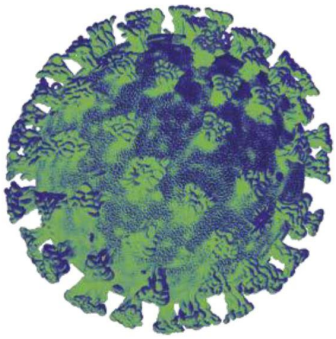
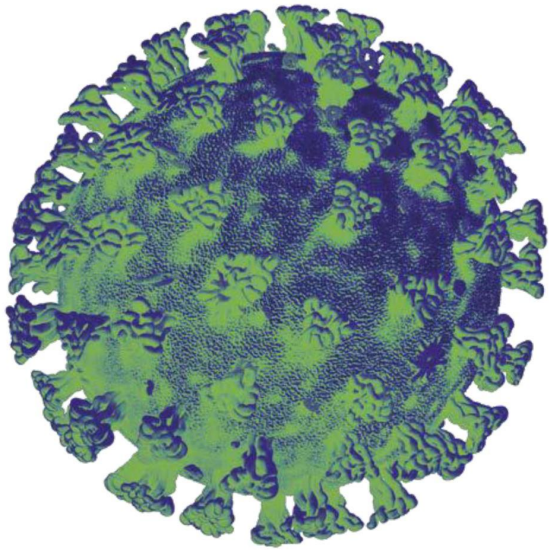
Llywodraeth Cymru
Welsh Government

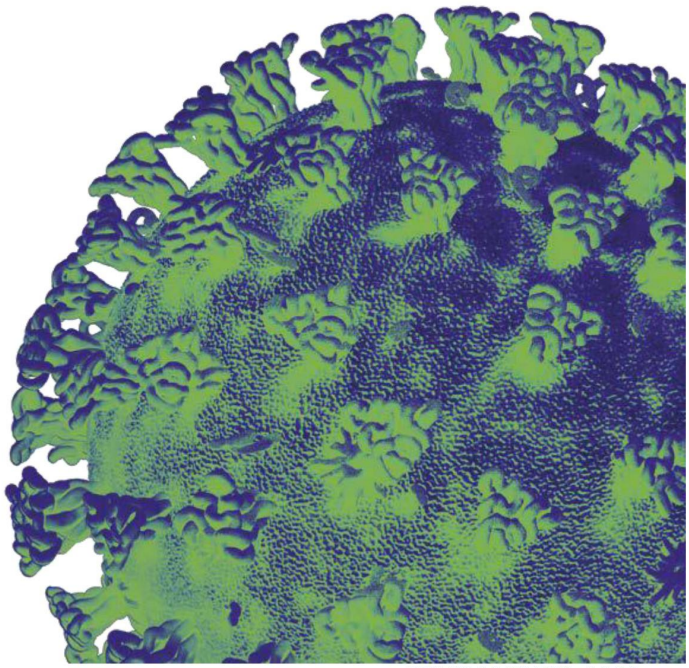
Technical Advisory Cell

Summary of advice

20th November 2020







Technical Advisory Cell: Summary Brief

20th November 2020

Top-line summary

- Cases of COVID-19 decreased following the firebreak, pushing back the epidemic by around 3 weeks and offering an early indication of its positive impact (highly likely). More recent data shows these positive effects have largely been lost, as cases have now started to show an increase (likely).

- Mobility data provides an early indicator of changes in population movement in response to local and national guidelines. The firebreak had a significant impact on mobility and some impact on self-reported adherence in a few categories (e.g. people staying local). Mobility has returned to levels seen prior to the firebreak (highly likely).

- The following are lagging indicators in that they reflect the position in Wales in previous weeks rather than the current position:

    - SAGE estimate R_t to be between 0.8 and 1.0 and are confident R_t is below 1 in Wales. SAGE estimate that infections could be decreasing by between 0% and -4% per day.

    - Results from the ONS Covid-19 Infection Study indicate that approximately 1 person in every 165 had COVID-19 in the week 8th – 14th November (improved from 1 in 85 reported last week). After peaking in late October, positivity rate in Wales has fallen in the latest two weeks.

    - COVID-19 hospital occupancy remains over the confirmed 'red' circuit breaker and has shown levels exceeding those seen in April. ICU occupancy of COVID-19 and non-COVID-19 patients have shown some reductions over the last week, however 1:1 care for all patients in ICU was still not possible in some health boards.

    - According to the ONS, the number of deaths up to 13 November 2020 was 9% above the 5-year average in Wales, with 10% of these mentioning COVID-19. This is lower than that seen in England, where the number of deaths was 13.3% more than the 5-year average, with 11.6% of these mentioning COVID-19. However when considering recent data from around October onwards, the excess death rate for Wales was higher than England (13% compared with 9%) and higher than most English regions.

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

- A paper from the Technical Advisory Group on SARS-CoV-2 infection risks at ice rinks was published here.

