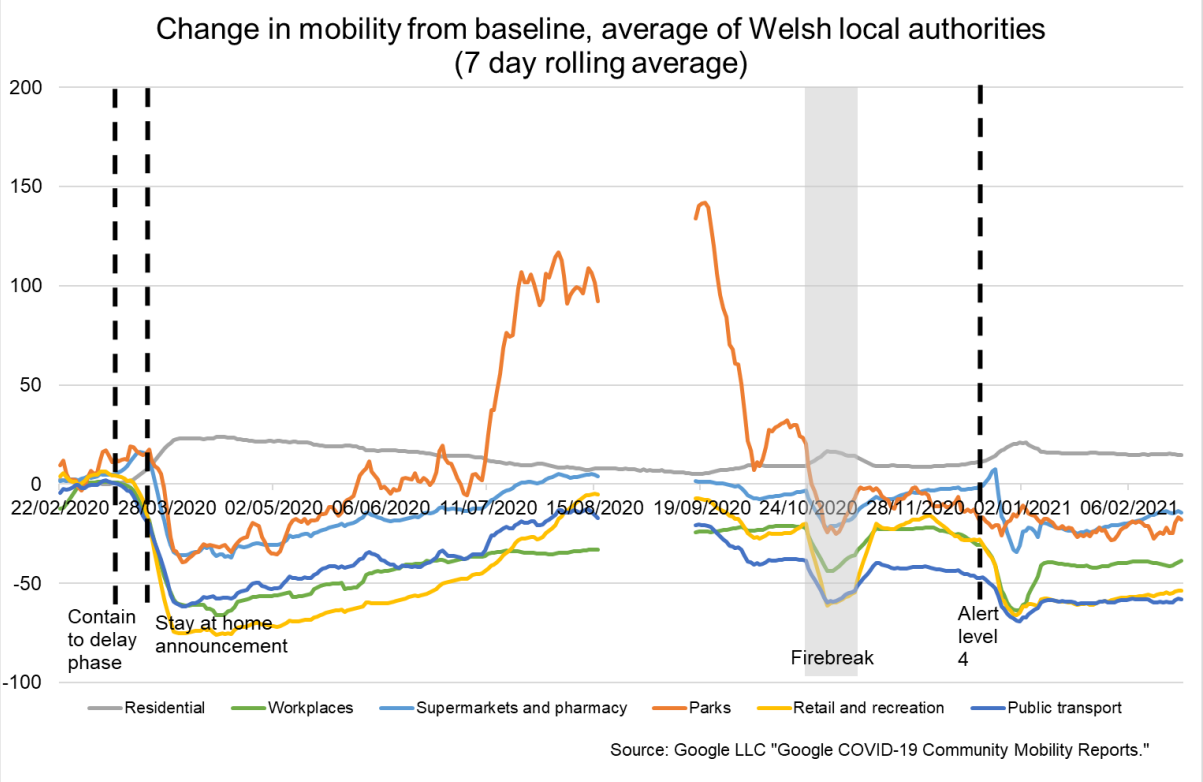


- Mobility of Facebook users in Wales shows movement was 22% below the baseline for the week to the 27 February. This is higher than the week before (28%). The percentage of users staying put (near to home) was 31%, lower than the week before (35%). The baseline is the average value, for the corresponding day of the week, during the 4-week period 2 February – 29 February 2020.
- Apple data for the week to the 27 February shows that requests for driving directions in Wales were up from the previous week at 82% of the baseline (up from 77%).

Requests for walking directions and requests for public transport directions increased from the previous week relative to the baseline. The baseline is the 13th of January 2020.

- The Google mobility data to the week of the 23 February for residential (i.e people spending time at home) are similar to the week before at 15% above the baseline. Workplaces were up slightly (at 39% below the baseline, up from 40%). Retail & recreation mobility was up from last week (54% below the baseline, up from 55%) whilst supermarkets & pharmacy show no change (14% below the baseline). Public transport and parks increased over the week relative to the baseline.

- 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 19 February shows a decrease in trips compared to the week before. Trips starting in Wales fell by 1 percentage point to 55% of 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 12,470 Welsh patients recruited to COVID-19 urgent public health studies, an increase of 245 since last report.

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

As at 25 February

- The proportion of calls to NHS 111 and NHS Direct related to possible COVID-19 symptoms are stable 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 decreased in the most recent week compared to the previous 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 6.8% in week 07.

- During week 07, incidence decreased or remained stable all age groups. Incidence was highest in those aged 85+.

- Confirmed case incidence has decreased or remained stable in all regions of Wales. Testing episode positivity continues to decrease nationally.

