

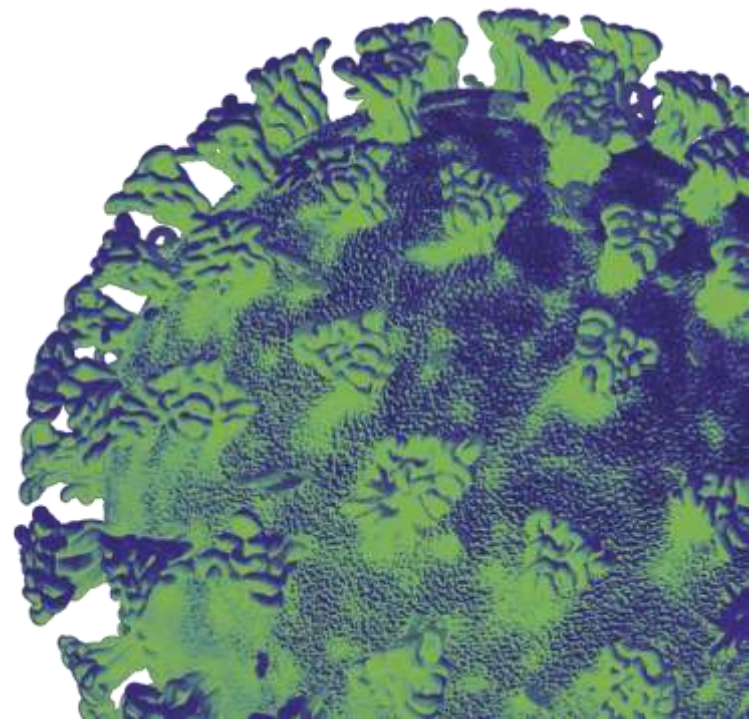
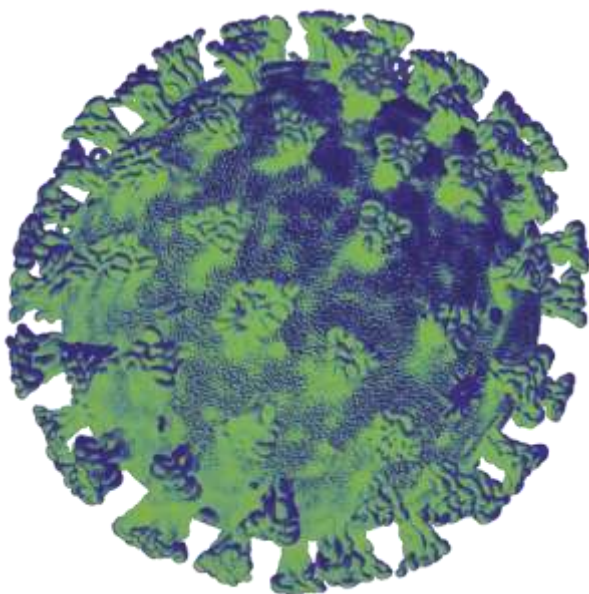
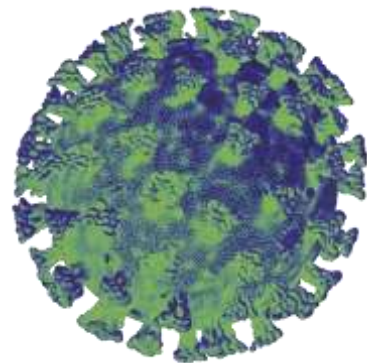


