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

Date: 17th March 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 the UK is between 0.6 and 0.9.** Estimates for **England and Northern Ireland are between 0.7 and 0.9**. **For Wales and Scotland, R is between 0.6 and 0.9 and 0.7 and 1.0 respectively.** These estimates are based on the latest data, available up to 15th March, including hospitalisations and deaths as well as symptomatic testing and prevalence studies, and do not yet reflect the re-opening of schools in England.

2. SPI-M-O is confident that R remains below 1 across all NHS England regions, although with greater uncertainty around these estimates. The epidemic continues to decrease across all nations and regions, but transmission remains heterogeneous more locally, and these areas will be important for future patterns as restrictions are eased. While R is below 1, prevalence remains high across the country.

3. SPI-M-O estimates that there are between **5,000 and 10,000 new infections per day in England.**
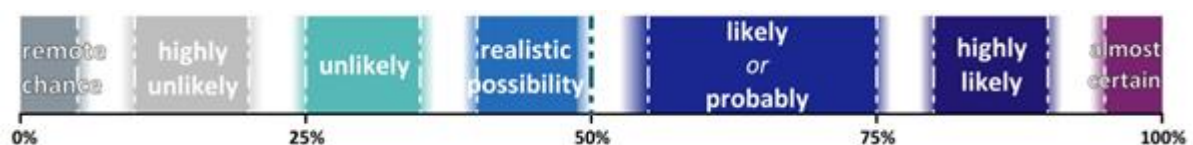
Incidence and prevalence

4. Combined estimates from six SPI-M-O models, using data available up to 15th March, suggest there are between **5,000 and 10,000 new infections per day in England**.

5. The ONS community infection survey for the most recent week of the study (7th to 13th March) estimates that an average of **160,200 people had COVID-19** in the community in England (credible interval **142,000** to **179,400**). The survey does not include people in care homes, hospitals, or prisons. Estimates from across the four nations of the UK are:

England	160,200 (credible interval 142,000 to 179,400)
Scotland	19,300 (credible interval 14,100 to 25,600)
Wales	7,000 (credible interval 4,300 to 10,600)
Northern Ireland	5,800 (credible interval 3,300 to 9,400)

Reproduction number and growth rate

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 rate at which an epidemic is growing or shrinking[1].

7. SPI-M-O's consensus estimate for the **growth rate in the UK is between -6% and -3% per day and in England, it is between -6% and -2% 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 is the average number of secondary infections produced by a single infected individual. R is an average value over time, geographies, and communities. This should be considered when interpreting the R estimate for the UK given the differences in policies across the four nations.

9. SPI-M-O's best estimate for **R in the UK is between 0.6 and 0.9.** Estimates for **England and Northern Ireland are each between 0.7 and 0.9**. **For Wales and Scotland, R is between 0.6 and 0.9 and 0.7 and 1.0 respectively.** SPI-M-O's agreed national estimates are summarised in Table 1 and Figures 1 and 2. R is an indicator that lags by two to three weeks and, therefore, do not yet reflect the latest measures across the four nations, including the re-opening of schools in England from 8th March. These estimates are based on the latest data available up to 15th March.

10. SPI-M-O is confident that R is below 1 in all NHS England regions. The regional R estimates can be seen in Table 1 and Figure 4, with a consistent pattern of R below 1 and hence continuing decreasing infections. There continues to be heterogeneity at a sub-regional level, and it is important that these areas are carefully monitored as measures start to be relaxed.