- At a national level, confirmed case admissions to hospitals and confirmed cases who are inpatients in hospital decreased compared to the previous week. In the most recent week, admissions to critical care wards remain stable compared to the previous week.

- Recent surveillance data suggest that COVID-19 infections in Wales are 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.

- There was an increase in the number of incidents reported in the most recent week, with care homes accounting for the highest proportion.

- From 22nd February, children in the Foundation Phase (aged three to seven) began to return to school in a phased manner. Vulnerable children and children of critical workers remain able to receive face-to-face learning on school sites. Schools surveillance information is available on the Public Health Wales dashboard.

- All-cause deaths have decreased in the most recent week and are now level with the 5 year average.

- Deaths in confirmed cases in hospital, reported through PHW mortality surveillance decreased in the most recent week.

- 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 34%, 28% and 22% of deaths respectively).

- Influenza is not currently circulating in Wales.

Local authority analysis from Public Health Wales

(Period covering 19 to 25 February 2021)

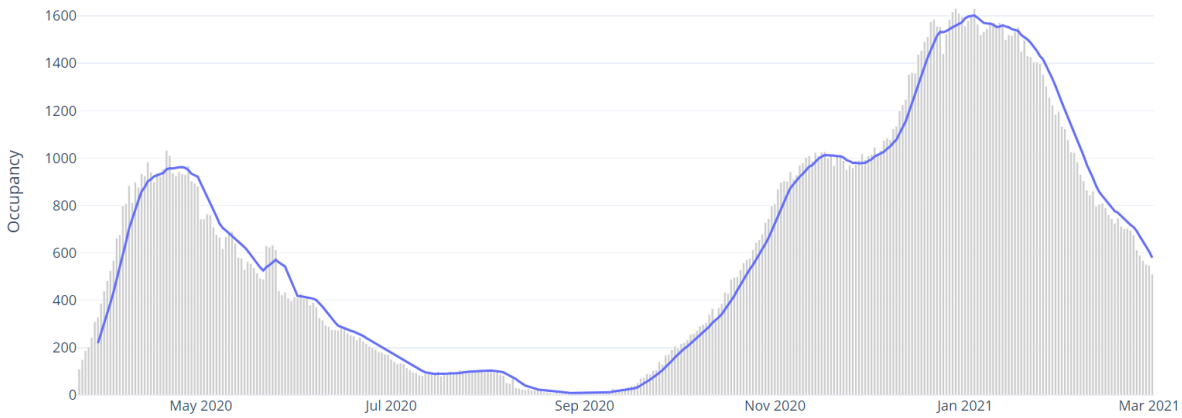
- Ceredigion is the only local authority with an incidence per 100,000 of 20 to < 25. Blaenau Gwent, Bridgend, Pembrokeshire, Rhondda Cynon Taf and Vale of Glamorgan have an incidence of 25 to < 50 per 100,000 population. The remaining local authorities have an incidence of 50 cases per 100,000 population or higher.

- Test positivity is above 5% in all local authorities, apart from Blaenau Gwent, Bridgend, Ceredigion, Denbighshire, Pembrokeshire, Rhondda Cynon Taf and Vale of Glamorgan.

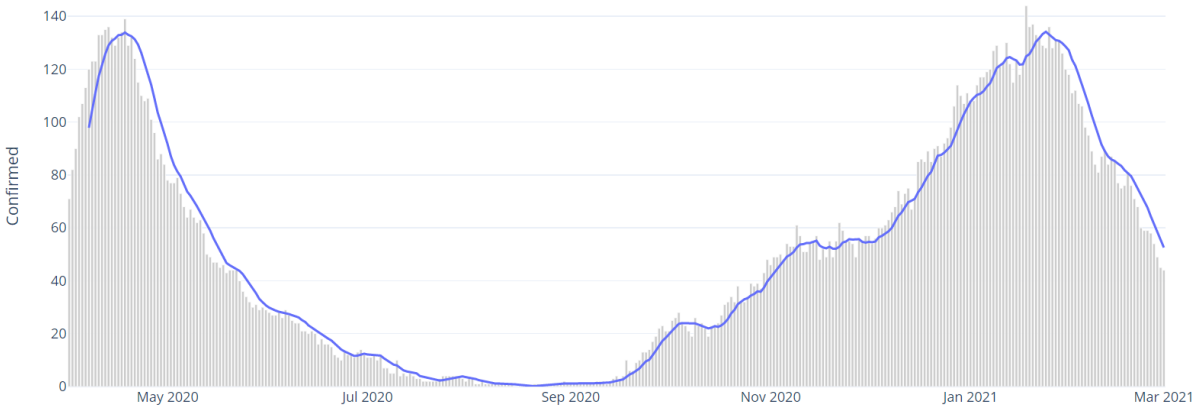
- Further information is available on the Public Health Wales dashboard. Please use caution in interpreting trends for the most recent period as testing data is not always complete and figures will be subject to future revision if late data feed though.

