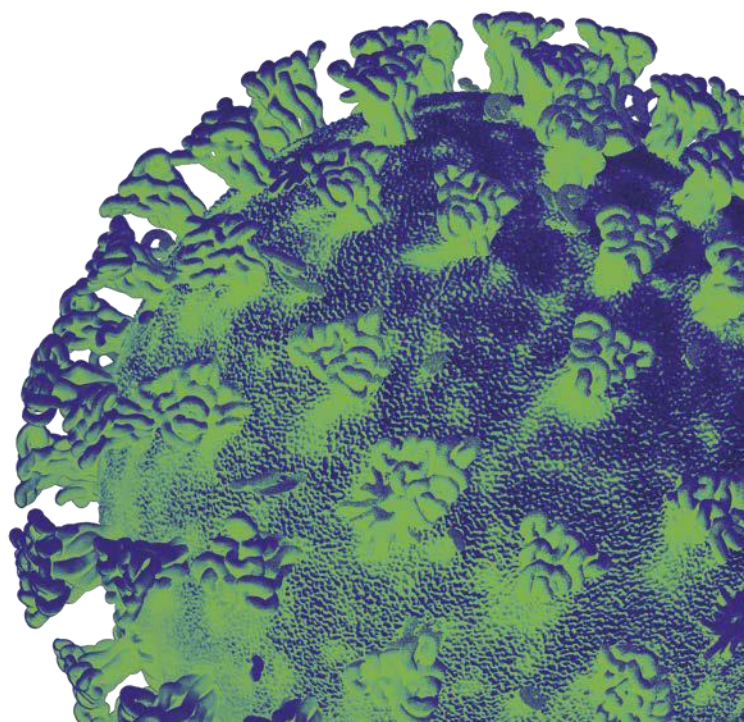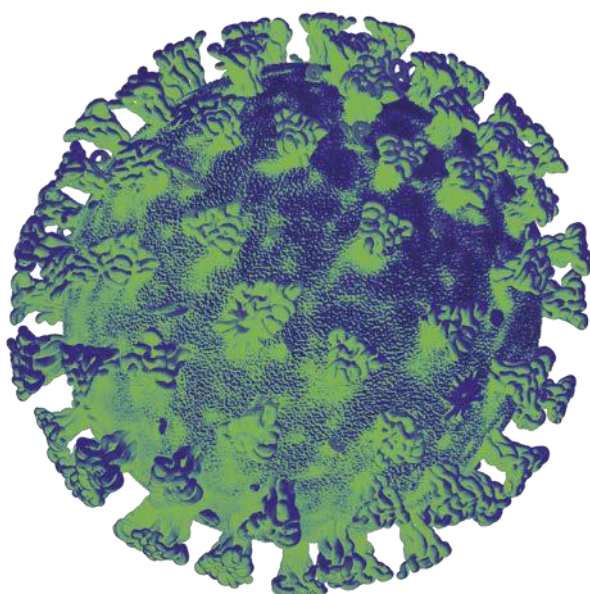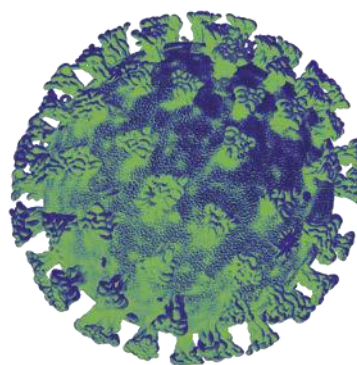Llywodraeth Cymru
Welsh Government

Technical Advisory Cell

Summary of advice

24 July 2020

Technical Advisory Cell: Summary Brief
24 July 2020

Top-line summary

- Growth rate estimates suggest that Covid-19 infections in Wales are declining by around 3-5% per day.

Growth Rate

- There are currently five models that estimate growth rates for Wales. The results from these models are also 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 -0.04 (90% confidence intervals from -0.05 to -0.03) which means that infections are currently estimated to be declining by around 4% per day.