11. Although R is below 1, prevalence remains high so relaxation of measures needs to be conducted carefully.

Annex: PHIA framework of language for discussing probabilities

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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 UK, four nations, and NHS England regions (90% confidence interval)[2]

Nation	R	Growth rate per day
England	0.7 to 0.9	-6% to -2%
Scotland	0.7 to 1.0	-6% to -2%
Wales	0.6 to 0.9	-6% to -3%
Northern Ireland	0.7 to 0.9	-5% to -1%
UK	**0.6 to 0.9**	**-6% to -3%**

NHS England region	R	Growth rate per day
East of England	0.6 to 0.9	-7% to -4%
London	0.6 to 0.9	-7% to -3%
Midlands	0.6 to 0.9	-7% to -3%
North East and Yorkshire	0.7 to 0.9	-6% to -2%
North West	0.7 to 0.9	-6% to -2%
South East	0.7 to 0.9	-6% to -3%
South West	0.6 to 0.9	-8% to -3%

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[2] The estimate 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. R estimate intervals for the UK may not exactly correspond to its constituent nations for the same reason.

Figure 1: SPI-M-O groups' estimates of median R in the UK, including 90% confidence intervals. Bars represent different independent estimates. The grey shaded area represents the combined numerical range and the black bar is the combined range after rounding to 1 decimal