Growth rate and Reproduction number

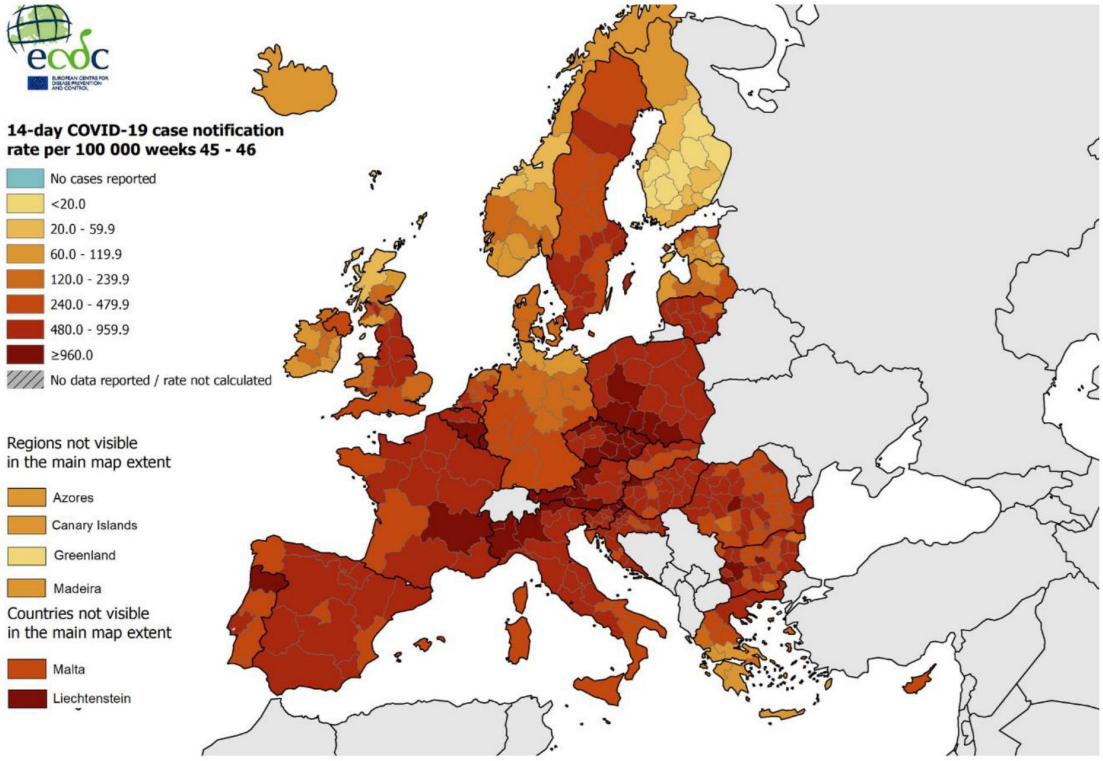
- The current daily growth rate is estimated by SAGE (19th November) to be between -0.04 and 0.00 in Wales, indicating that infections could be decreasing/stable by between -4% and 0% per day (lagging by 2-3 weeks).
- The most recent estimate of the Reproduction number (R_t) for Wales from SAGE (19th November) is predicted to be between 0.8 and 1.0. The estimate of R_t is shown as a range without a central estimate (lagging by 2-3 weeks).
- 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.
- 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, how rates of transmission are changing in some parts of the country and testing availability.
- 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.
- Estimates should be interpreted with caution and the confidence intervals taken into account.

Doubling time

- SAGE estimates doubling times for new infections across the UK to be between 28 to 63 days in the UK.
- 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 or halving times in certain areas.

International update

- The map below shows the 13-day average incidence rate per 100,000 people for weeks 45-46. As last week, it is clear that in many regions, the incidence has risen to over 240 cases per 100,000 people.
- Data on the picture across Europe, including caveats around data lags and variable testing policies is available here.



Additional insight from France

- The government confirms privately and publicly that lockdown is "working", as news cases continue to fall.
- Although numbers in ICU have started to fall, the situation in hospital services remains critical. Yesterday, there were still over 33,000 Covid-19 patients in hospital, including more than 4,700 in ICUs. Covid-19 cases account for 94% of overall ICU capacity.
- A roadmap to Christmas will be set out next Tuesday, but the country looks set to remain in 'lockdown-lite' well into December – with bars and restaurants unlikely to open until the New Year.
- Black Friday is delayed as the government give into pressure from shopkeepers.
- While the French government welcomes recent announcements on vaccines, almost half of French people say they won't get one.

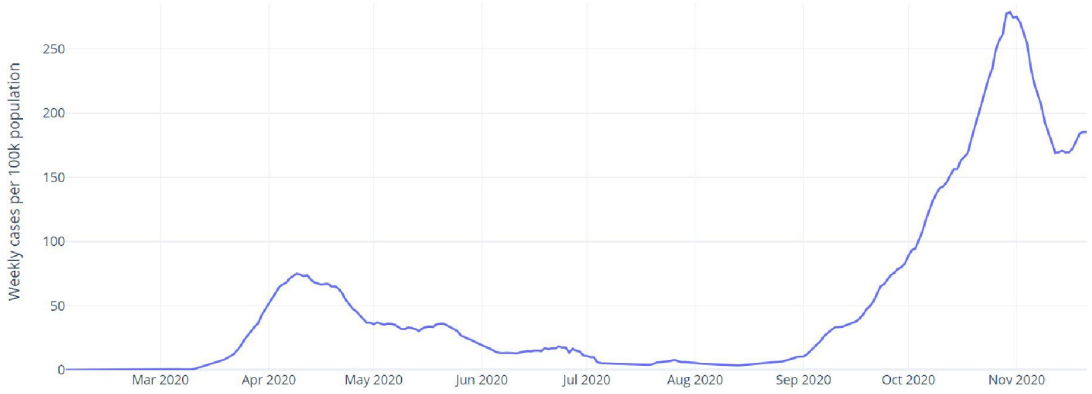
ONS infection study results

- For the week 8 to 14 November, an average of 0.61**%** of the community population in Wales had COVID-19 (95% credible interval: 0.38% to 0.88%).
- This equates to approximately 1 person in every 165 (95% credible interval: 1 260 in to 1 in 115), or 18,400 people during this time (95% credible interval: 11,700 to 26,700).
- The positivity rate has fallen in the latest two weeks, after peaking in late October.

