Transparency data

SAGE 81 minutes: Coronavirus (COVID-19) response, 18 February 2021

Published 22 February 2021

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Eighty-first SAGE meeting on COVID-19, 18 February 2021.

Held via Video Teleconference.

Summary

1. The number of infections continues to decline, as do numbers of hospital admissions and hospital occupancy (though all remain high). SPI-M estimates that there are between 13,000 and 35,000 new infections per day in England. ICU occupancy is also decreasing, although surge capacity is still being used.

2. The reproduction (R) number in the UK is between 0.6 and 0.9. The lag between changes in transmission and changes in estimates of R is around 2 to 3 weeks.

3. The conclusions from modelling of additional scenarios for releasing of measures are consistent with those from previous iterations of modelling. All scenarios show an epidemic resurgence which results in a substantial number of hospital admissions and deaths, though there are differences in the scale and timing (high confidence).

4. There remains significant uncertainty about the scale and timing of such resurgence. This uncertainty is greater further into the future. Given this, decisions about changes to restrictions are best made based on epidemiological data rather than based on predetermined dates.

5. Retaining a baseline set of policies to reduce transmission after other restrictions have been lifted would reduce the scale of a resurgence (high confidence).

6. There will continue to be heterogeneity in the epidemic. It will be important to monitor the epidemic carefully at a local level.

7. Seroprevalence studies show that where transmission is not well-controlled, a very high proportion of the population can become infected.

Situation update

8. The number of infections continues to decline, as do numbers of hospital admissions and hospital occupancy (though all remain high). ICU occupancy is also decreasing, although surge capacity is still being used.

9. R in the UK is between 0.6 and 0.9 and in England and Scotland it is between 0.7 and 0.9. For Wales and Northern Ireland R is between 0.6 and 0.9 and between 0.6 and 0.8 respectively. The growth rate in new infections in the UK is between -6% and -3% per day.

10. R is a lagging indicator. The time delay between someone being infected, having symptoms, and needing healthcare and the delays in reporting the subsequent data mean that estimates of R take several weeks to reflect changes in transmission. This lag varies between models depending on the data used (data such as hospital admissions and deaths are more lagged than testing data or mobility data). Comparison of past SPI-M estimates of R with estimates for the same periods using more recent data indicates that the lag between changes in transmission and changes in estimates of R is around 2 to 3 weeks.

11. SPI-M estimates that there are between 13,000 and 35,000 new infections per day in England. The ONS Community Infection Survey for the most recent week of the study (6 to 12 February 2021) estimates that an average of 481,300 people had COVID-19 in the community in England (credible interval 451,600 to 512,400).

12. There remain small areas where the number of new infections is not declining. It will be important to understand the reasons for this including through targeted genomic surveillance. As previously advised, these areas may be at higher risk when non-pharmaceutical interventions are relaxed, especially if they do not have high levels of vaccine coverage including in the most vulnerable groups.

13. JBC's work to monitor the epidemic on an ongoing basis, including use of early warning indicators, will be important in understanding local impacts. Work is ongoing on the use of wastewater monitoring as a potential indicator of levels of infection.

14. There is no further information yet available on generation time or serial interval of infections caused by the B.1.1.7 variant.

Exit scenarios and easing restrictions

15. As noted previously (see SAGE 79 and SAGE 80), modelling suggests that there is the potential for a very large number of infections if restrictions are lifted early or rapidly (high confidence) which would lead to a large number of hospitalisations and deaths unless vaccine coverage is very high (high confidence).

16. SPI-M groups have modelled two additional scenarios with four relaxation steps. Results are highly dependent on the assumptions and parameters used, many of which match those previously modelled and remain highly uncertain; key differences in the brief are in greater indoor mixing in some of the early stages of easing, and a more gradual relaxation in the later stages linked to the speed of vaccine rollout.

17. The conclusions from modelling of these scenarios are consistent with those from previous iterations of modelling. Modelling of additional similar scenarios would be unlikely to yield much further insight given the number of uncertainties.

18. As with previous modelling, these scenarios show an epidemic resurgence which results in a substantial number of hospital admissions and deaths (high confidence).

19. There remains significant uncertainty about the scale and timing of such a resurgence. Key uncertainties include vaccine effectiveness (against infection as well as severe disease), waning immunity, the emergence of novel variants, the extent of any seasonal factors, and behavioural responses to any changes (the modelling assumes no waning of immunity, no novel variants other than B.1.1.7 and no change in adherence following vaccination). Uncertainty is greater further into the future for all modelled scenarios, though this will reduce over time as more data are obtained on vaccine effectiveness.

20. Given the level of uncertainty, decisions about changes to restrictions are best made based on epidemiological data rather than based on predetermined dates.

21. The models suggest that allowing additional indoor mixing at an earlier stage when prevalence is higher and fewer people have been vaccinated would result in significantly higher numbers of infections. There is uncertainty over the scale of this increase, but if it were to be allowed, the risk would be reduced if the mixing were limited to exclusive bubbles.

22. Though releasing restrictions later while the vaccination programme is underway results in fewer subsequent infections (because more people have been vaccinated when contacts increase), after all adults have been offered at least one dose of the vaccine any further delay is not likely to have a significant impact on the scale of the subsequent resurgence (though it would change the timing).

