

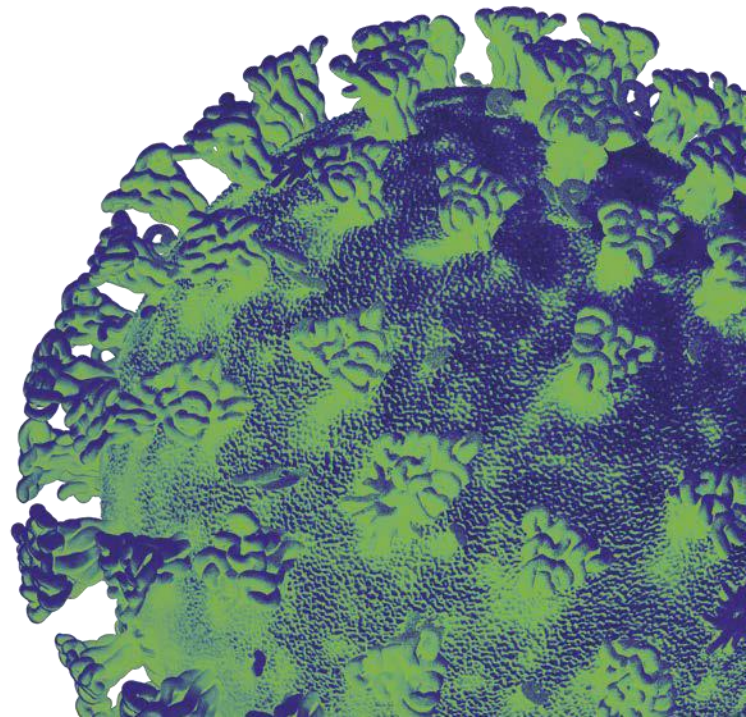
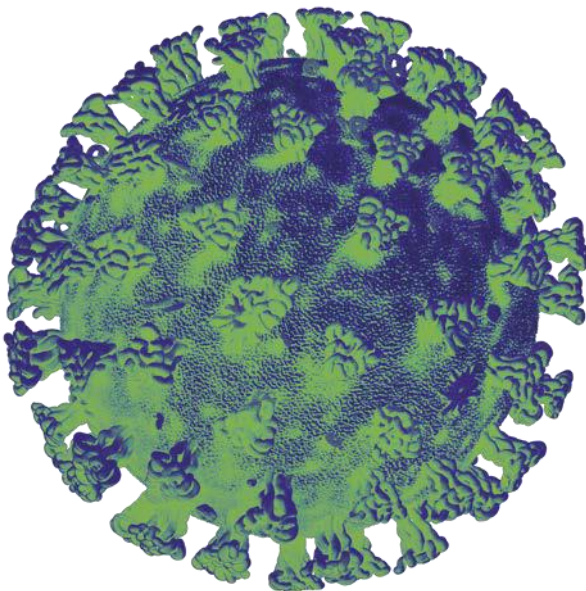
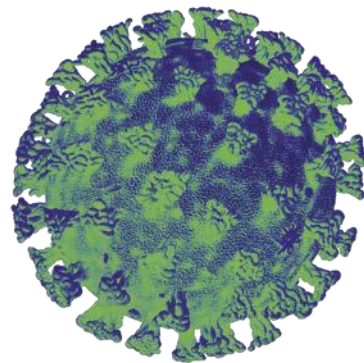


Llywodraeth Cymru
Welsh Government

Technical Advisory Cell

Summary of advice

6th November 2020



Technical Advisory Cell: Summary Brief

6th November 2020

Top-line summary

- It is estimated by SAGE that infections could be growing by between 1% and 4% per day. The most recent estimate of the Reproduction number (Rt) for Wales from SAGE is predicted to be between 1.0 and 1.3.
- ICU capacity for 1:1 care of NHS patients (COVID-19 and non-COVID-19) is now over 100% occupancy at 107%.
- According to estimates from the Office for National Statistics COVID-19 Infection study, approximately 1 person in every 110 of the community population in Wales had COVID-19 in the week 25 – 31 October. This has increased from 1 person in every 120 reported since last week.
- All mobility data shows very large falls since the firebreak and to greater effect than local lockdowns with mobility returning to levels last seen in May in some cases. While care should be taken when interpreting self-reported data, survey data indicates mostly similar individual adherence and understanding of current measures.
- New evidence (Medium Confidence) suggests there is higher levels of infection and transmission in school based age groups than previously thought and schools being open is associated with higher rates of infection in the population (mechanism for this remains unclear - potentially including many factors). There is strong evidence that continuing preschool, school or college attendance is important to support the wellbeing of children and young people. School closures are very likely to affect the mental health of adolescents, are moderately likely to impair students' cognitive, social, and emotional developmental outcomes and may also have an adverse effect on children's physical wellbeing.
- Considering risks to school and teaching staff, ONS data indicates that teaching is not a high risk profession, with positivity rates of pre-school, primary and secondary school teachers and staff of comparable ages, and household members, statistically similar to other low risk workplaces. Due to the inherent lag between exposure to the virus and becoming a confirmed case, the impact of the fire-break on other surveillance indicators would not be expected to be seen for at least 2-3 weeks following this period.