- Note that there is uncertainty around the estimates and credible intervals are provided to indicate the range within which we may be confident the true figure lies. 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.

Effects of the firebreak on case numbers

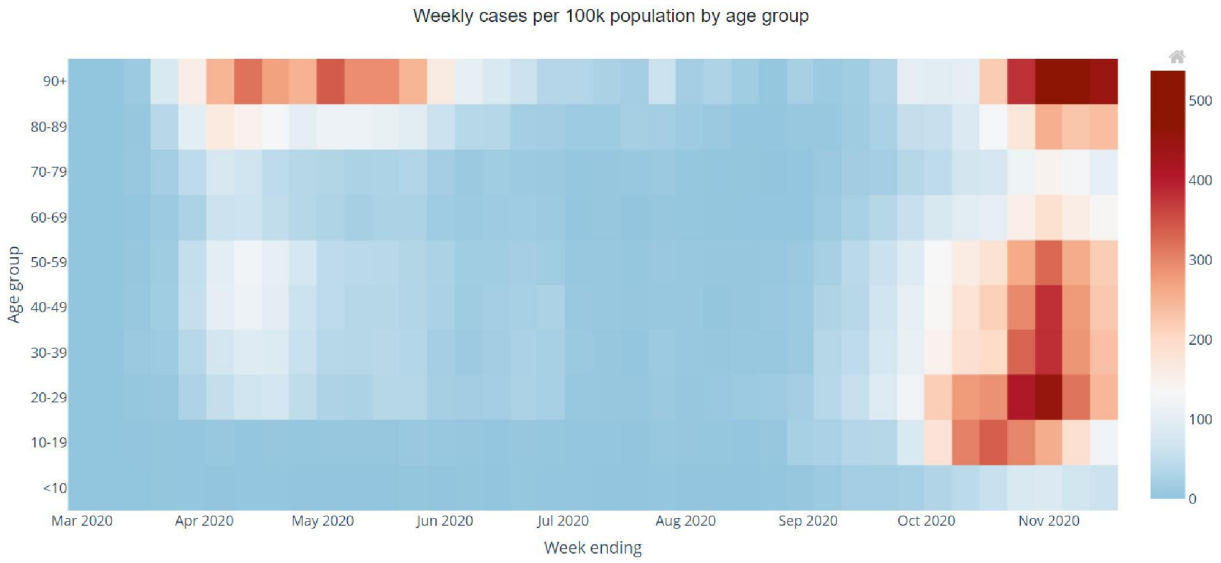
- The figure below shows that numbers of confirmed COVID-19 cases per day (7 day rolling average, per 100,000 of the population) were reducing, however this has been followed by a subsequent increase in cases.



Source: Data from Public Health Wales as of 21st November 2020

Age profile

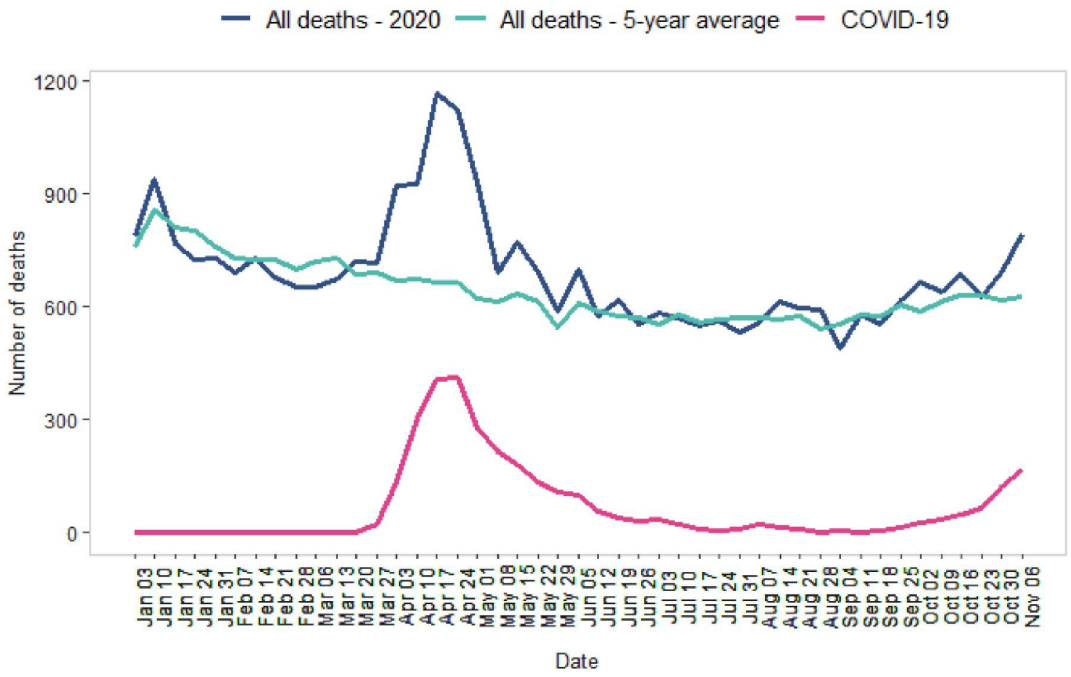
- The Figure below shows the number of confirmed COVID-19 episodes per 100,000 population, by week of sample collection and age group. As at 19th November 2020, incidence showed a decrease across all age groups. Incidence was highest in those aged 85 years and older.