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 2 March).



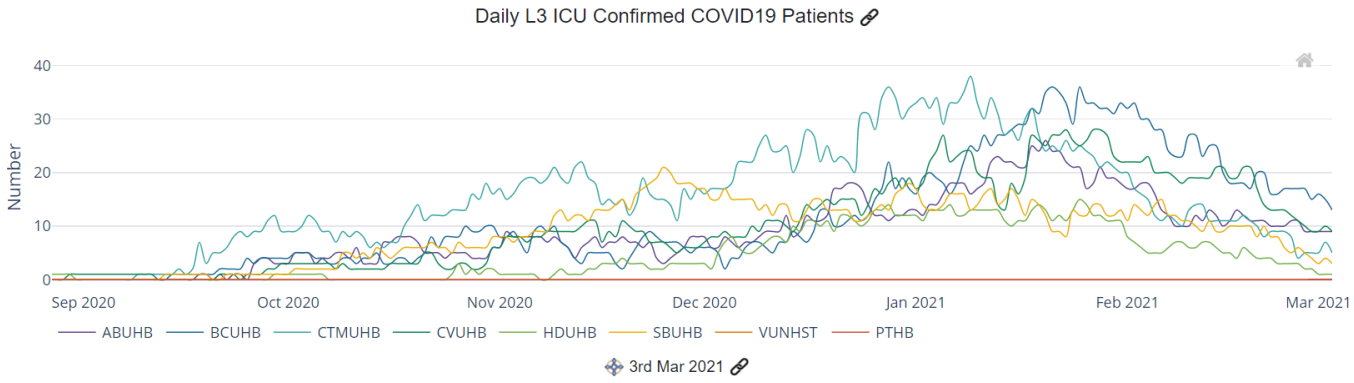
- The Figure below shows the confirmed COVID-19 intensive care unit (ICU) occupancy over the first and second wave of the pandemic (7 day rolling average, as at 1 March).



- As of 1 March the number of people with confirmed COVID-19 in hospital has decreased, but remains high with a weekly average of approximately 600 beds occupied. Both overall ICU occupancy (COVID-19 and non-COVID-19 patients) and occupancy for COVID-19 patients only have shown a steady decline, however since 5 February, there have still been around 2 to 4 COVID-19 ICU admissions per day. The number of people recovering from COVID-19 has dropped slightly although is still around 900 in the most recent week.

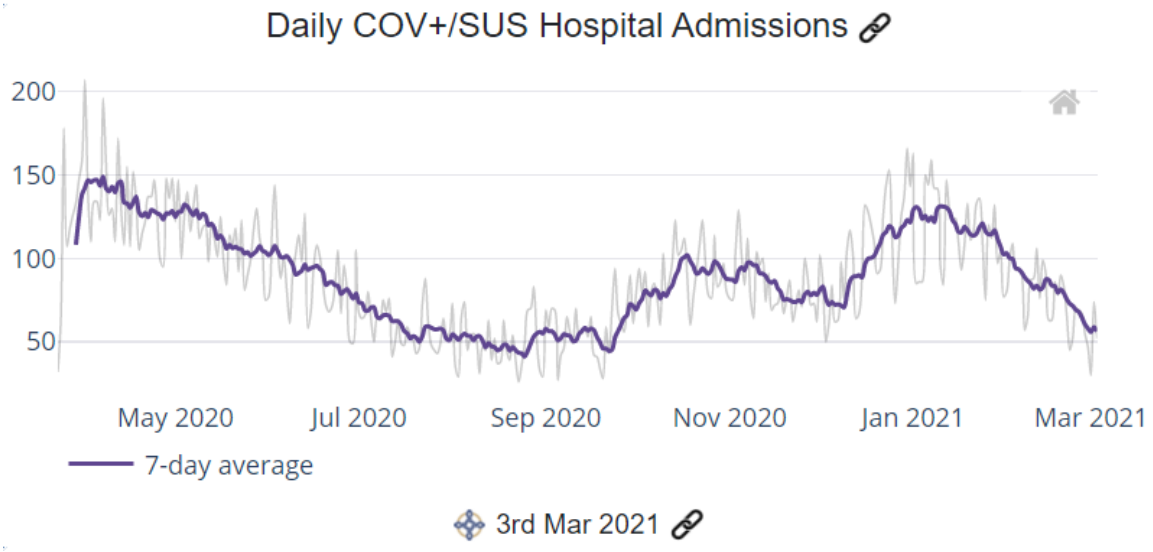
- When considering data on capacity (213 beds) and occupancy (154 beds) reported to us by local health boards, Level 3 ICU across Wales is approximately 70% occupied with both COVID and non-COVID patients (as of 1 March). However, there are normally approximately 152 critical care beds (Level 3 ICU equivalent) 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 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 3 March.