Growth rate and Reproduction number

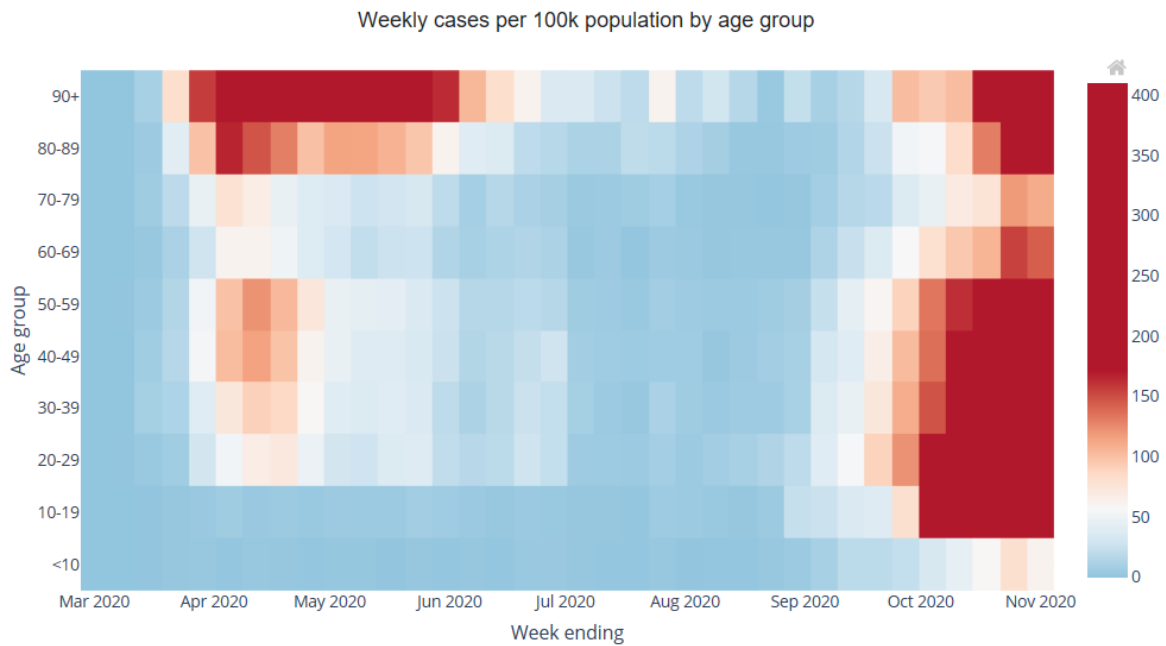
- The current daily growth rate is estimated by SAGE to be between 0.01 and 0.04 in Wales, indicating that infections could be increasing by between 1 % and 4 % per day.
- The most recent estimate of the Reproduction number (R_t) for Wales from SAGE is predicted to be between 1.0 and 1.3. The estimate 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 in from when they would pick up a change in infections. There are also time lags around some of the data
- A growth rate that is lower but still positive, or an R_t number above 1, continues to indicate that the epidemic is growing exponentially.

Doubling time

- There was a levelling off of cases during the 14 day period 20/10/2020 to 02/11/2020 giving a doubling time of 5371 days (95% CI 24days to -24days). There are continued difficulties in interpreting testing data and so estimates of doubling times remain uncertain. There is significant heterogeneity across geographies and the potential for faster doubling times in certain areas. [Estimates should be interpreted with caution and the confidence intervals taken into account.](#)
- Care should still be taken when interpreting R_t and growth rate estimates for the UK, due to their inherently lagged nature, and as these figures mask variation in the number of infections and how rates of transmission are changing in some parts of the country. Availability of testing may also be a constraint.

Age profile

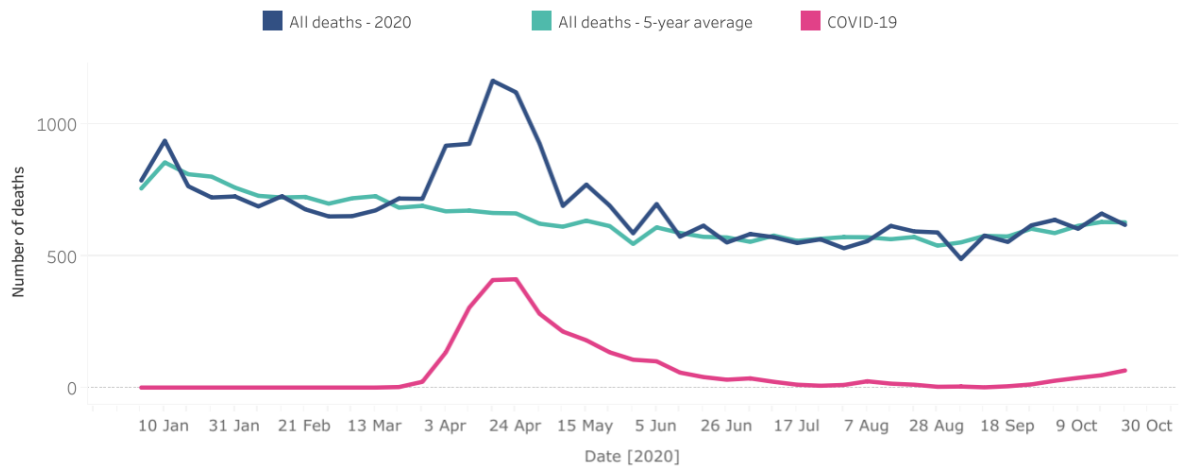
- The Figure below shows the number of confirmed COVID-19 episodes per 100,000 population, by week of sample collection and age group. Cases have been increasing in all age groups, with a continued increase in the number of cases seen in older age groups.
- Highest incidence was seen in those aged 18-25, however there are indications incidence in this age group has decreased compared to previous weeks and there has been enhanced testing associated with incidents in university settings.



Source: Welsh Government dashboard, data from Public Health Wales as at 09/11/2020

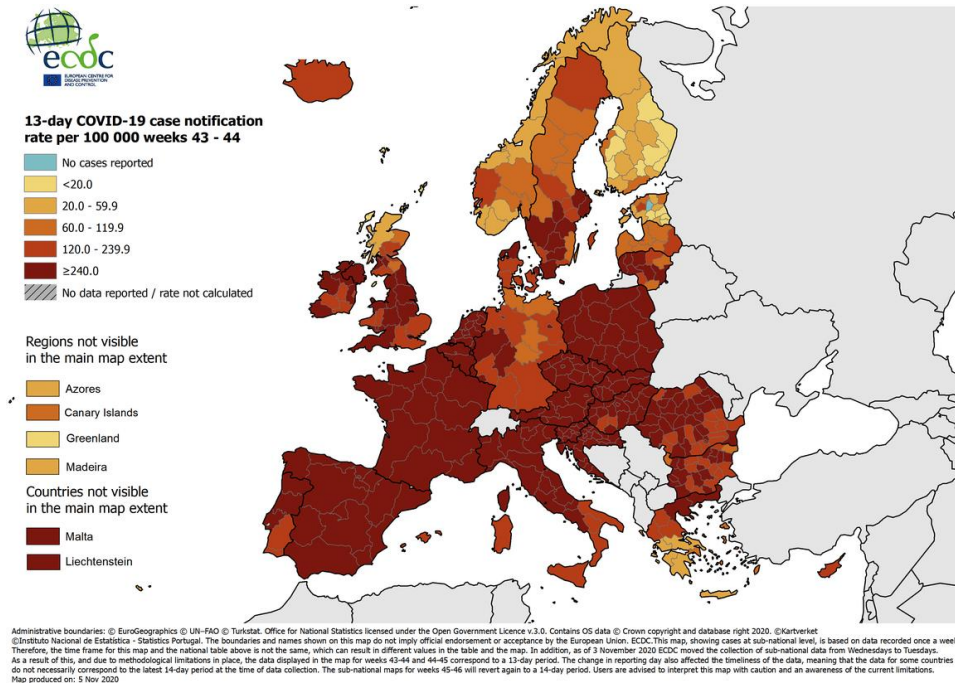
Deaths

- According to provisional death certificate data provided by the Office for National Statistics, there were 65 COVID-19 deaths in Welsh residents registered with COVID-19 mentioned on the death certificate during week 42 (ending 23 October). This has increased by 18 from the previous week.
- The weekly number of all cause deaths in Wales is at levels expected for this time of year, with no significant excess in all-cause mortality reported.
- The Figure below shows the weekly number of COVID-19 deaths (any mention on the death certificate) and 5-year average (2015-2019), week ending 3 January 2020 (Week 1) to week ending 23 October 2020 (Week 43).



