SPI-M-O: Consensus Statement on COVID-19

Date: 30th June 2021

All probability statements are in line with the framework given in the Annex.

Summary

1. SPI-M-O's best estimate for **R in England is between 1.1 and 1.3**. **R is estimated to be between 1.2 and 1.5 for Scotland, 1.1 and 1.5 for Wales, and 1.1 and 1.4 for Northern Ireland**. These estimates are based on data available up to 28th June, including hospitalisations, deaths, symptomatic testing, and longitudinal studies.

2. SPI-M-O estimates that there are between **14,000 and 28,000 new infections** per day in England.

3. While cases continue to rise, contacts of those aged 18 and over remain stable. The documented protective effect of working from home may be partially driving this, alongside a vast range of other smaller measures that combine to have a big impact on reducing transmission. There is scope for the epidemic to grow considerably more quickly if all these mitigating factors are relaxed over a short period of time.

Incidence and prevalence

4. Combined estimates from four SPI-M-O models, using data available up to 28th June, suggest there are between **14,000 and 28,000 new infections per day in England.**

5. During its most recent week (20th to 26th June), the ONS community infection survey estimates that an average of **211,100 people had COVID-19** in the community in England (95% credible interval **185,200** to **239,300**). The survey does not include people in care homes, hospitals, or prisons. Estimates from across the four nations of the UK are:

England	211,100 (95% credible interval 185,200 to 239,300)
Scotland	35,900 (95% credible interval 26,500 to 47,200)
Wales	6,800 (95% credible interval 3,700 to 11,000)
Northern Ireland	2,800 (95% credible interval 1,000 to 5,500)

Growth rate and reproduction number

6. For small daily changes, the growth rate is approximately the proportion by which the number of infections increases or decreases per day, i.e. the speed at which an epidemic is growing or shrinking[1].

7. SPI-M-O's consensus estimates for the **growth rates in the four nations are:**

   England is between **+2% to +5% per day**,
   Scotland is between **+3% to +7% per day**,
   Wales is between **+1% to +7% per day**, and
   Northern Ireland is between **+1% to +5% per day**.

   SPI-M-O's national and regional estimates of growth rates are summarised in Table 1 and Figure 3.

8. The reproduction number (R) is the average number of secondary infections produced by a single infected individual; it is an average over time, geographies, viral variants, and communities. This should be considered when interpreting the R estimate for England, given the current local heterogeneity in epidemiological situations.

9. SPI-M-O's best estimate for **R in England is between 1.1 and 1.3**. **R is estimated to be between 1.2 and 1.5 for Scotland, 1.1 and 1.5 for Wales, and 1.1 and 1.4 for Northern Ireland**. SPI-M-O's agreed national estimates are summarised in Table 1 and Figure 2, and these are based on the latest data available up to 28th June.

10. R is an indicator that lags by two to three weeks and therefore does not reflect any behavioural changes that have happened during this time. In particular, Scotland has seen a significant step change in the number of new daily cases over the past week and the associated R and growth rate estimates cannot fully reflect this; R in Scotland *now* is highly likely to be higher than that estimated here. Regional estimates can be seen in Table 1 and Figure 4.

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[1] Further technical information on the growth rate can be found in [Plus magazine](#)

Table 1: Combined estimates of R values and growth rates in the four nations of the UK and NHS England regions (90% confidence interval)[2]

Nation	R	Growth rate per day	Doubling time[3]
England	1.1 to 1.3	+2% to +5%	16 to 29 days
Scotland	1.2 to 1.5	+3% to +7%	10 to 22 days
Wales[4]	1.1 to 1.5	+1% to +7%	11 days to flat
Northern Ireland[4]	1.1 to 1.4	+1% to +5%	14 days to flat
NHS England region	R	Growth rate per day	Doubling time[3]
East of England	1.0 to 1.2	+1% to +4%	20 days to flat
London	1.0 to 1.2	0% to +3%	24 days to flat
Midlands	1.1 to 1.3	+2% to +5%	13 to 26 days
North East and Yorkshire	1.2 to 1.4	+3% to +7%	11 to 18 days
North West	1.0 to 1.2	+1% to +4%	21 days to flat
South East	1.1 to 1.3	+2% to +5%	16 to 34 days
South West	1.3 to 1.6	+5% to +8%	8 to 13 days

11. In line with last week's consensus statement, data from Comix shows that the number of contacts made by adults has remained broadly flat from late April / early May 2021 to date (Figure 1), i.e. taking Step 3 on 17th May has led to minimal increases in contacts. This has happened alongside the observed increases in cases. Adults are making contact with slightly fewer people than in August / September 2020 and far fewer than before the pandemic. Pre-pandemic data collected with a similar methodology suggested an average of 11 contacts per day.