Source: Welsh Government dashboard, data from Public Health Wales as at 19/11/2020

Deaths

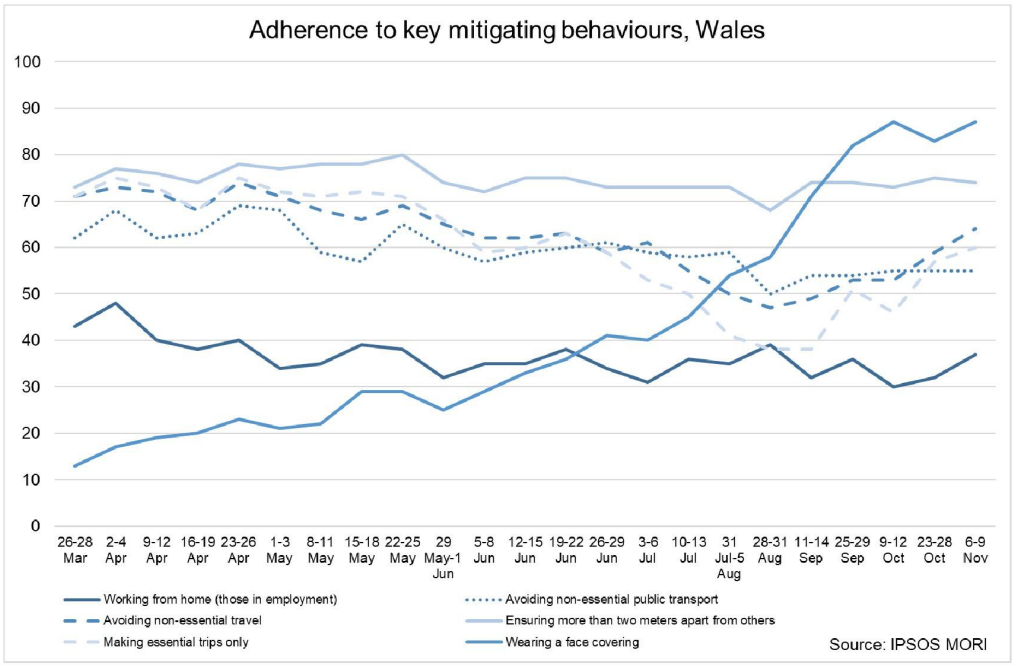
- According to provisional death certificate data provided by the Office for National Statistics, there were 166 COVID-19 deaths in Welsh residents registered with COVID-19 mentioned on the death certificate during week 45 (ending 6 November). This has increased by 45 from the previous week.
- The number of all-cause deaths have increased above the 5-year average compared to the same week for previous years.
- According to the ONS, the number of deaths up to 13 November 2020 was 9% above the 5-year average in Wales, with 10% of these mentioning COVID-19. This is lower than that seen in England, where the number of deaths was 13.3% more than the 5-year average, with 11.6% of these mentioning COVID-19. However when considering recent data from around October onwards, the excess death rate for Wales was higher than England (13% compared with 9%) and higher than most English regions.
- 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 6th November 2020 (Week 45).



Source: Public Health Wales

Adherence and understanding of current measures

- The most recent IPSOS MORI data (new last week) for the period 6–9 November for Wales shows similar results to 2 weeks ago for a number of key mitigating behaviours. There were further increases in people reporting working from home, making essential trips only and avoiding non-essential travel. These data cover the final weekend of 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.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 2-8 November show that 50% of people say they understand the current restrictions in Wales 'very well'. A further 42% reported understanding the restrictions 'fairly well'. The results also show that 45% of people said they were following coronavirus restrictions 'completely' and a further 45% reported majority compliance. This is similar to last two survey waves and is in-line with results from the covid social study. 23% reported having people outside their household/permitted extended household come into their house, whilst 16% reported going into others people's houses.

- The covid social study (data to the 9 November) shows that both complete compliance and majority compliance in the UK have increased slightly. The report notes that '*The patterns of compliance remain as they were for the last few months though, with compliance lower in higher income households, in England, in urban areas, amongst women, amongst people without a physical health condition, and amongst adults living with children compared to adults not living with children.'*