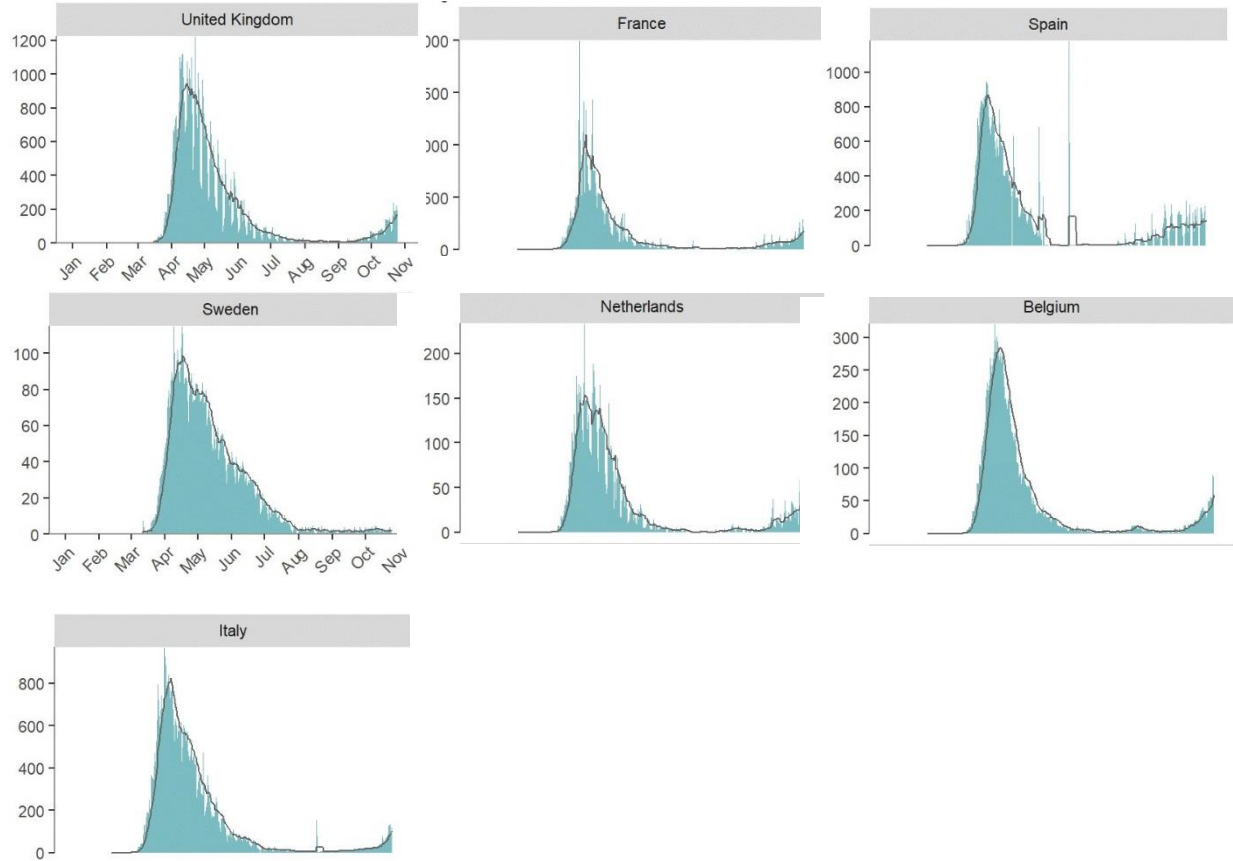
International update

- The pandemic continues to develop across Europe with even 'safer' countries such as Germany showing a rapidly deteriorating situation. This week, Germany and Denmark have been removed from the UK's International Corridor list, meaning that travellers returning from these countries will have to self-isolate for 14 days.

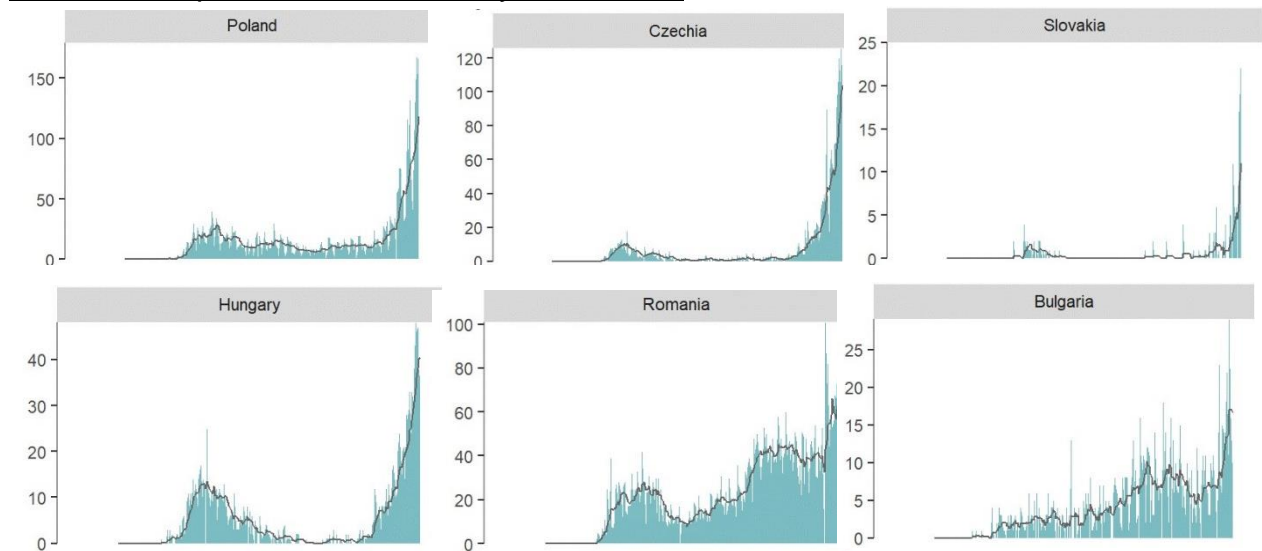


- As was reported last week, there appears to be a difference developing between western European countries and eastern European countries. The characteristics of the 'second wave' are far more pronounced in the eastern European countries than the western countries. This difference is illustrated in the graphs below which show the daily recorded COVID-19 deaths.
- While this could change, it appears that countries (west European countries) that experienced a large first wave are not experiencing as large second waves in terms of deaths whereas those that experienced small or very modest first waves are now experiencing sustained (Romania and Bulgaria) or very rapid rises (Czechia, Slovakia, Poland, Hungary) in death rates.