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


Key
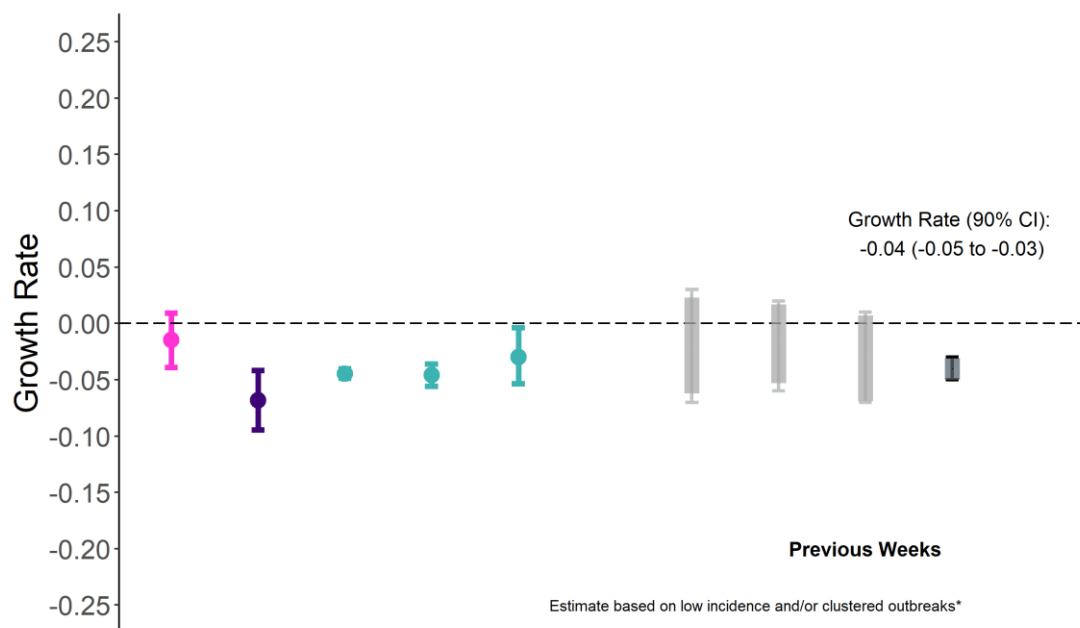
Reproduction ratio

- The most recent estimate of the Reproduction number R_t for Wales from Scientific Advisory Group for Emergencies (SAGE) is predicted to be between 0.60 and 0.90 with a central estimate of 0.75.