place. The UK estimate of R is the average over very different epidemiological situations and should be regarded as a guide to the general trend rather than a description of the epidemic state.
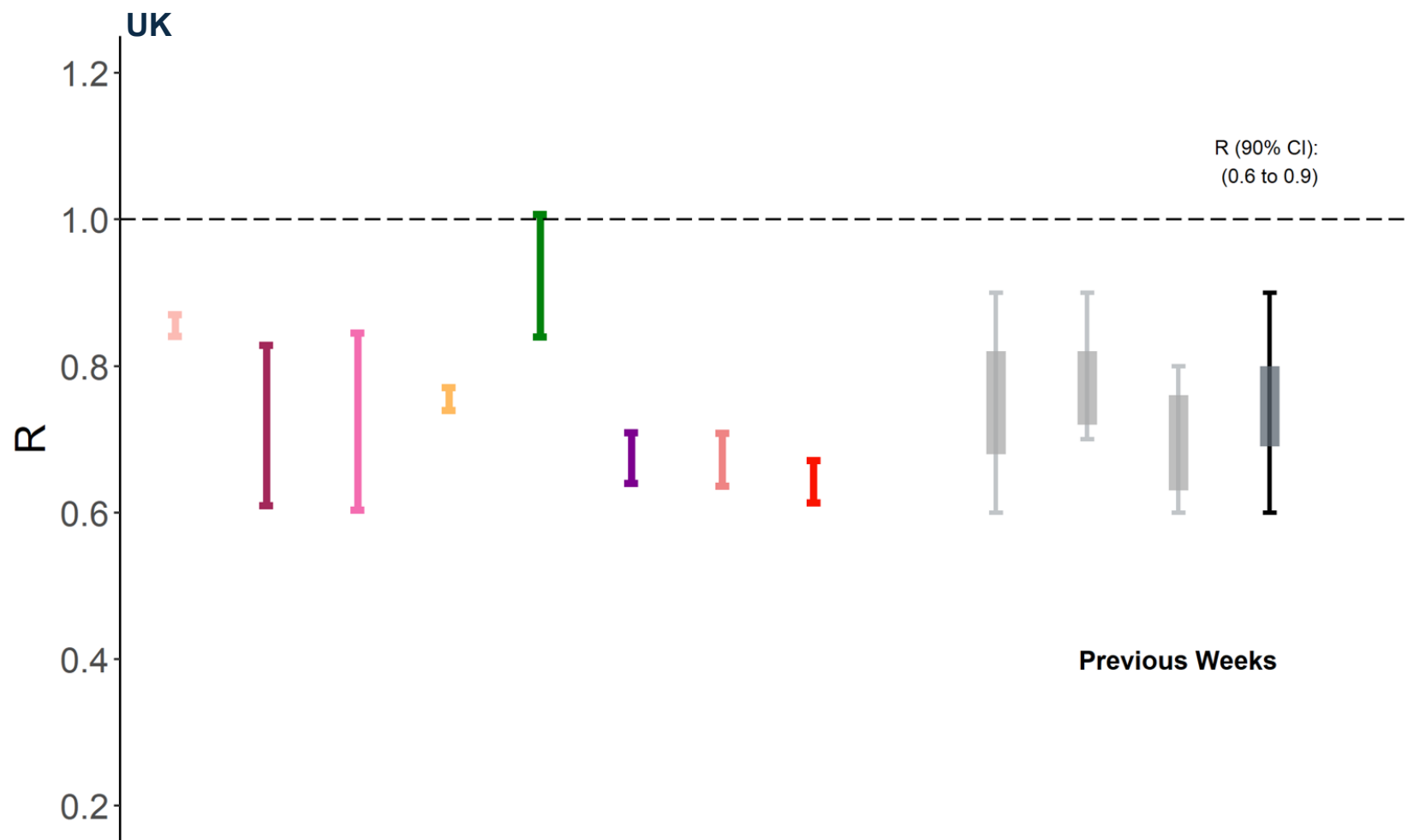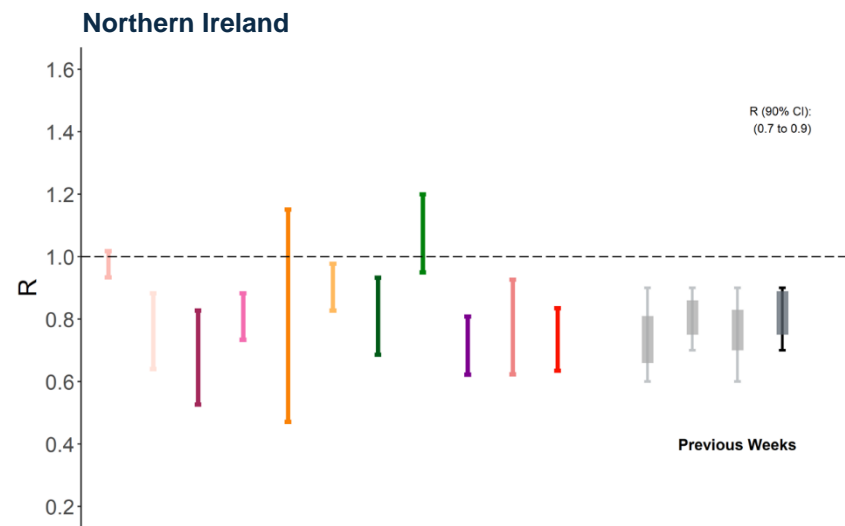
Figure 2: SPI-M-O groups estimates of median R in the four nations of the UK, including 90% confidence intervals. Bars represent different independent estimates. The grey shaded areas represent the combined numerical range and the black bars are the combined range after rounding to 1 decimal place.
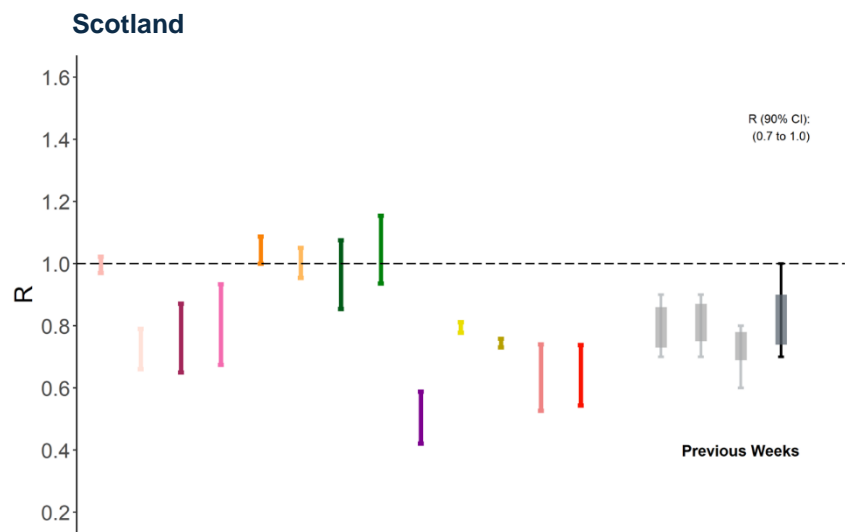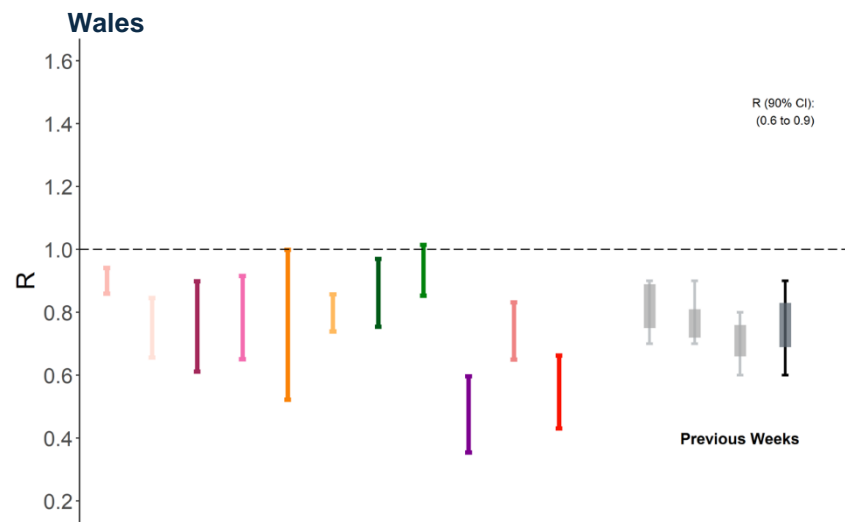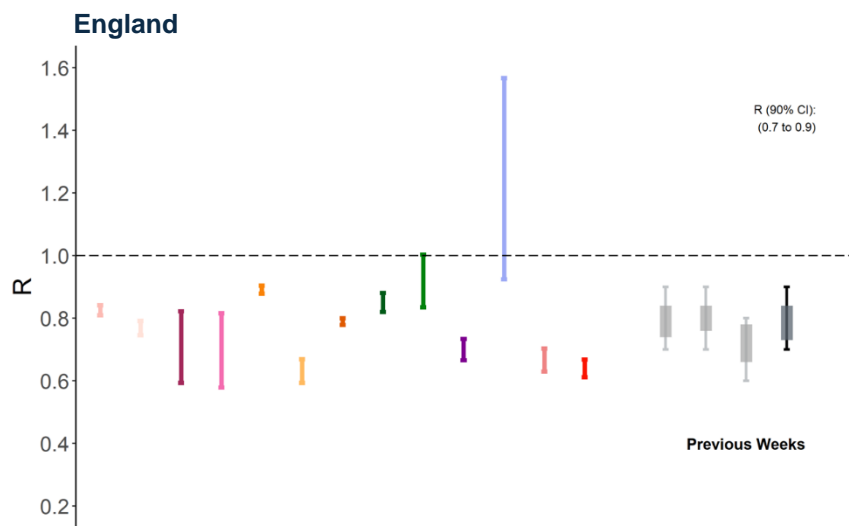