Western European Countries – daily death rates



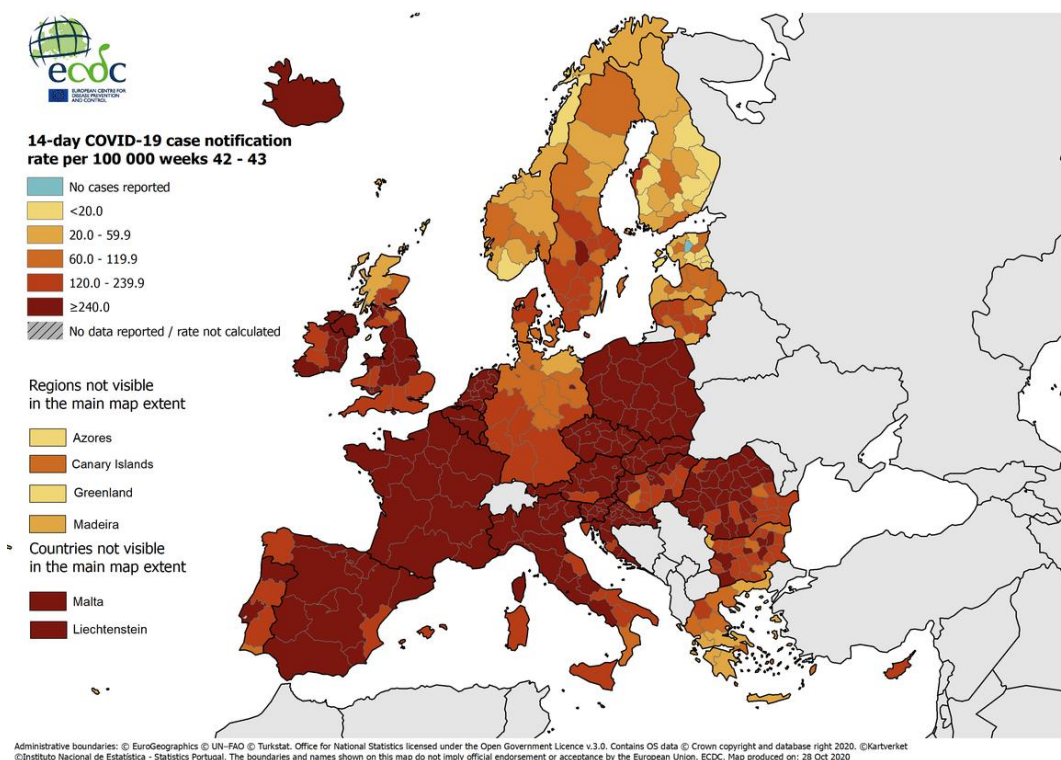
Eastern European Countries – daily death rates



- This suggests that the east European countries are more susceptible than west European Countries and are likely to experience more severe second waves, at least in the number of deaths as is happening already.
- It is not known why there should be this difference but it is thought it could be due to many factors, not least the unpreparedness of the health services, poorer

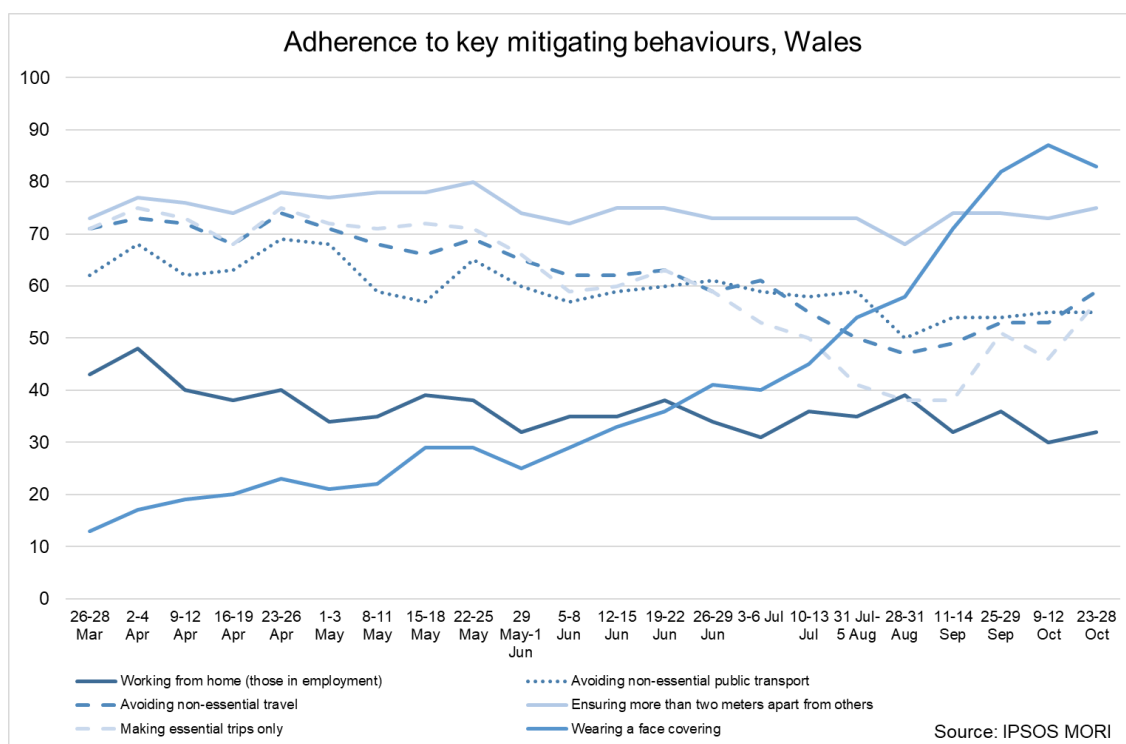
health care systems in general or a more susceptible population (in terms of not being as well prepared in behaviours and control measures or in biological susceptibility).