Mobility

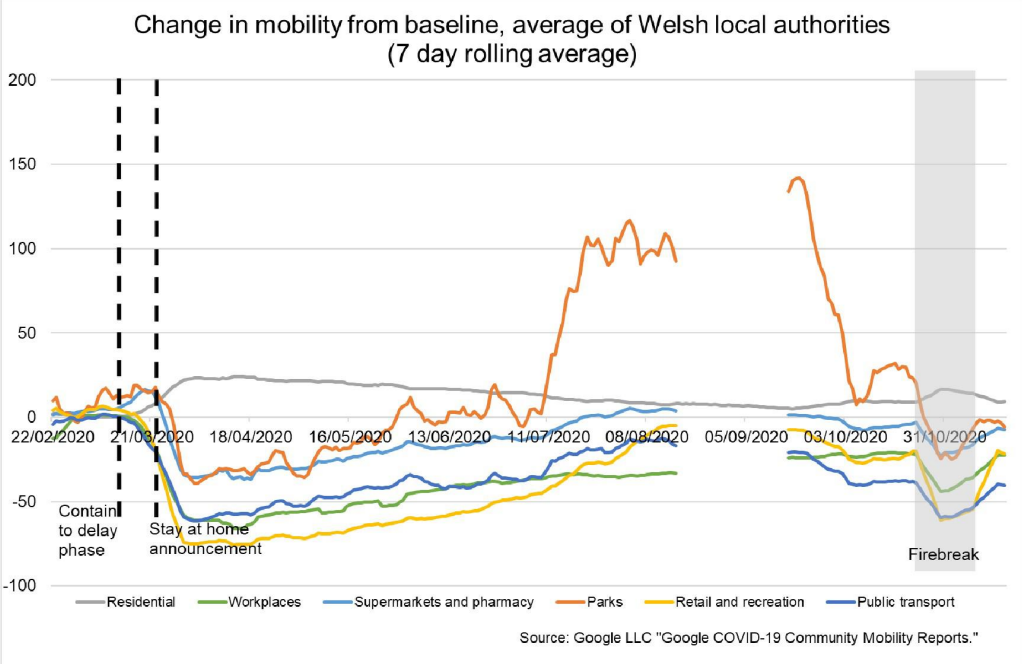
- Since the firebreak ended mobility returned to levels seen before the firebreak started, with the second week after the firebreak showing little change (where data is available). Following the large reductions the week before due to the lockdown in England, the latest week or so shows little change across the UK/England.

- Mobility of Facebook users in Wales shows movement was 12% below the baseline for the week to the 17 November. This is up from 20% the week before (which includes some days during the firebreak). The percentage of users staying put (near to home) was 26%, down from 29% 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 20 November shows that requests for driving directions in Wales are up from the previous week (which includes some days during the firebreak) to 92% of the baseline (up from 90%). Requests for walking directions and requests for public transport directions also show increases. The baseline is the 13th of January 2020.

- The Google mobility data to the week of the 17 November shows reductions in residential (i.e people spending more time at home) compared to the week before, 9% above the baseline down from 12% (which includes some days in the firebreak). All other categories show increases compared to the week before (except parks) – most notably retail & recreation– 22% below the baseline, but up from 39% below the baseline the week before (which includes some days in the firebreak).

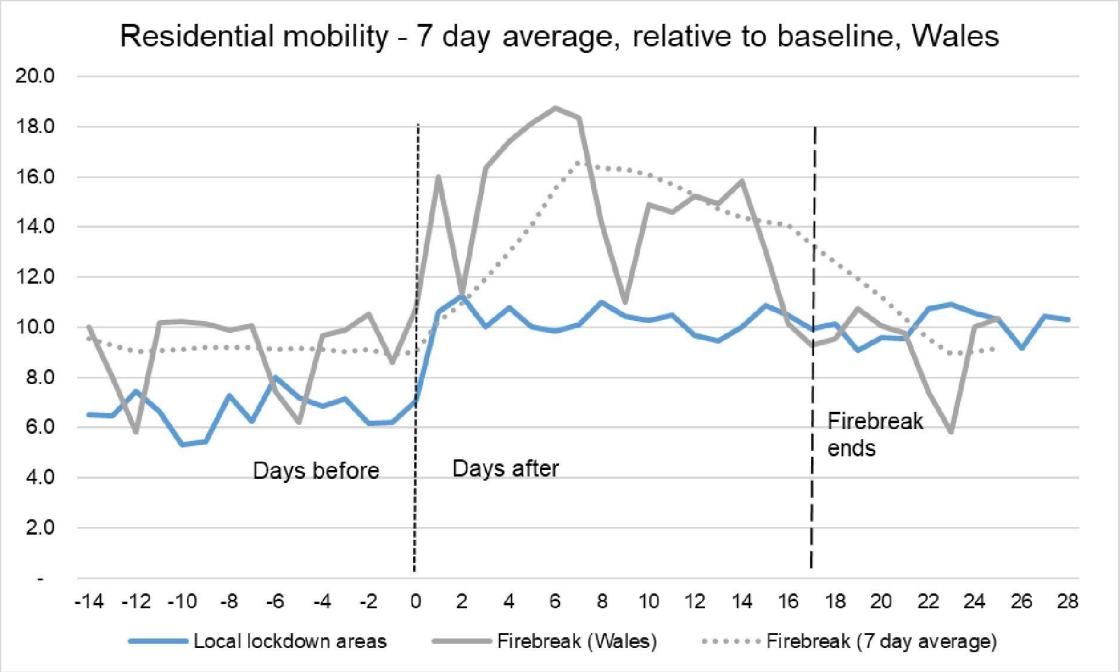
- The figure below shows the change in mobility in Wales using Google mobility data. The figures are based on the average of the local authorities that have data. The baseline is the median value, for the corresponding day of the week, during the 5-week period Jan 3–Feb 6, 2020. The data for several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