12. A large proportion of this reduction in contacts is the result of people working from home. The CoCoNet survey[5] ran in early August 2020 and found that, after adjusting for other factors (demographics, region, COVID-19 circumstance, etc.), those participants who were going to work, self-employed, or healthcare professions had significantly more non-household contacts (3.04-3.68 times higher)[6] than those working from home.

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[2] The estimated intervals for R and growth rate may not exactly correspond to each other due to the submission of different independent estimates and rounding in presentation.

[3] As R approaches 1, halving time (less than 1) or doubling time (greater than 1) rapidly tend towards infinity. Any estimates with a halving or doubling time of more than 40 days have been described as flat.

[4] Particular care should be taken when interpreting these estimates as they are based on low numbers of cases, hospitalisations, or deaths and / or are dominated by clustered outbreaks and so should not be treated as robust enough to inform policy decisions alone.

[5] CoCoNet Survey, Lancaster University

[6] Footnote added for release: this figure relates specifically to those going to work; those self-employed or healthcare professionals had different numbers of contacts, but similarly exceeded those working from home.

Figure 1: Mean contacts for adults (lower purple line – 18-year olds and over) and adults and children (upper yellow line – all participants) in the UK as estimated through the COMIX study since 23rd March 2020.
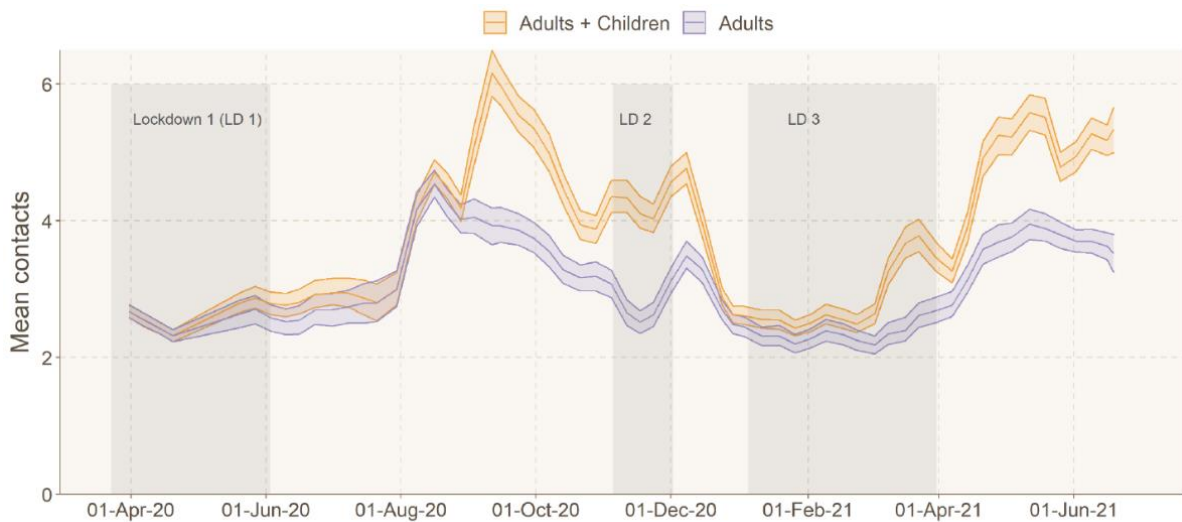
13. The REACT survey[7] from Imperial College London has also shown working from home reduces the chance of catching COVID-19 with those not currently required to work outside the home are 54% to 76% less likely to test positive for SARS-CoV-2 compared to those that did. Analyses of risk by occupation consistently show a lower risk for those occupations with higher levels of working from home[8].

14. Working from home currently occurs in the context of a wide range of other measures that also reduce the number of effective contacts that allow for viral transmission. While individually these other measures may not contribute much, together they do add up to a significant impact. There is scope for the epidemic to grow considerably more quickly if all these mitigating factors are relaxed over a short period of time.