Llywodraeth Cymru
Welsh Government

Technical Advisory Cell

Summary of advice

5 July 2020



Technical Advisory Cell: Summary of Advice

5 July 2020

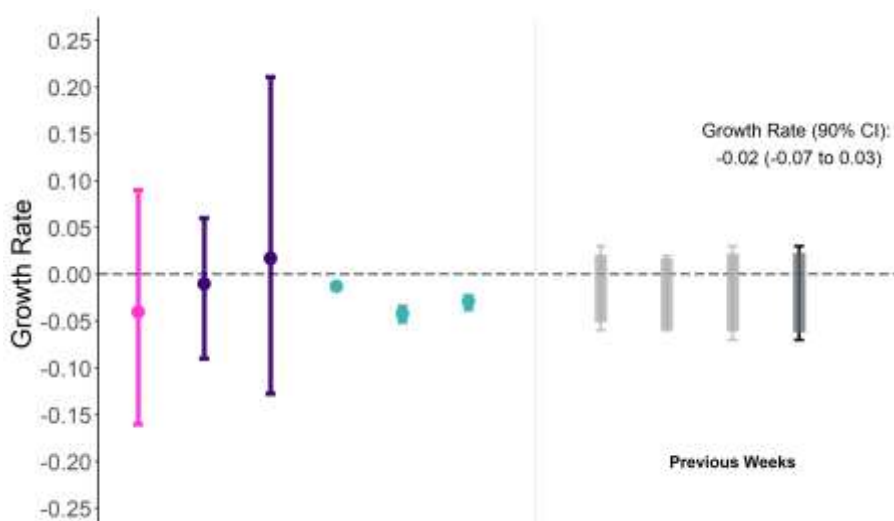
Top-line Summary

- It is estimated that COVID-19 infections in Wales are currently declining by around 2% per day.
- There is confidence that the R number in Wales is below 1 and has been for several weeks. However, the low number of cases and clustered nature of outbreaks means that the R number for Wales is no longer considered to be a reliable estimate to rely on as an overall measure of the epidemic. In future reports, R_t will be considered alongside the growth rate and estimated incidence of the virus to give a fuller picture of the status of the virus in Wales.

Growth rate

- There are currently six models that estimate growth rates for Wales. The results from these models are combined using equal weights to provide an overall central estimate of growth rate. Figure 1 shows the latest growth rate estimates for Wales, including the combined model. The current growth rate is -0.02 (90% confidence intervals from -0.07 to 0.03) which means that infections are currently estimated to be declining by around 2% per day.
- Results are anonymised to avoid giving precedence to one particular model over another. Confidence intervals (90%) are also shown.

Figure 1: Current estimates for growth rate in Wales – with 90% confidence intervals, along with the combined model based on equal weights

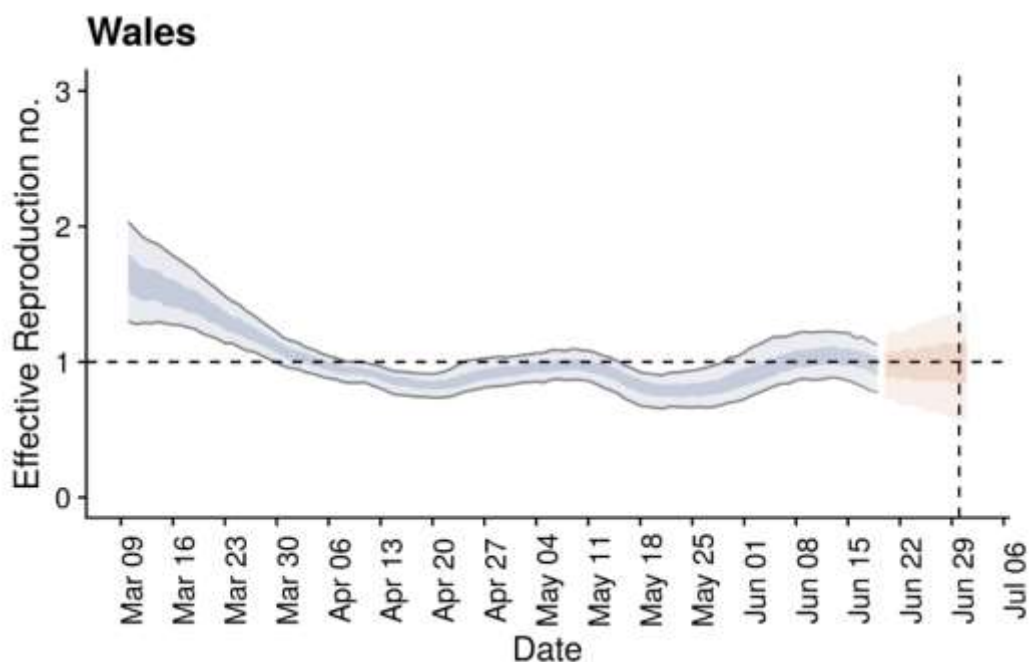


Key – Model Type ● Cases ● Deaths ● Multiple ● Survey ● Combined

Reproduction Number

- The most recent estimate of the Reproduction number R_t for Wales from SPI-M is predicted to be between 0.7 and 0.9 with a central estimate of 0.8.
- This estimate and the estimate produced for 23/06/20 are based on different sets of models, so the two cannot be compared directly.
- R_t has been below 1 for at least six weeks which has led to a reduction in cases and hospitalisations. If R_t remains below 1 then cases will continue to fall. If the incidence of infections continues to decline, other measures such as number of new cases and GP reports will become more important than using R_t as the primary indicator.
- Figure 2 below shows the time-varying estimate of the effective reproduction number in Wales. Estimates from existing data are shown up to the 20th June 2020 from when forecasts are shown. These should be considered indicative only. The horizontal dotted line indicates the target value of 1 for the effective reproduction no. required for control. The vertical dashed line indicates the date of report generation.