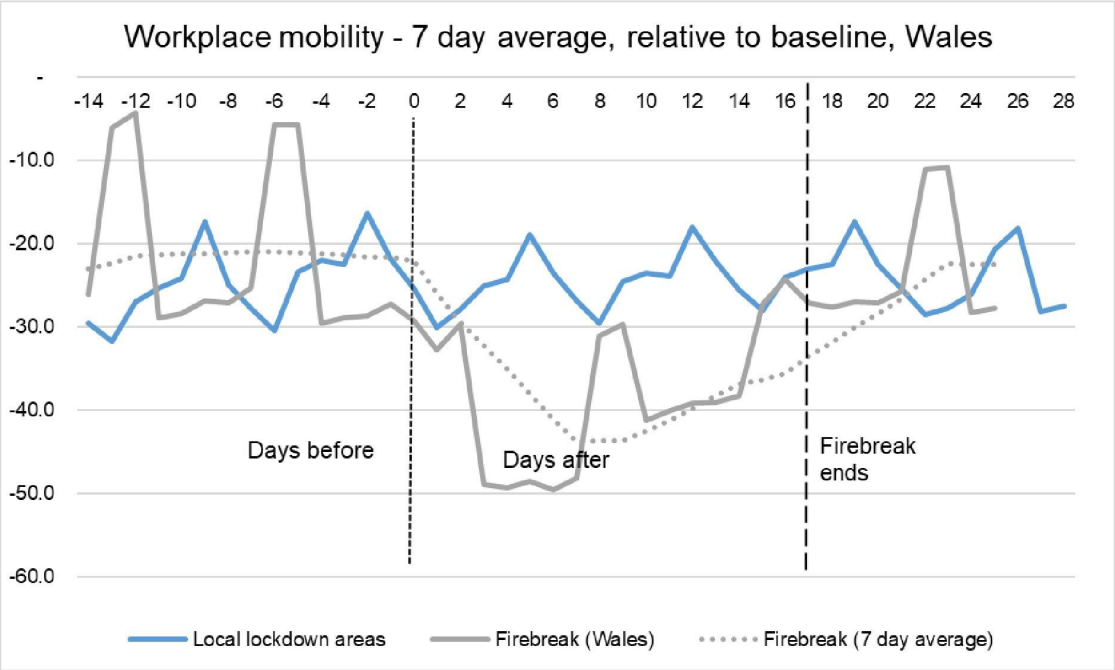


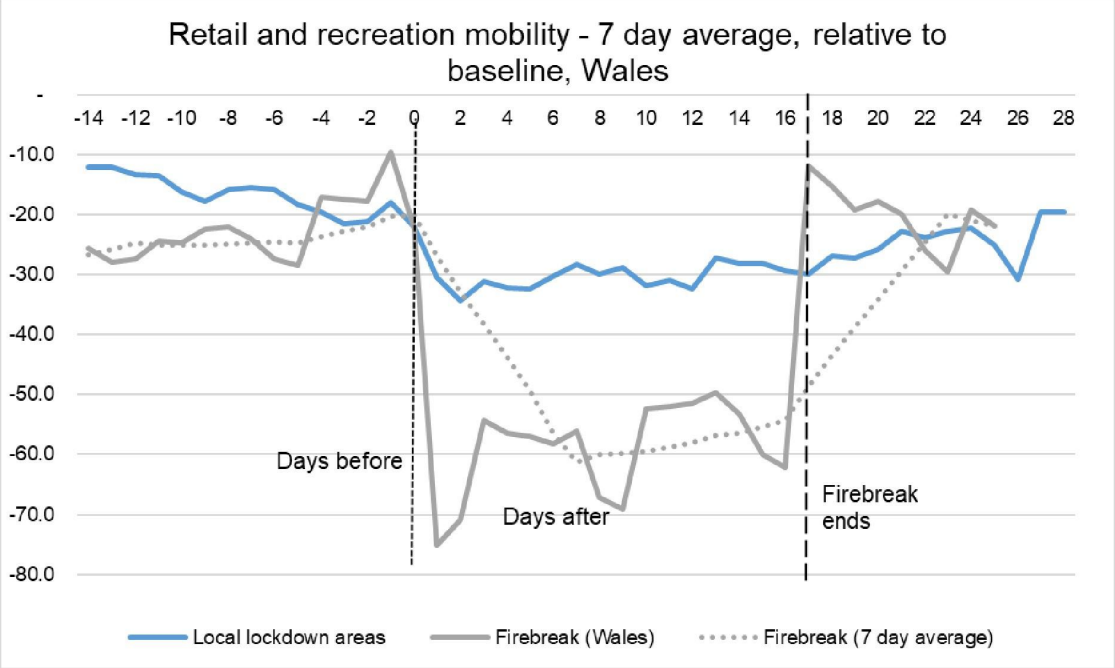
- Anonymised and aggregated mobile phone data from O2 to the 13 November shows large increases in trips compared to the week before as the firebreak ended. Trips starting in Wales rose by 15 percentage points to 32% below the

baseline. Trips in England fell sharply compared to the previous week due to the start of the lockdown. Trips went back to pre-firebreak levels from Monday 9 November. The baseline for the O2 data is the same day of the week in the first week of March.

- Whilst the firebreak led to large reductions in mobility in the first week, the second week showed increased mobility – likely due to half term being in the first week with schools closed and people taking time off work (as shown in the difference in the workplace mobility chart). Data following the firebreak shows that mobility has returned to pre-firebreak levels. The first week shows that both people spending time at home (residential mobility) and people going to work (workplace) are similar to where they were before the firebreak started. There are some notable peaks in the data for retail & recreation on Monday 9 November (first day after the firebreak) and Thursday 22 October (the first whole day before the firebreak).
- The charts below show changes in mobility from when the local lockdowns or firebreak started. For example the local lockdown in Caerphilly started on the 8th of September whilst in Conwy it started on 1 October, these are considered as day 0 in the analysis – so 7 days in the charts would be the 8 October for Conwy or the 15 September for Caerphilly.