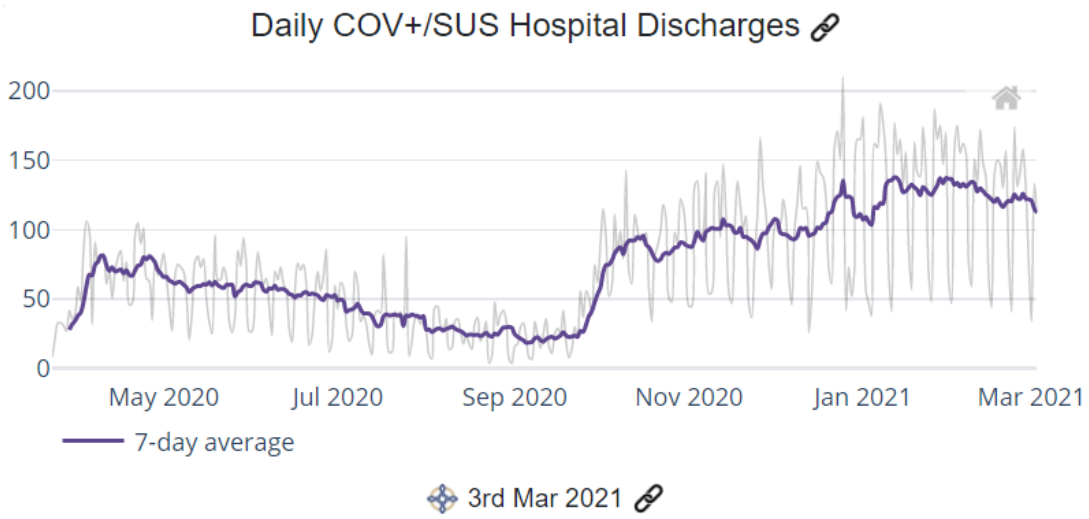


- The Figure below shows the number of people admitted to hospital and are either suspected (SUS) or confirmed as having Covid-19 (COV+). The purple line represents

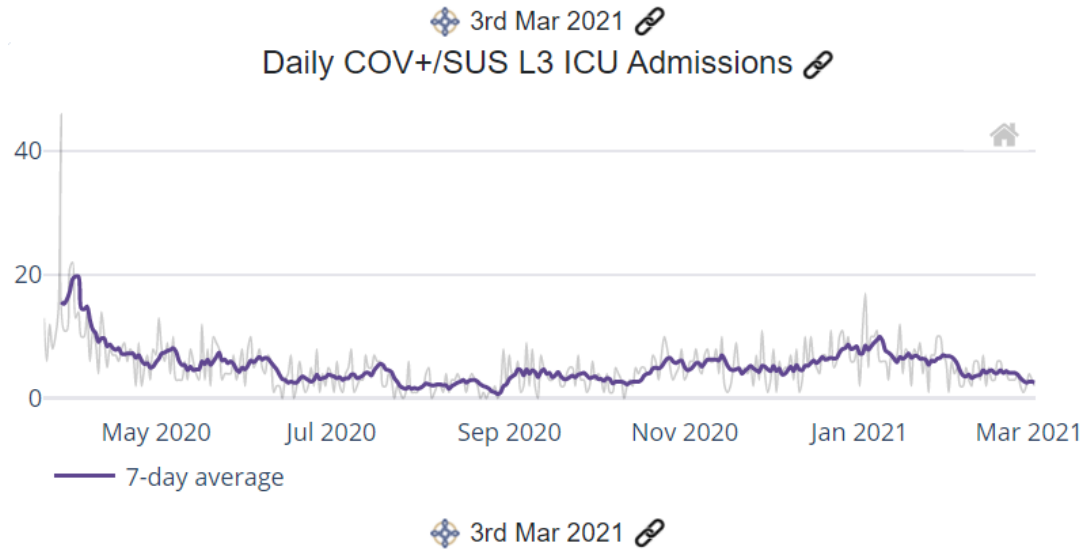
the total number over a rolling 7 day average, whilst the fainter grey lines show the actual figures at that time. Data as of 3 March.



- The Figure below shows the number of hospital discharges of people who are either suspected (SUS) or confirmed as having Covid-19 (COV+). 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 3 March.



- The Figure below shows patients admitted to the intensive care units and are either suspected (SUS) or confirmed as having Covid-19 (COV+). 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 3 March.



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.