- This estimate and the previous week's estimate are based on different sets of models, so the two cannot be compared directly. R_t has been below 1 for at least eight weeks which has led to a reduction in cases and hospitalisations. If R_t remains below 1, then cases will continue to fall. As the number of cases falls, 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. This estimate does not feature in the SAGE estimate but is shown because it has a clear time series based on consistent data. Estimates from existing data are shown up to the 26th June 2020. However, numbers have been too small to produce reliable estimates since June 22nd. 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 Wales
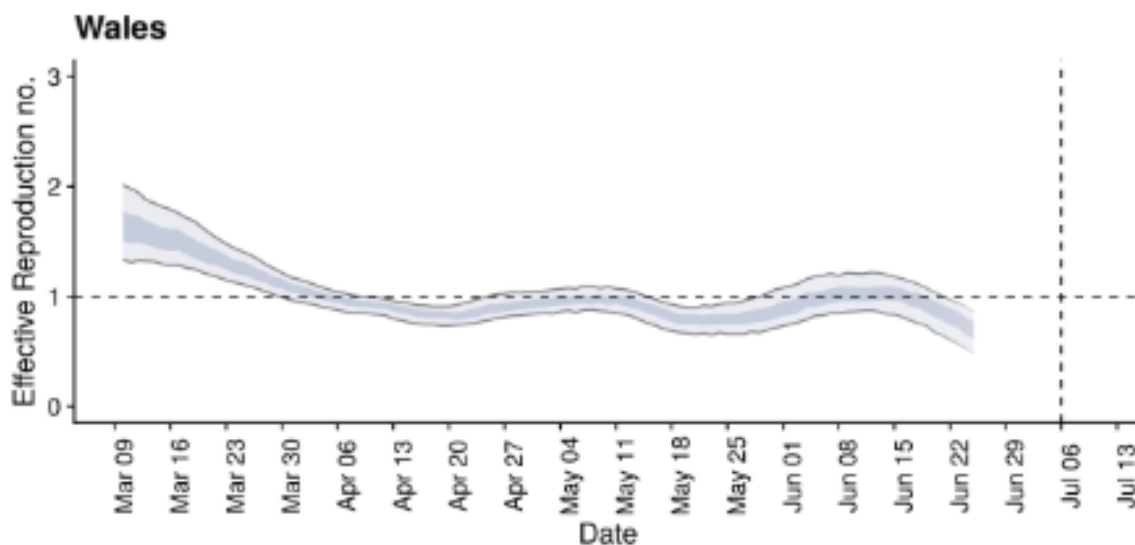
Source and further information: National and Subnational estimates for the United Kingdom https://epiforecasts.io/covid/posts/national/united-kingdom/

**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.

- SAGE 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 Rt for Wales. This is shown in black to the right of Figure 3 below.

- 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 SAGE 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
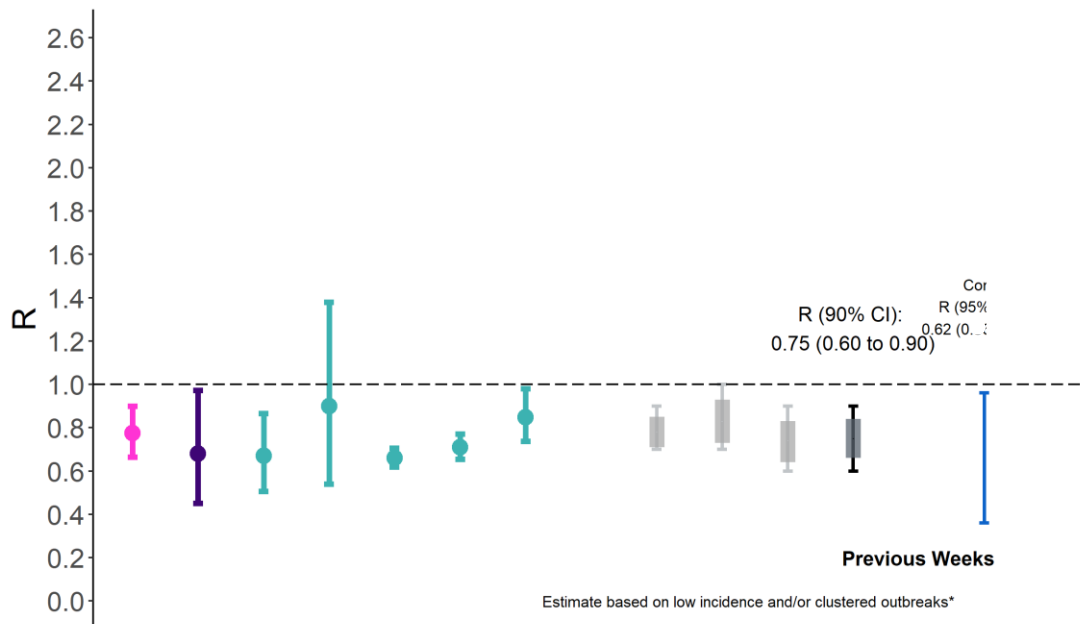
Key

Cases   Deaths   Multiple   Survey   Combined

Halving time

- Reliable estimates of halving times cannot currently be estimated due to low and stable numbers of admissions.