Research

- There are currently 7295 Welsh patients recruited to COVID-19 urgent public health studies, an increase of 346 in last 7 days.
- Health and Care Research Wales is setting up a Wales COVID-19 Evidence Centre. It has an initial budget of £3m over 24 months from January 2021, to

provide research, evidence synthesis and knowledge mobilisation, to meet urgent current and future evidence needs arising from the coronavirus pandemic and its consequences for and impact on health and care in Wales. Further information, including an advert for the director of the new Wales COVID-19 Evidence Centre is available here.

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

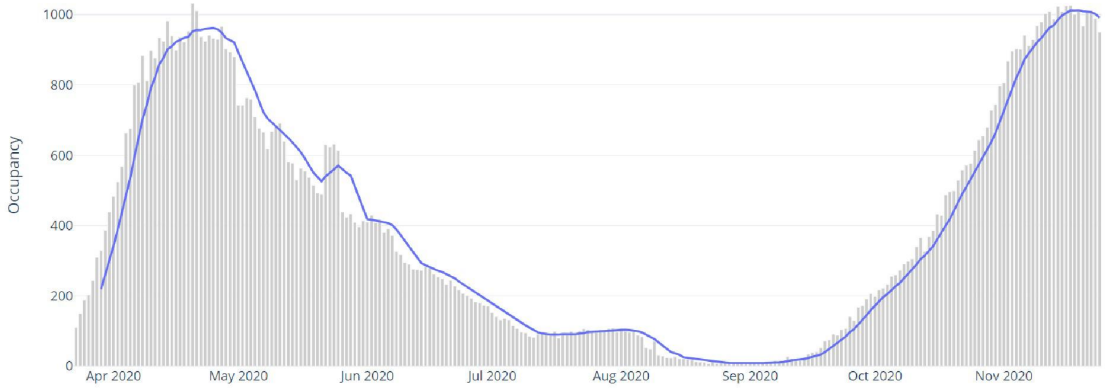
As at 19th November 2020

- The proportion of calls to NHS 111 and NHS direct related to possible COVID-19 symptoms decreased compared to the previous week.
- GP consultations for Acute Respiratory Infection (ARI) and suspected COVID-19 continued to decrease in week 46.
- Ambulance calls possibly related to COVID-19 are currently stable.
- The number of laboratory confirmed COVID-19 episodes decreased nationally compared to the previous week and testing positivity decreased.
- During week 46, incidence decreased across all age groups, incidence was highest in those aged 85 years and older.
- Confirmed case incidence and testing episode positivity has decreased in many health board regions of Wales, although still higher than the start of October.
- Confirmed case admissions to hospitals decreased compared to the previous week, however confirmed cases who are inpatients in hospital have continued to increase nationally, with increasing trends in most health boards.
- Recent surveillance data suggest that COVID-19 infections in Wales are geographically wide spread, however the majority of local authority (LA) areas are experiencing decreasing overall trends in confirmed case incidence and percentage of testing episodes positive for SARS-CoV2.
- High numbers of incidents continue to be reported, mainly in residential care homes and school settings.
- A Wales-wide 'fire-break' restriction on non-essential travel outside the home was in place between 23rd October and 9th November.
- A decrease in confirmed case incidence has been observed within the past few weeks, particularly in young adults.
- All-cause deaths have increased compared to the 5 year average. Increases in the number of deaths in confirmed cases in hospital have been seen.
- 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 35%, 28% and 23% of deaths respectively).

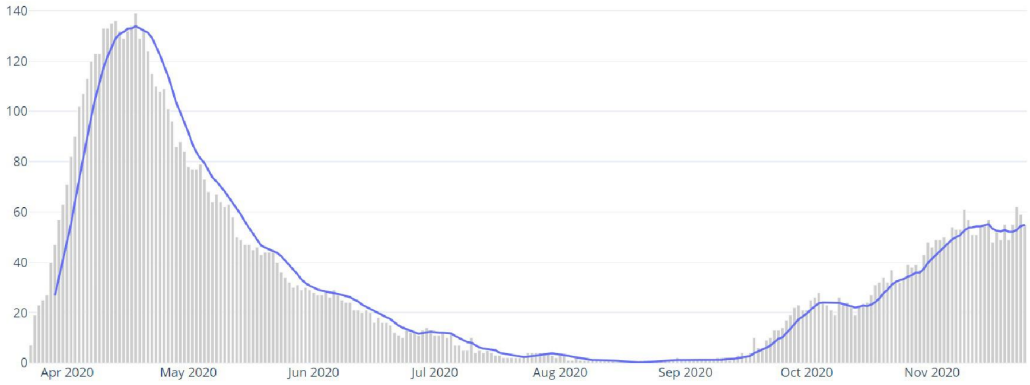
The Public Health Wales dashboard is available here and includes local authority analysis.

Hospital occupancy

- The figure below shows the confirmed COVID-19 hospital occupancy over the first and second wave of the pandemic (7 day rolling average, as at 24th November).



- 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 24th November).