- What is clear is that the propagation of the pandemic takes on many forms depending on local circumstances and great uncertainties remain on how the disease is spreading at the large population level.
- Data on the picture across Europe, including caveats around data lags and variable testing policies is available [here](#).



Adherence and understanding of current measures

- The most recent [IPSOS MORI data](#) (new last week) for the period 23–28 October for Wales shows mostly similar results to 2 weeks ago for a number of key mitigating behaviours. The largest change was in the percentage who said they were only leaving home for essential trips which increased from 46% to 57%. 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 survey also covered the introduction of the firebreak period.
- 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.600 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.



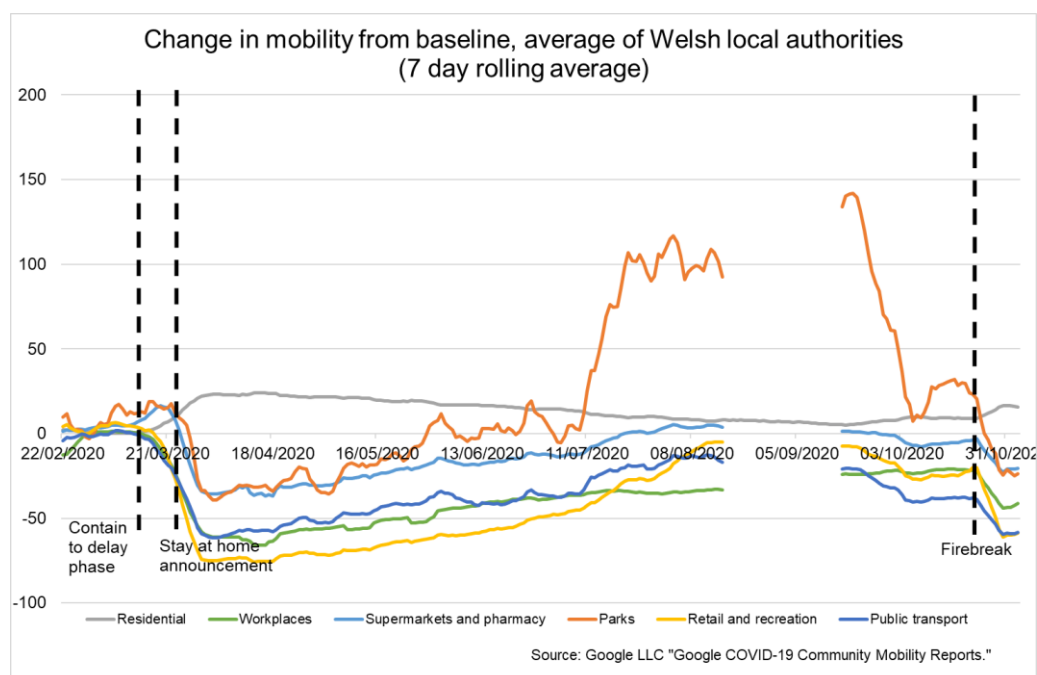
- The latest results (new last week) from the [Public Engagement Survey on Health and Wellbeing during Coronavirus Measures](#) for the period 19-25 October show that 58% of people say they understand the restrictions in their local area 'very well'. This is up from 48% in the previous survey (5-11 October). A further 32% reported understanding the restrictions 'fairly well'. The results also show that 47% of people said they were following coronavirus restrictions 'completely' and a further 42% reported majority compliance. This is similar to the previous survey and is in-line with results from the [covid social study](#).
- The covid social study (data to the 26 October) shows that both complete compliance and majority compliance in the UK are stable. The report also notes that *'Majority compliance with the measures to reduce the spread of the virus (broadly following the rules but with some modifications) is no different by education or income, but people with higher educational qualifications and higher household income are making more modifications to the rules ("majority" compliance). These groups also have lower confidence in the government to handle the pandemic and are more worried about the ability of the health service to cope (for education only) and the impact on their jobs. However, they are psychologically coping better, with better mental health.'*

Mobility

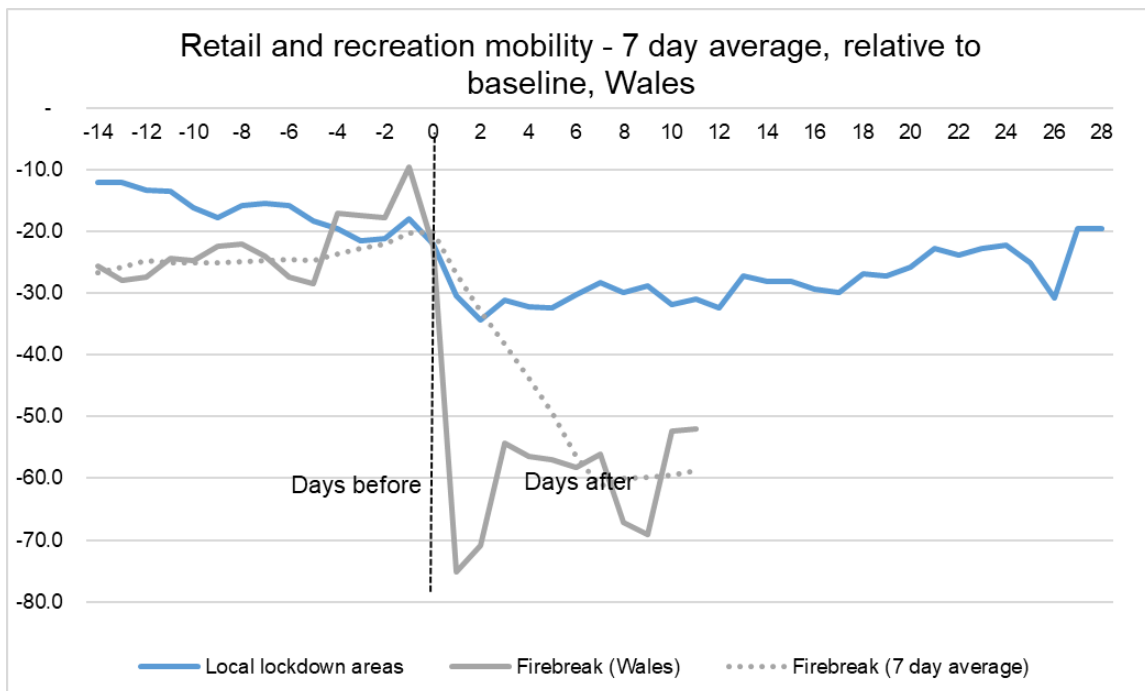
- All the mobility data shows very large falls since the firebreak started –falling to levels last seen in May during the first week of the firebreak in some cases. Data for the second week of the firebreak shows increases in mobility compared to the first week (which coincided with half term). The local lockdowns had reduced