Figure 2: R_t in Wales¹

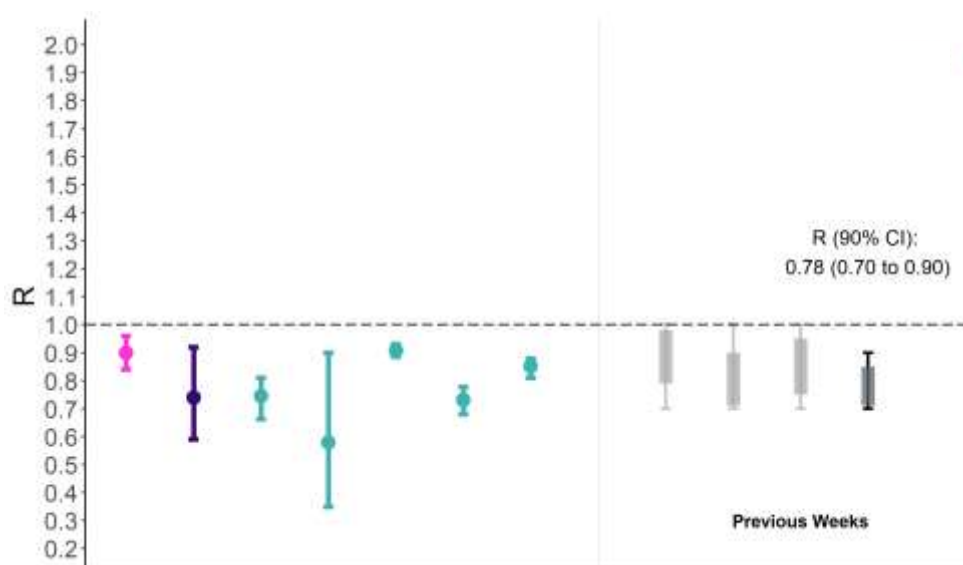


¹ **Source and further information:** National and Subnational estimates for the United Kingdom
<https://epiforecasts.io/covid/posts/national/united-kingdom/>

Current Estimate of R_t

- There is evidence of small variations in R_t between the different nations of the UK. There is, however, greater uncertainty in the estimates for Scotland, Wales, and Northern Ireland partly due to the smaller numbers of cases and deaths compared to England.
- Any changes in transmission that may have occurred in the past two to three weeks will not yet be reflected in clinical data, nor therefore in current estimates of R_t .
- There are three settings which are particularly relevant to the current situation: the community, care homes, and hospitals. These are not independent; infection can be spread between hospitals and care homes, from these settings back into the community, and vice versa. These cannot be captured though estimating R_t separately for care homes and hospitals. R_t only considers onward transmission after the virus has been introduced into a particular population.
- SPI-M-O recommends that the situation in particular settings is not monitored using R_t , but rather in terms of how the number of cases and deaths in them is changing and, where possible, epidemiological investigation of how the three epidemics interact.
- In order to take into account all evidence and approaches results from all models are combined using equal weights to provide an overall estimate of R_t for Wales. This is shown in black to the right of Figure 3 below. The cross indicates that it is highly unlikely that these estimates can be relied upon due to the low levels of infection and clustered nature of the outbreak in this Wales.
- Results are anonymised to avoid giving precedence to one particular model over another. Confidence intervals (90%) are also shown. The assessment of this evidence from SPI-M is that R_t was likely to be below 1 in Wales.