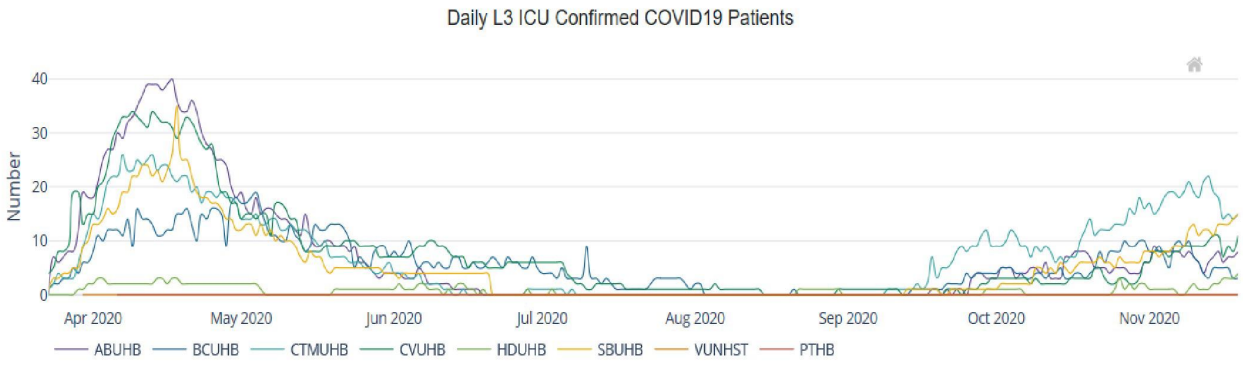
- As of 19th November, while ICU occupancy of COVID-19 and non-COVID-19 patients have shown reductions over the last week, 1:1 care for all patients in ICU was not possible in some health boards (ICU was 107% occupied for 1:1 care, with a weekly average of 97% occupancy across Wales; see table below).

- 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.

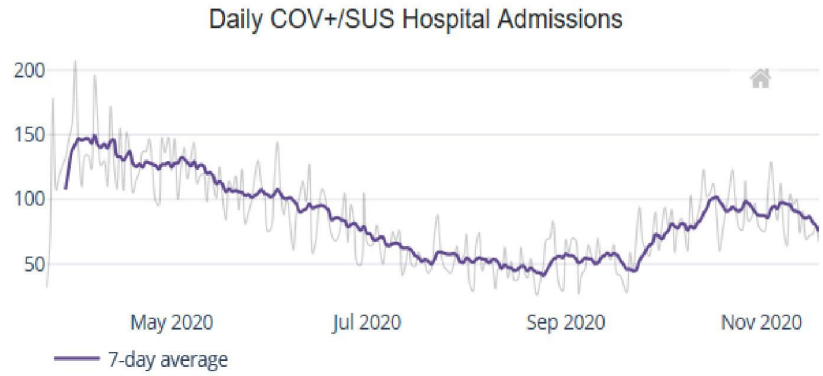
- The first column in the table indicates overall ICU occupancy (COVID-19 and non-COVID-19 patients) when additional possible capacity is considered.
- Occupancy figures are based on ICU capacity reported to us by local health boards (257 beds in total at reporting date). However, once we get beyond 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.

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%**	**5**	**56**
ABUHB	51%	78%	4	8
BCUHB	67%	108%	0	3
CTMUHB	70%	120%	0	15
CVUHB	51%	139%	0	11
HDUHB	59%	86%	0	4
SBUHB	97%	100%	1	9

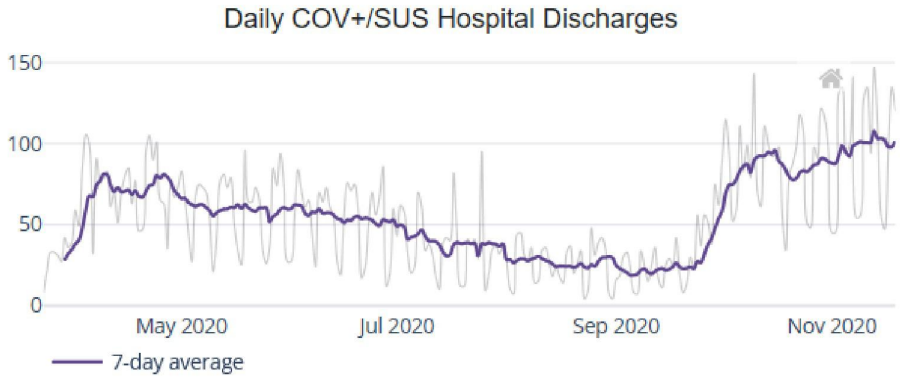
- The Figure below shows the total number of people who have tested Covid-19 positive and are in ICU in hospitals across the different health boards in Wales.



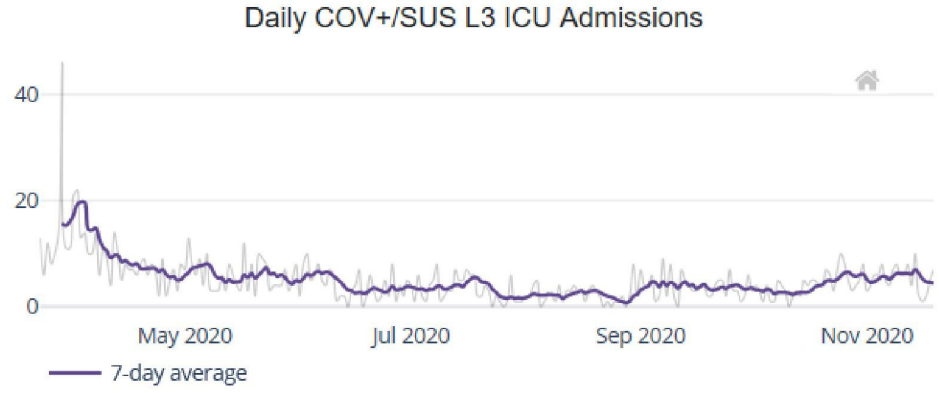
- The Figure below shows the number of people admitted to hospital and are either suspected or confirmed as having Covid-19. The purple line represents the total number over a rolling 7 day average, whilst the fainter grey lines show the actual figures at that time.



- 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.