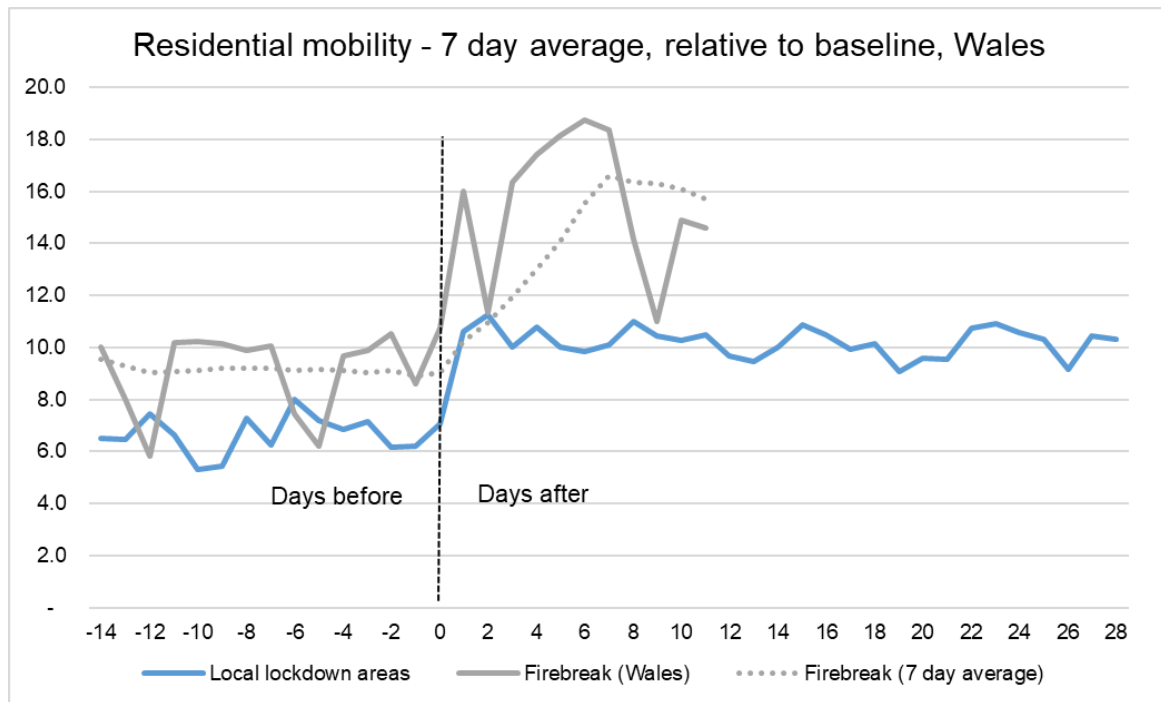
mobility, but the firebreak has had a much greater effect. Mobility in the UK shows a mixed picture, with some increases (eg Facebook, Google) and decreases (eg Apple and O2)

- Mobility of [Facebook users](#) in Wales shows movement was 31% below the baseline for the week to the 5 November. This is up from 33% the week before – but is down from 12% the week before the firebreak (23 October). The percentage of users staying put (near to home) was 34%, down from 37% the previous week. In the week before the firebreak it was 25%. 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 5 November shows that requests for driving directions in Wales are down significantly compared to pre-firebreak week at 68% of the baseline (down from 88%). They are similar to the previous week. Requests for walking directions and requests for public transport directions also show the same pattern. The baseline is the 13th of January 2020.
- The [Google mobility data](#) to the week of the 3 November shows increases in residential (i.e people spending more time at home) compared to the week before the firebreak, 16% above the baseline up from 9%. All other categories show large falls compared to the week before firebreak – most notably retail & recreation – 59% below the baseline (was 20% before the firebreak). Workplace mobility was 41% below the baseline – down from 22% before the firebreak.
- 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 to the 30 October shows large reductions in trips compared to the week before (pre-firebreak). Trips starting in Wales fell by 26 percentage points to over 50% below the baseline. Trips in the UK fell slightly by 3 percentage points compared to the previous week. In the first few days of the local lockdowns, trips fell by an average of 12 percentage points, but after 28 days had (on average) returned close to pre-local lockdown levels. The baseline for the O2 data is the same day of the week in the first week of March.
- The firebreak shows a far greater impact on mobility than the local lockdowns. The Google data also shows that the firebreak has had much greater impact on mobility. The Google data shows that for both supermarkets/pharmacies and retail/recreation, local lockdowns resulted in reductions in mobility in those categories. However as with the trips data these show a steady increase, with levels close to pre-lockdown levels after 28 days.
- Conversely, time spent in the residential category (time spent at home) does not show a fall during the length of the local lockdowns. This may be due to people travelling locally only, thus being able to spend more time at home.





Research

- There are currently 6632 Welsh patients recruited to COVID-19 urgent public health studies, an increase of 460 in last 7 days.

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

As at 4th November 2020

- The proportion of calls to NHS 111 and NHS direct related to possible COVID-19 symptoms increased compared to the previous week.
- GP consultations for Acute Respiratory Infection (ARI) remained stable in week 44 however consultations for suspected COVID-19 increased.
- Ambulance calls possibly related to COVID-19 are currently stable.
- The number of laboratory confirmed COVID-19 episodes increased nationally compared to the previous week and testing positivity was over 19%.
- During week 44, incidence increased across most age groups, incidence was highest in those age 18-25.
- Confirmed case incidence and testing episode positivity continue to rise in many health board regions of Wales.