## Annex: PHIA framework of language for discussing probabilities

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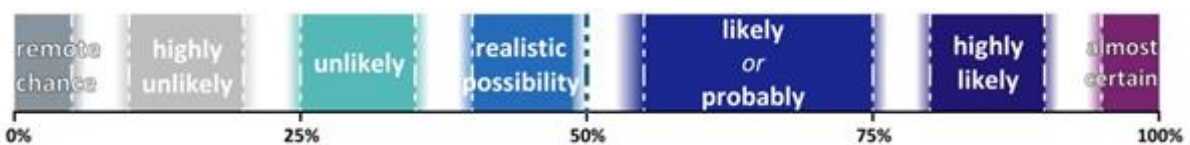
[7] REACT-1 round 9 final report: Continued but slowing decline of prevalence of SARS-CoV-2 during national lockdown in England in February 2021 – tables 3c and 7.
[8] Coronavirus (COVID-19) Infection Survey: characteristics of people testing positive for COVID-19 in England, 22nd February 2021; Environmental Modelling Group: COVID-19 risk by occupation and workplace, SAGE 80 11th February 2021

Figure 2: SPI-M-O groups estimates of median R in the four nations of the UK, including 90% confidence intervals. Bars represent different independent estimates. The grey shaded areas represent the combined numerical range and the black bars are the combined range after rounding to 1 decimal place.