Figure 3: Current estimates of R_t in Wales –with 90% confidence intervals, along with the combined model based on equal weights



Key – model type

● Cases
 ● Deaths
 ● Multiple
 ● Survey
 ● Combined

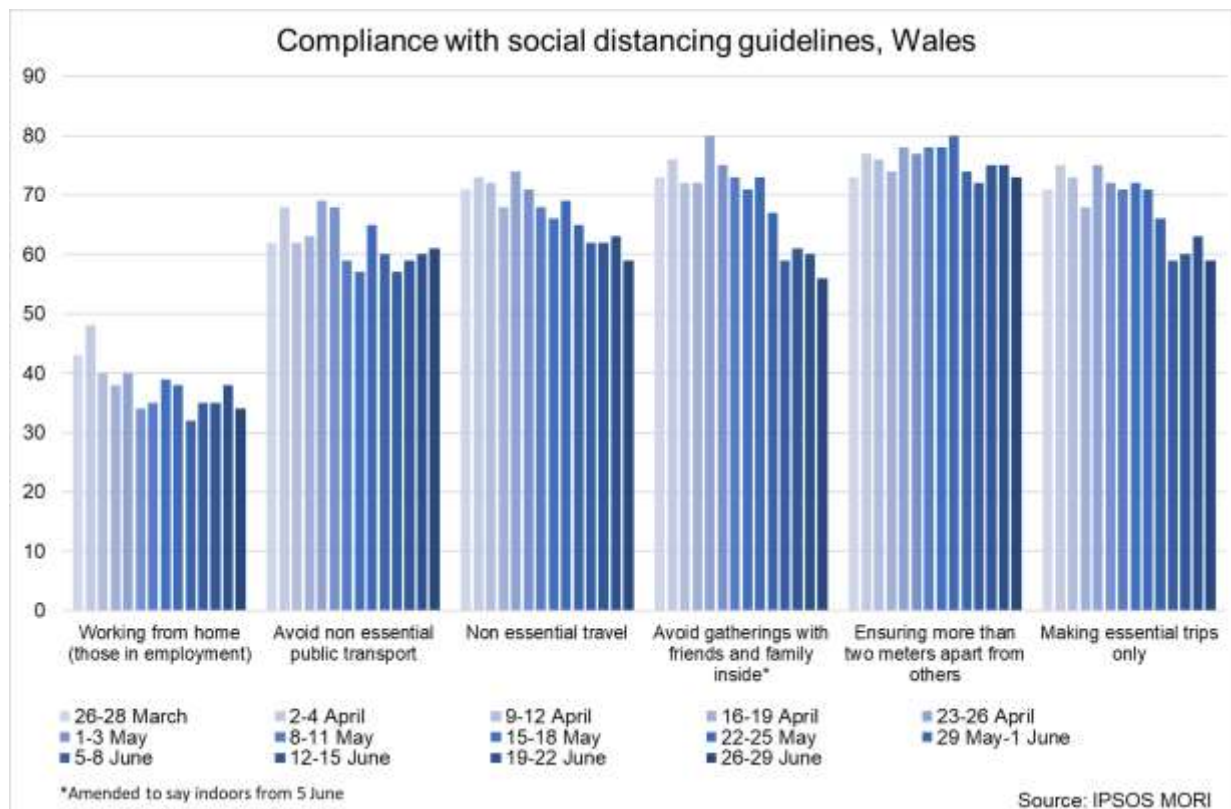
Halving time

- Since the 19/05/2020 the number of community acquired hospitalisations for COVID-19 have remained low and stable, impacting the validity of the model therefore these estimates are currently on hold.