Adherence to current measures and mobility

- Last week's IPSOS MORI survey results showed that many people in Wales were continuing to follow the social distancing guidelines but there was a further reduction in those making essential trips only.

- Between mid-April and early June travel increased steadily. For the remainder of June the increases were generally smaller, but there have been large increases since early July.

- In mid-April travel of Facebook users in Wales was 50% lower than the baseline, this is around 11% and has increased quickly from early July where it was around 24%.

- Apple data showing requests for driving directions in Wales have increased significantly since early July and are now the highest they have been since the data started in January. The Google mobility data shows increases across all categories - in particular parks, supermarkets & pharmacy and retail & recreation.

- After lockdown patterns of travel between England and Wales were broadly similar. Between mid-May and early-June England saw larger increases in travel than Wales, with Scotland showing a similar pattern to Wales. There have been larger increases in the last two weeks in Wales than all the other nations across the mobility data.

- Figure 4 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.

Figure 4: Change in travel in Wales
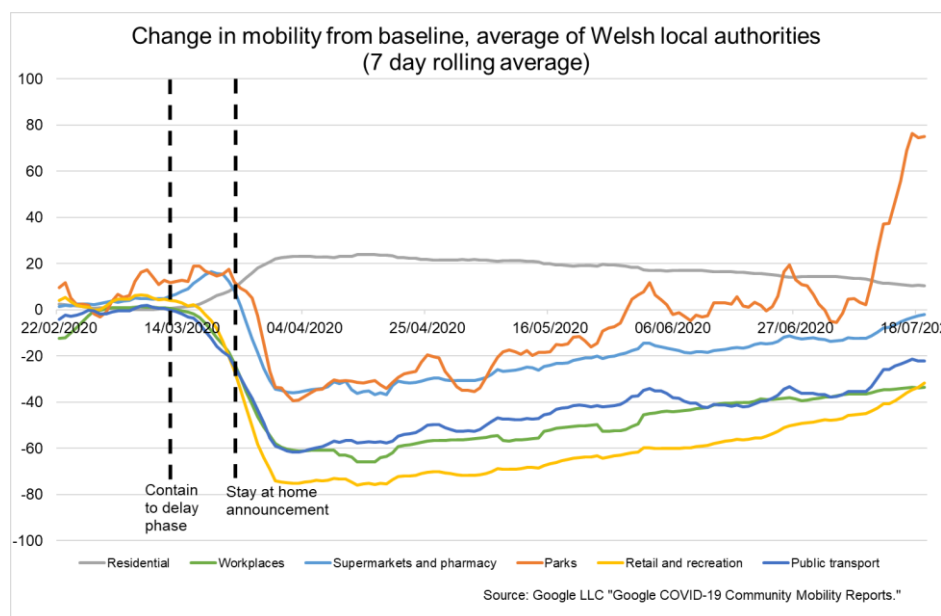
Research

- There are currently 4513 Welsh patients recruited to COVID-19 urgent public health studies, an increase of 106 in last seven days.

- The Covid-19 Vaccine 'Permission to Contact' Scheme has now been launched across the UK. https://www.nhs.uk/sign-up-to-be-contacted-for-research

- The scheme intends to create a register of individuals who have given their permission to be approached for potential participation in Covid-19 vaccine trials, and other high priority research studies.

Analysis of outbreaks in care homes in Aneurin Bevan University Health Board (ABUHB) in Wales

- The two main infection sources for care home outbreaks are thought to be from staff infection (acquired in the community), or from discharges from hospital. Work conducted by Public Health Wales has aimed to determine whether adult care homes reporting a COVID-19 outbreak were more likely to have received an admission discharge from hospital in the 14 days preceding outbreak onset.