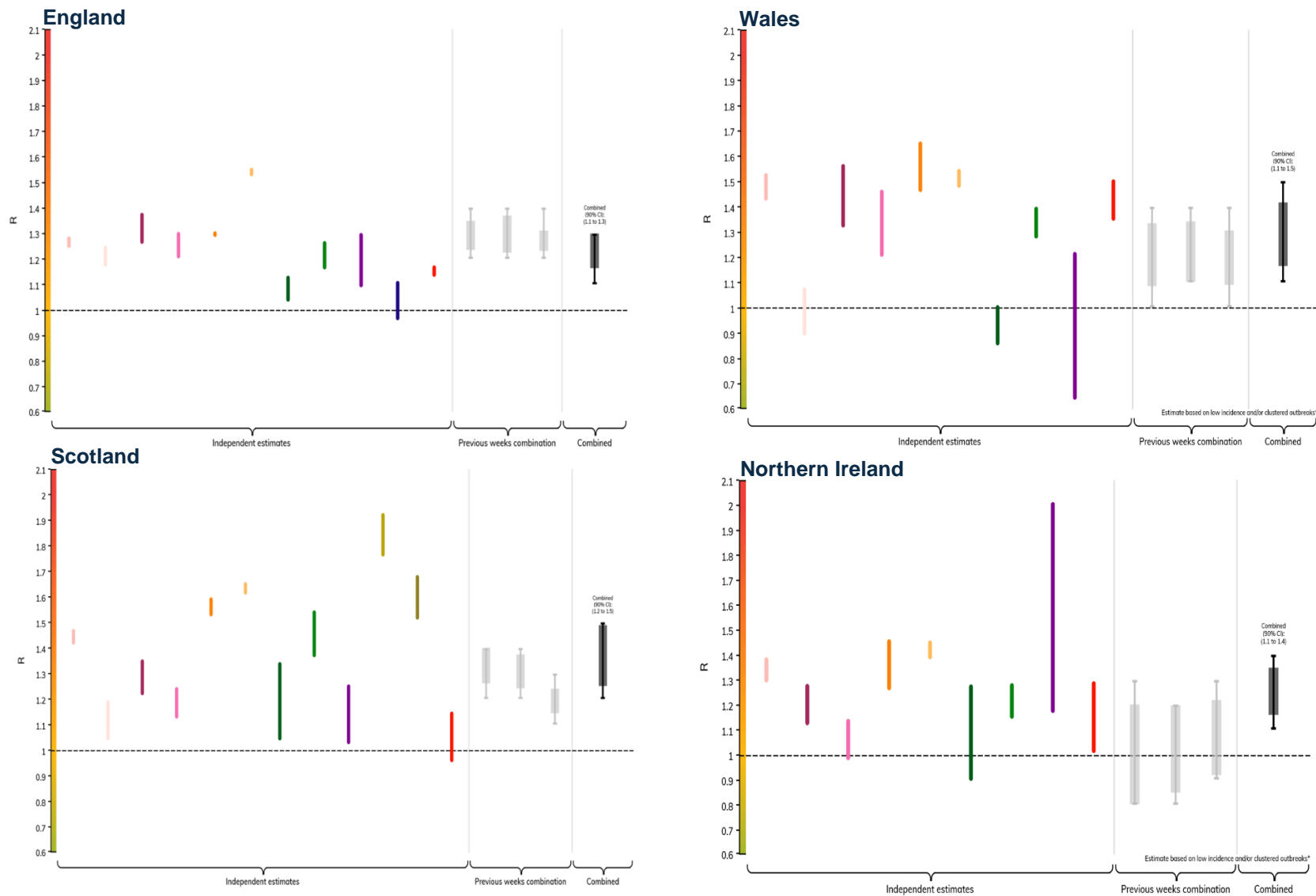
Figure 3: SPI-M-O groups' estimates of the growth rate in NHS England regions, including 90% confidence intervals. Bars represent different independent estimates. The grey shaded areas represent the combined numerical range and the black bars are the combined range after rounding to 2 decimal places.
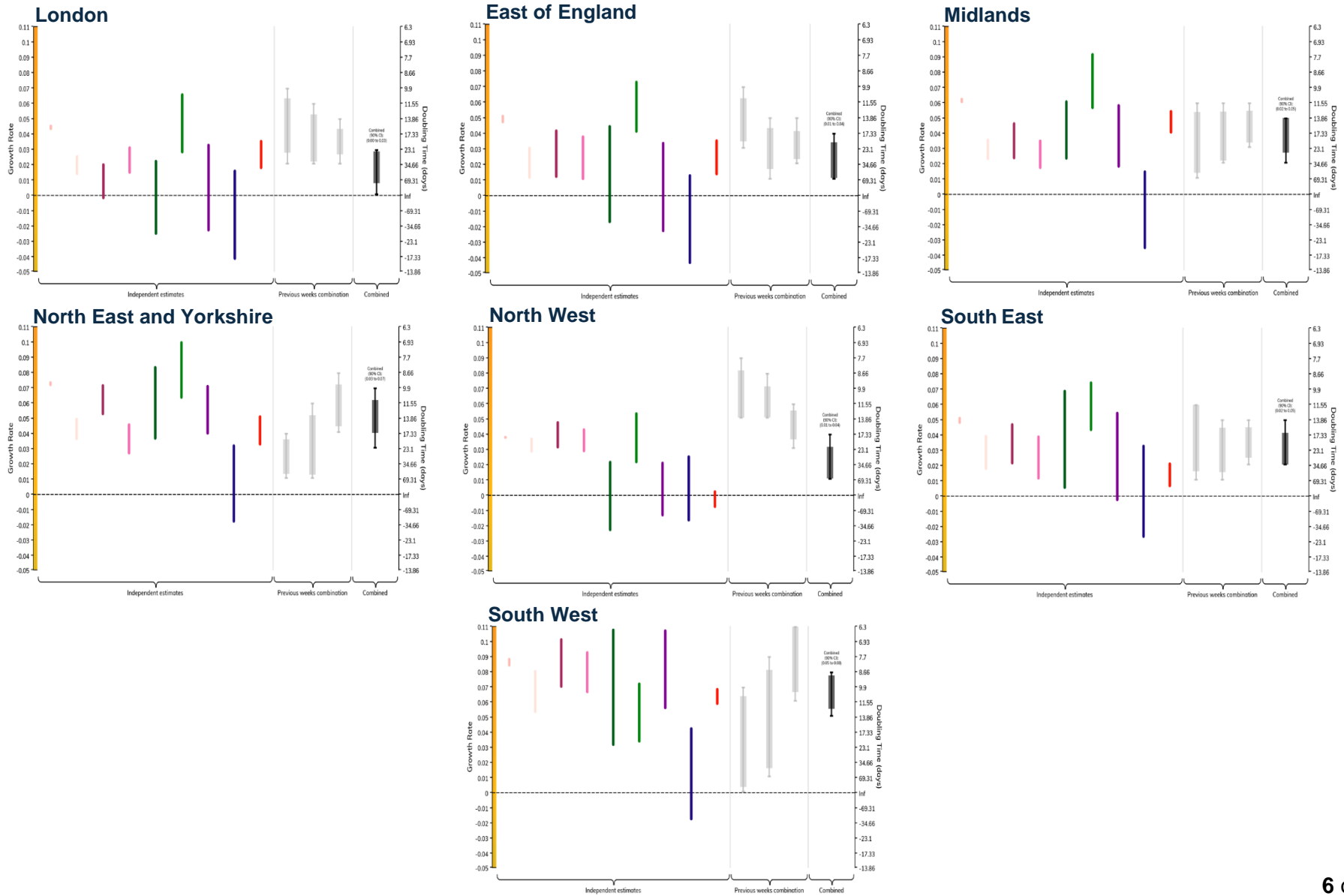
Figure 4: SPI-M-O groups' estimates of median R in the NHS England regions, including 90% confidence intervals. Bars represent different independent estimates. The grey shaded areas represent the combined numerical range and the black bars are the combined range after rounding to 1 decimal place.