Adherence to current measures and mobility

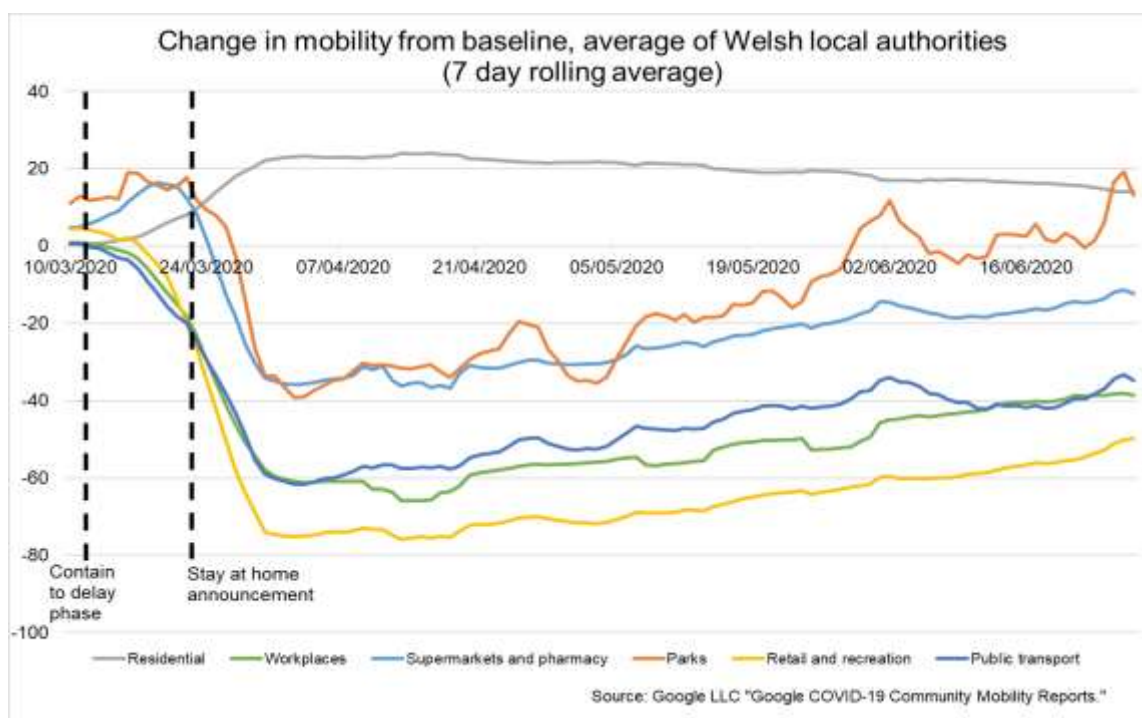
- The latest data shows that many people in Wales continue to follow the social distancing guidelines. Compliance remains broadly stable following a drop at the end of May/early June. Data at a GB level ([from ONS](#)) shows a similar percentage of people to last week reported leaving their home for ‘non-essential’ reasons.
- Figure 4 below represents data collected online as part of a multi-country survey. Each of the waves has included approximately 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. For further information on public views on COVID-19, please see: <https://gov.wales/surveypublic-views-coronavirus-covid-19>.

Figure 4: Compliance with social distancing guidelines in Wales



- The latest results from the [Public Engagement Survey on Health and Wellbeing during Coronavirus Measures](#) shows similar results to the previous week. Just over half (55%) of people have come into close contact (less than one metre) with someone from outside their household in the last week. 27% reported that others outside their household had been in their house in the last week and 24% reported going into one or more other houses in the last week.
- Between mid-April and early June travel increased steadily. However since early June the increases have generally been much less. The last week has seen a decline in some cases. In mid-April travel of [Facebook users](#) in Wales was 50% lower than the baseline, this had risen to 21% by 26th of June but has fallen slightly since. After a dip in early June [Apple data](#) showing requests for driving directions in Wales continued to increase until the 26th of June where they have been stable since. The [Google mobility data](#) shows some increases for retail and recreation and supermarkets and pharmacy in the last week. Public transport shows a small fall in the last few days following small increases the previous week whilst workplaces shows little change.
- After lockdown patterns of travel between England and Wales were broadly similar. However since mid-May England has seen larger increases in travel than Wales. Both England and Wales show the same pattern in the last week.
- Figure 5 below shows the change in travel 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. This pattern is mostly similar to that of the UK as a whole, but the last week has seen larger increases in the UK for transit stations, parks and retail & recreation than Wales.

Figure 5: Changes in mobility in Wales



Research

- There are currently 3989 Welsh patients recruited to COVID-19 urgent public health studies, an increase of 818 in last seven days.

Hand hygiene to limit SARS-CoV-2 transmission

- Further research has provided more evidence that hand hygiene interventions can reduce the risk of respiratory infections.
- It has been estimated that each extra hand washing (or similar hand hygiene) event per day reduces daily transmission probability by about 3% (80% credible interval (-1%, 7%)).
- The shorter time the virus survives on hands, the less effective increasing hand hygiene frequency.
- Event-prompted hand washing (e.g. within 1 minute of touching a potentially contaminated surface) is likely to be more effective than fixed-time hand washing in reducing the probability of infection.
- The importance of event prompted hand washing suggests the need to increase availability (and uptake) of hand washing/sanitising facilities in public places, shops, public transport and workplaces to allow rapid hand sanitation after touching potentially contaminated surfaces.
- The effectiveness of hand hygiene is increased when combined with other measures, such as face masks. Combination measures are therefore most likely to be effective.