Figure 3: SPI-M-O groups' estimates of the growth rate in NHS England regions, including 90% confidence intervals. Bars represent different modelling groups. The grey shaded areas represent the combined numerical range and the black bars are the combined range after rounding to 2 decimal places.
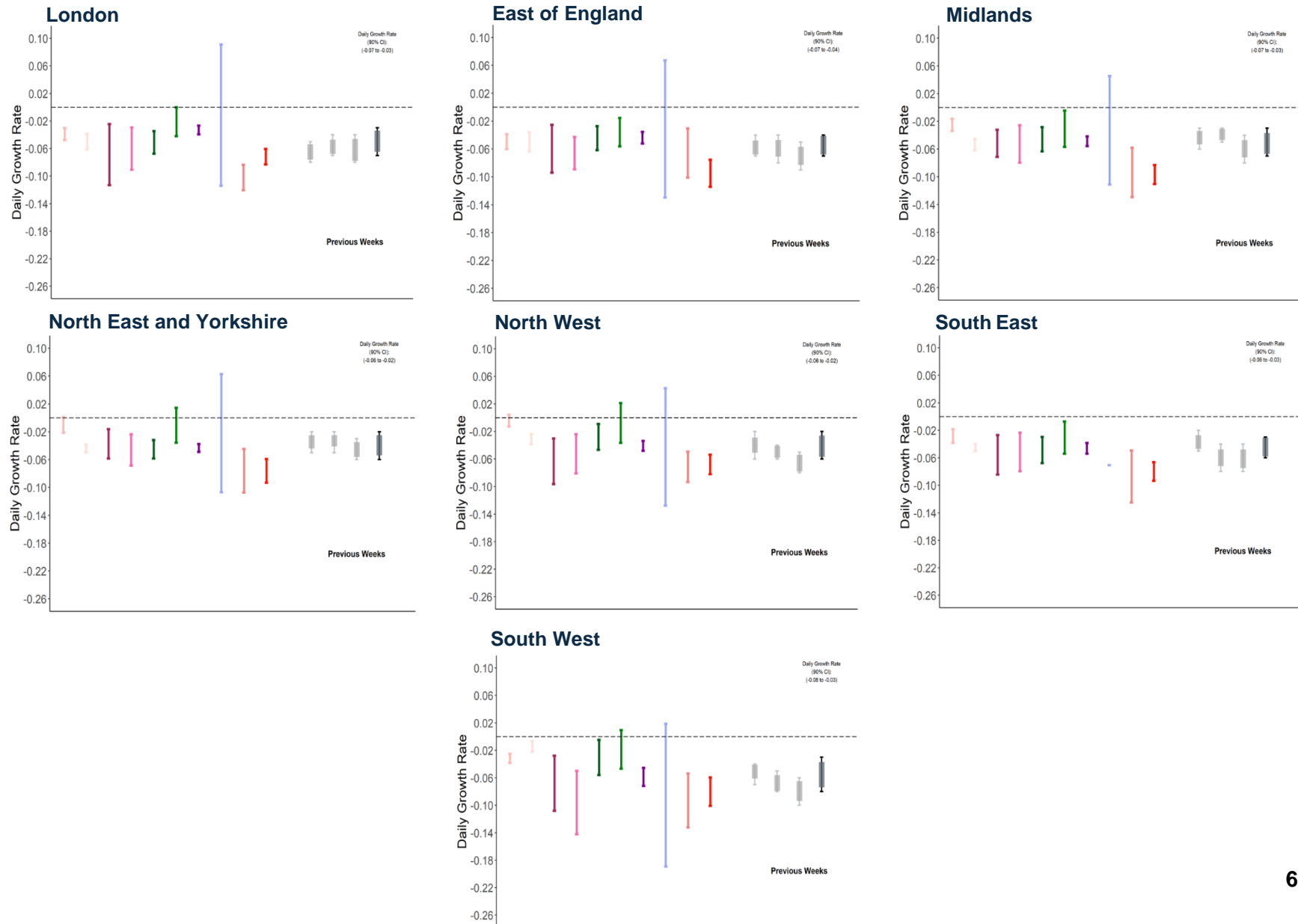
Figure 4: SPI-M-O groups' estimates of median R in the NHS England regions, including 90% confidence intervals. Bars represent different independent estimates. The grey shaded areas represent the combined numerical range and the black bars are the combined range after rounding to 1 decimal place.