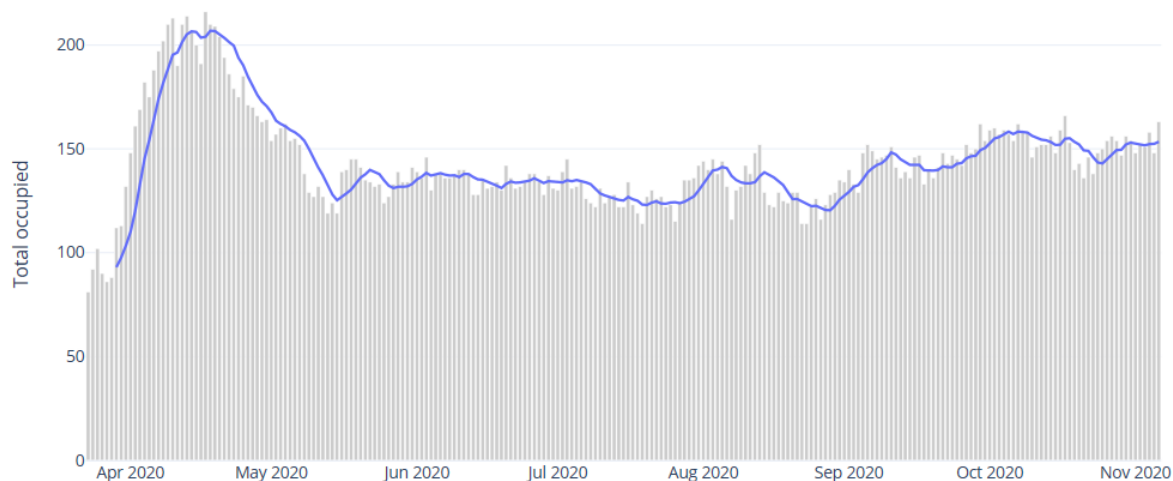
- Confirmed case admissions to hospitals and confirmed cases who are inpatients in hospital have increased in recent weeks in all health board areas, currently being highest in Cwm Taf Morgannwg UHB.
- Recent surveillance data suggest that COVID-19 infections in Wales are geographically wide spread, with the majority of local authority (LA) areas experiencing increasing trends in confirmed case incidence and percentage of testing episodes positive for SARS-CoV2.
- There are increasing numbers of incidents reported, mainly in residential care homes, school settings and university students.
- Following increases in COVID-19 across all regions of Wales, a Wales-wide 'fire-break' restriction on non-essential travel outside the home was introduced on Fri 23 Oct and will be in place until Mon 9 Nov.
- All-cause deaths are at seasonally expected levels, although some increases noted for recent week in older adults. Increases in deaths in confirmed cases in hospital have been seen.

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 9th November). Total hospital bed occupancy for confirmed COVID-19 patients has been rising and has exceeded the agreed 'circuit breaker' of 500 patients.



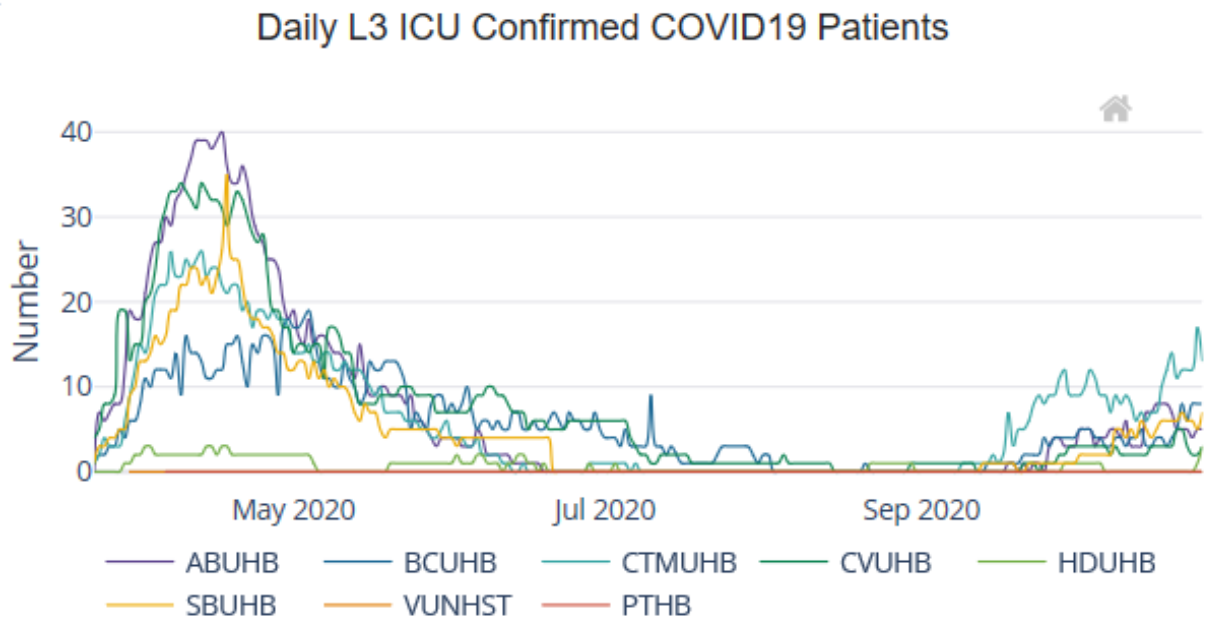
- The Figure below shows the confirmed COVID-19 intensive care unit (ICU) occupancy over the first and second wave of the pandemic (7 day rolling average, as at 9th November). Covid-related ICU occupancy has not yet reached the 'circuit breaker' threshold, but is showing an upward trend. Total critical care bed occupancy (for COVID and non COVID patients) is just above the agreed circuit breaker, but increasing slightly.



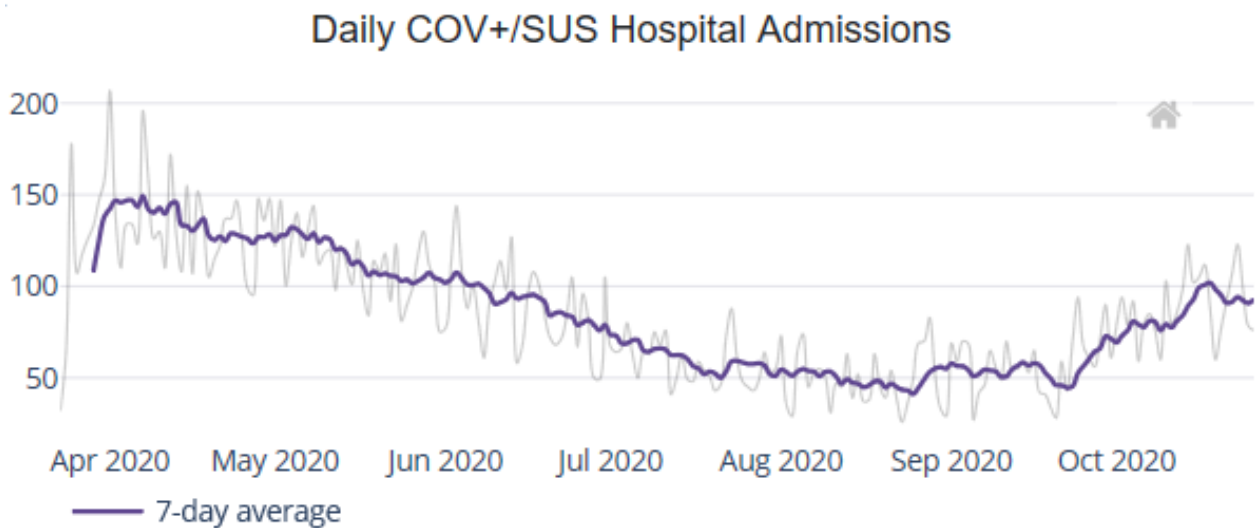
- The table below details the overall occupancy of ICU beds across health boards in Wales. The number of confirmed or suspected COVID-19 patients in ICU has increased since last week.
- The first column in the table indicates overall ICU occupancy (COVID-19 and non-COVID-19 patients) when additional possible capacity is considered.
- Occupancy figures are based on ICU capacity reported to us by local health boards (257 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. Also this does not factor in regional variation; some ICUs are close to capacity and conveying critically ill COVID-19 patients by ambulance is not desirable unless absolutely necessary.
- The table below now includes 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).
- Hospital data updated as at 09/11/2020.