Use of SARS-CoV-2 Genomics to understand transmission

- The COVID-19 epidemic experienced in the UK is an integral part of a Europe-wide epidemic. Two viral genomic studies reported in the last month have described the introduction of SARS-CoV-2 into the UK and the establishment of transmission lineages. The UK epidemic comprises a large number of importations due to inbound international travel, with one study estimating that there have been 1356 independently introduced transmission lineages into the UK.
- Most introductions occurred during March 2020, with the rate of introductions peaking in mid-March. It is estimated that $\approx 34\%$ of detected UK transmission lineages arrived via inbound travel from Spain, $\approx 29\%$ from France, $\approx 14\%$ from Italy, and $\approx 23\%$ from other countries.
- The use of viral genomic analysis continues to be an important tool in helping to understand the transmission networks and should continue to be supported to provide insight around transmission events in hospitals, care homes and the community.

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

- NHS 111 and NHS direct calls for COVID-related symptoms are low and stable.
- Ambulance calls possibly related to COVID peaked in April but have fallen and are now stable.
- In NHS Wales laboratories, the number of Covid-19 positive test results has declined from nearly 50% to 1.8% as at 2nd July and has been stable for the last few weeks.
- The number of positive test results has decreased in hospital-tested persons but increased slightly in persons tested from other locations. This is in part related to increased testing associated with a small number of local outbreaks currently under investigation.
- Both hospital and ICU admissions are still falling overall.
- Focus has been on the Anglesey, Wrexham and Merthyr Tydfil areas where there have been incidents at food-processing plants and screening has been undertaken.
- BCUHB currently has the highest median number of cases per area and largest range in number of cases.
- There continue to be between 1 and 5 new incidents per week, mainly in residential care homes.
- Recent cases have been mostly in key workers in hospital and care homes, and care home residents.

NHS Data Dashboard

- PHW data updated at 30/06/2020
- Hospital data updated at 01/07/2020

L3 ICU

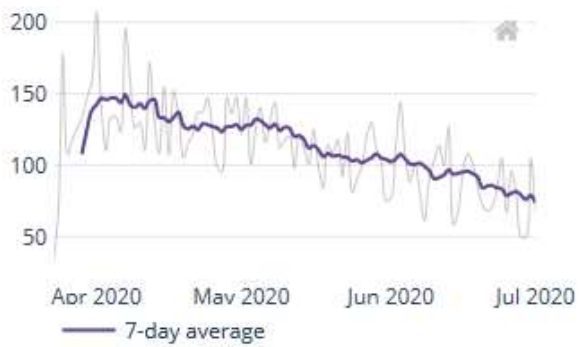
- Of the total of 130 patients in L3 ICU in Wales (down from 134 in previous report):
 - 8% are confirmed COVID patients (down from 10% of previous report);
 - 6% are suspected COVID patients (down from 7%); and
 - 83% are non-COVID patients (up from 80%).
- Of the health boards with L3 ICU units:
 - SBUHB is at 70% occupancy;
 - ABUHB, BCUHB, CTMUHB, CVUHB and HDUHB are at less than 50% occupancy.

Daily L3 ICU Confirmed COVID19 Patients

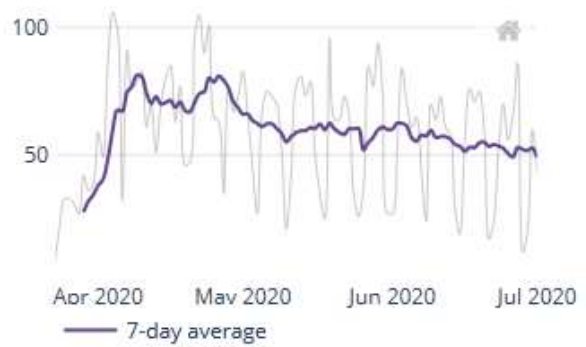


7-day Averages

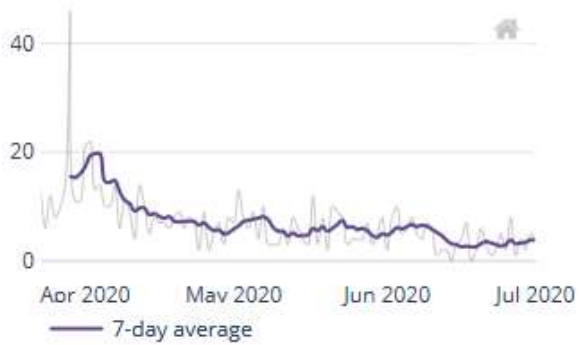
Daily COV+/SUS Hospital Admissions



Daily COV+/SUS Hospital Discharges



Daily COV+/SUS L3 ICU Admissions



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.