- Data was analysed from admission discharges from ABUHB and from outbreaks in care homes reported to Public Health Wales. The risk of outbreaks in periods following a discharge was compared with the risk in other periods. Outbreaks were defined as one positive lab result of COVID-19 infection. The numbers included in the study are small, with 62 outbreaks among 170 care homes.

- Initial findings indicate that the risk of outbreaks did increase following discharges - with 1.18 outbreaks per 100 days follow up in those with an admission discharge to a care home, compared to 0.34 per 100 days in those without a discharge to a care home. However, when adjusting for the size of the home and type of resident and care provided, this effect did not persist – there was no additional frequency in the number of outbreaks occurring in care homes following discharges when compared to no discharges.

- Therefore, care home size and type of care provided may be important considerations. Outbreaks were more likely in larger homes, and those with nursing and specialist dementia care provision.

- Further analysis of discharge and outbreak data across Wales, and adjustment for covid-19 incidence over time, is planned. The results of this paper will be submitted for peer review publication in due course.

- The findings of this study are consistent with other recent work - an analysis by Edinburgh university also found that larger care homes had a higher risk of outbreaks; and a separate study from Norfolk found that detections of COVID-19 in care homes were associated with increases in non-care staff.

  https://www.medrxiv.org/content/10.1101/2020.07.09.20149583v1

  https://www.medrxiv.org/content/10.1101/2020.06.17.20133629v1.full.pdf

SPI-B Paper on Public Health Messaging for Communities from Different Cultural Backgrounds

- COVID-19 has a disproportionate impact on people from Black, Asian and Minority Ethnic (BAME) communities. Risk communication that is culturally appropriate may promote health protective behaviours which can minimise the risk of COVID-19 in BAME communities.

- Translation into a range of suitable languages is necessary, but not sufficient. Co-production and pre-testing of health messages with the target community to identify language that retains the meaning of the core message and considers the cultural context for the target audience is essential. If reading skills are limited, consider using audio files and animations.

- Local authorities need an active BAME engagement cell with health, political, community, legal and academic representatives. This will help them understand issues at a local level and build trust with community partners who can act as a trusted source of communication.

- Messages should be tailored to reflect local realities. Health messages should explicitly consider cultural norms including high risk events (e.g. Eid and weddings), ensure they promote services that are accessible (e.g. multilingual contact tracers) and do not disadvantage the target community (e.g. loss of income due to self-isolation).

- Health messages should be linked with social identities other than White and middle class, highlight risks to specific groups, and include stories from within the local community of the consequences of following and not following guidelines.

  o Fear inducing messages should be avoided as, even when health messages are adhered to, stressors remain in the physical environment that are not within the control of individuals from BAME communities.

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, testing positivity has declined from nearly 50% to 0.71% as at 22nd July and has been stable for the last few weeks; positivity has decreased in hospital-tested persons but increased slightly in persons tested

from other locations (in part related to increased testing associated with a small number of local outbreaks and incidents currently under investigation)

- Both hospital and ICU admissions are still falling overall

- The main recent focus of activity remained in north Wales and parts of the south Wales valleys, but surveillance indicators continue to decrease.

- BCUHB has the highest median number of cases per area.

- There are still between 1 and 15 new incidents per week, mainly in residential care homes, with a recent small peak of 12 incidents reported in one day