| Health Board | Level 3 ICU Occupancy % | Level 3 ICU occupancy (% of 1:1 ratio beds occupied) | COVID-19 Suspected Patients | COVID-19 Positive Patients |
|--------------|-------------------------|--|-----------------------------|----------------------------|
| Wales | 63% | 107% | 7 | 54 |
| ABUHB | 54% | 83% | 3 | 8 |
| BCUHB | 83% | 135% | 1 | 9 |
| CTMUHB | 72% | 124% | 2 | 19 |
| CVUHB | 45% | 121% | 1 | 8 |
| HDUHB | 59% | 86% | 0 | 1 |
| SBUHB | 86% | 89% | 0 | 9 |

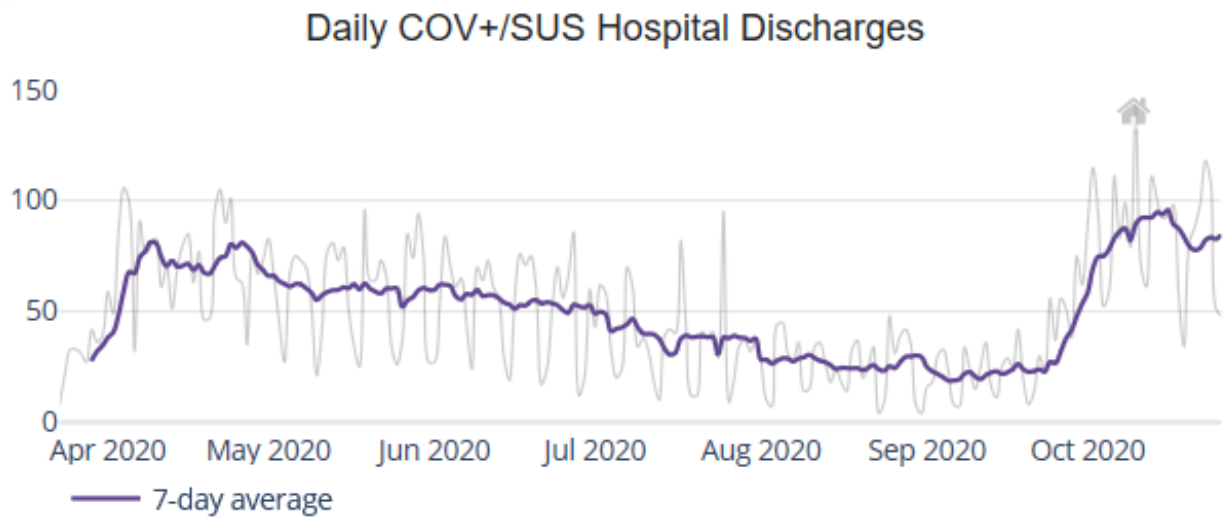
- The Figure below shows the total number of people who have tested Covid-19 positive and are in ICU in hospitals across the different health boards in Wales.



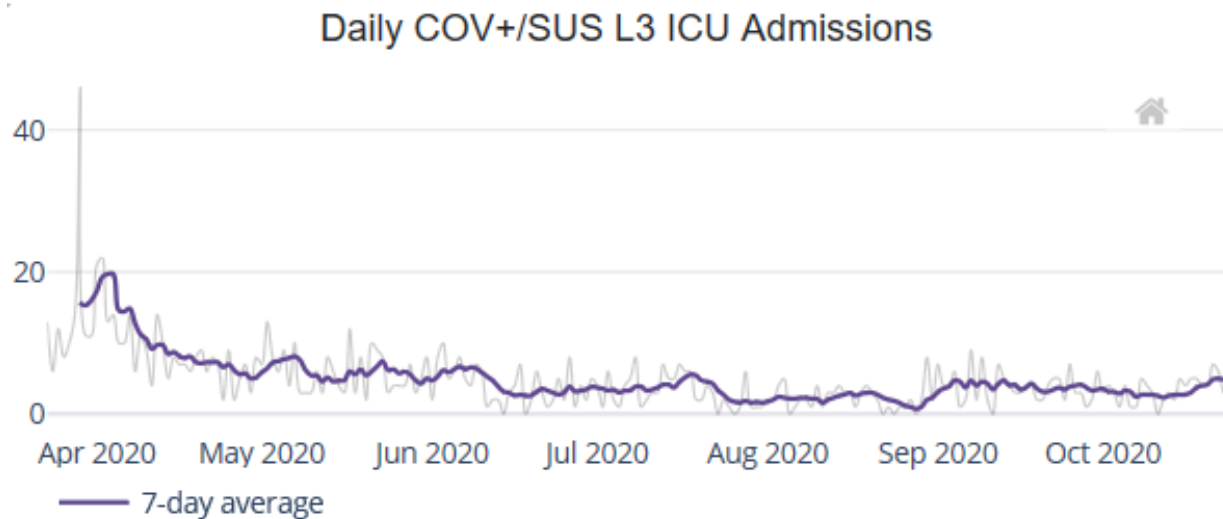
- The Figure below shows the number of people admitted to hospital and are either suspected or confirmed as having Covid-19. The purple line represents the total number over a rolling 7 day average, whilst the fainter grey lines show the actual figures at that time.



- 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.



- 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.



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.