NHS Data Dashboard
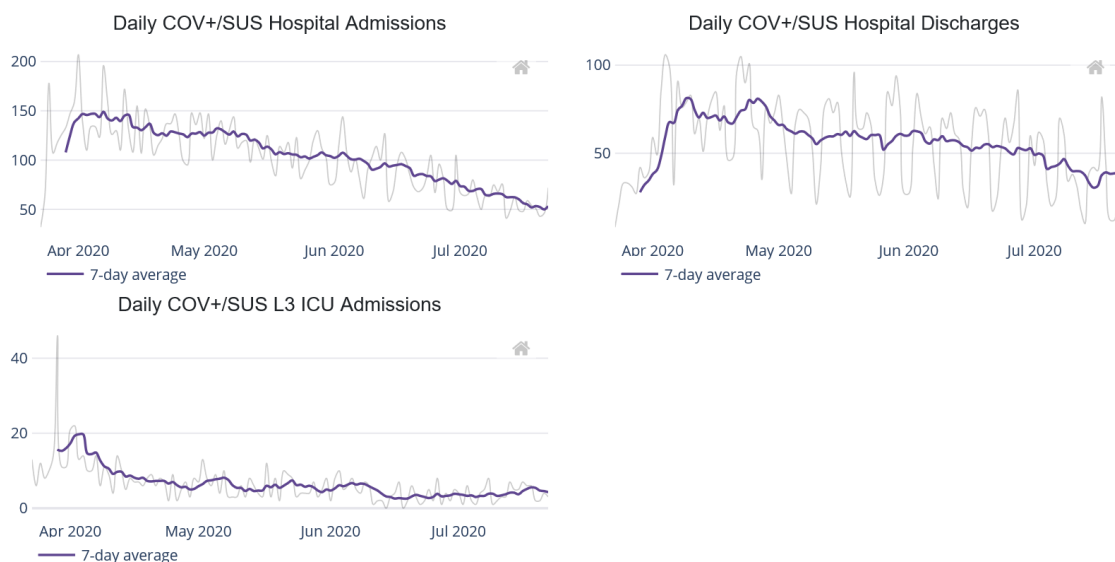- PHW data updated at 21/07/2020
- Hospital data updated at 22/07/2020

L3 ICU
- Of the total of 126 patients in L3 ICU in Wales (up from 122 in previous report):
    - 2 are confirmed COVID patients (1 in CVUHB & 1 in BCUHB);
    - 5 are suspected COVID patients (1 in BCUHB, 1 in CTMUHB & 3 in SBUHB)
- Of the health boards with L3 ICU units:
    - HDUHB is at 78% occupancy (all non-COVID)
    - SBUHB is at 59% and CVUHM is at 51%;
    - BCUHB, CTMUHB and ABUHB 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
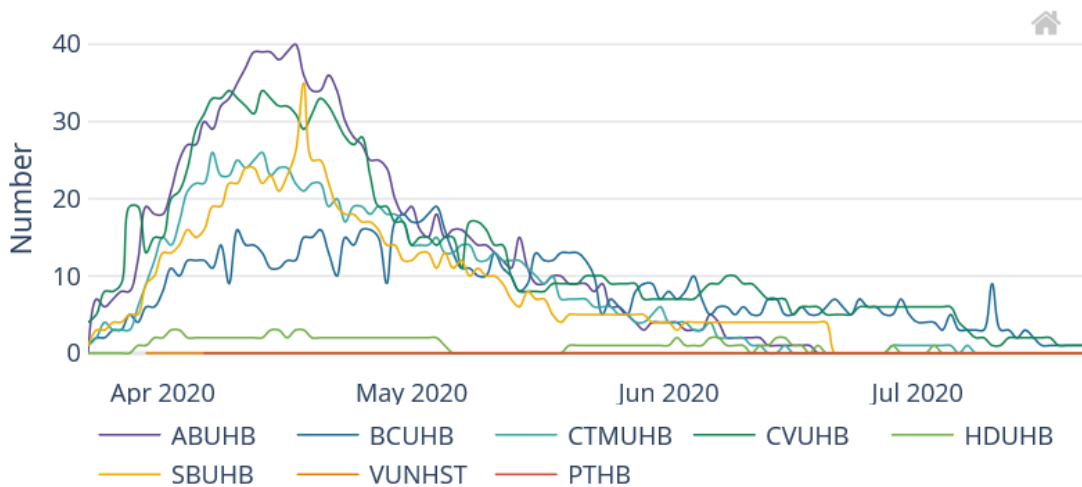
Daily COV+/SUS L3 ICU Admissions

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.