23. As previously advised, retaining a baseline set of policies to reduce transmission after other restrictions have been lifted would reduce the scale of a resurgence (high confidence). A specific set of policies has not been modelled, but could include voluntary measures (for example, hygiene measures, mask wearing in certain situations, avoiding crowding), environmental measures (such as ventilation), and test, trace, and isolate systems. A better understanding of how these policies impact transmission will be important in understanding the impact of the release of the last set of restrictions, where there is a high degree of uncertainty. Some of these policies are likely to be needed in the longer term.

24. If there is an increase in transmission, it will take time for the data to show this, and then more time for any response to be implemented and have an effect. It will take around 4 weeks after changing a set of restrictions to see the effect in the data and be confident of the impact of changes. If a further week is required between the decision to proceed and the implementation of any changes, a gap of not less than 5 weeks between steps is advisable.

25. Maintaining control of the epidemic is easier at low levels of prevalence than at high levels because it gives more time to respond to increases before healthcare systems are overwhelmed; allows test, trace and isolate systems to operate more effectively; reduces the likelihood of needing to make unplanned interventions; and reduces the likelihood of new variants emerging.

26. Seasonal patterns in transmission (for example, as a result of environmental or behavioural factors) have been included as sensitivity analyses in the modelling. The extent of seasonal factors is unknown which adds further uncertainty around the scale or timing of a resurgence. These analyses show that one effect of seasonality may be to reduce prevalence over the summer, but then increase the height of the peak of an Autumn resurgence.

27.Whilst the modelling is done at a national level, there will continue to be heterogeneity in the epidemic. It will continue to be important to carefully monitor the epidemic at a local level. As noted above, some areas, especially if they do not have high levels of vaccine coverage, including in the most vulnerable groups, may be disproportionately impacted when non-pharmaceutical interventions are relaxed.

COVID-19 and close-knit communities

28. Many ethnic and religious minorities have been disproportionately affected by SARS-CoV-2 worldwide. The UK strictly-Orthodox Jewish community is an example of one which has been severely affected by the pandemic.

29. A household-focused cross-sectional SARS-CoV-2 serosurvey was conducted in a UK strictly-Orthodox Jewish population in North London, in October to November 2020, to understand how COVID-19 had spread within this community.

30. The overall seroprevalence for SARS-CoV-2 was 64.3% (95% CI 61.6-67.0%). Seroprevalence was lower in children under 5 years (around 28%) and higher in secondary school children and adults (around 74%).

31. These very high levels of seroprevalence show that where transmission is not well-controlled, a very high proportion of the population can become infected. This is consistent with findings from some university halls of residence and care homes in the UK, as well as some international evidence.

32. In addition, the large number of children in the survey, reflective of the underlying population structure, demonstrates that in this setting there is a significant burden of infection in all age groups with secondary school aged children having an equivalent seroprevalence to adults. The comparatively lower level of seroprevalence in younger children is noteworthy.

33. The precise reasons for high seroprevalence in this community are not known. However, this group shares characteristics with some other ethnic minority communities including larger family sizes, and higher rates of multi-generational households which are known to be associated with higher levels of transmission. As such, findings are likely relevant to other close-knit groups in the UK and elsewhere.

Attendees

Scientific experts

- Patrick Vallance (GCSA)
- Chris Whitty (CMO)
- Angela McLean (MOD)
- Brooke Rogers (KCL)
- Calum Semple (Liverpool)
- Catherine Noakes (Leeds)
- Charlotte Deane (UKRI)
- Charlotte Watts (FCDO CSA)
- Fliss Bennee (Wales)
- Graham Medley (LSHTM)
- Harry Rutter (Bath)
- Ian Boyd (St Andrews)
- Ian Diamond (ONS)
- James Rubin (KCL)
- Jeanelle de Gruchy (ADPH)
- Jeremy Farrar (Wellcome)
- Jenny Harries (DHSC)
- John Edmunds (LSHTM)
- Kamlesh Khunti (Leicester)
- Linda Partridge (Royal Society)
- Maria Zambon (PHE)
- Mark Walport (UKRI)
- Mark Wilcox (NHS)
- Matt Keeling (Warwick)
- Michael Marks (LSHTM)
- Michael Parker (Oxford)
- Nicola Steedman (Scotland dCMO)
- Peter Horby (Oxford)
- Rob Orford (Wales, Health CSA)
- Sharon Peacock (PHE)
- Sheila Rowan (Scotland, CSA)
- Stephen Powis (NHS England)
- Susan Hopkins (PHE/NHST&T)
- Wei Shen Lim (JCVI)
- Wendy Barclay (Imperial)

- Yvonne Doyle (PHE)

Observers and government officials

- Alan Penn (MHCLG CSA)
- Andrew Curran (HSE CSA)
- Andrew Morris (HDR UK)
- Ben Warner (No.10)
- Daniel Kleinberg (Scotland)
- Gideon Henderson (Defra CSA)
- Imran Shafi (No. 10)
- James Benford (HMT)
- Jennifer Rubin (HO CSA)
- Jim McMenamin (Health Protection Scotland)
- Julian Fletcher (CO)
- Laura Gilbert (No.10)
- Osama Rahman (DfE, CSA)
- Paul Monks (BEIS CSA)
- Phil Blythe (DfT CSA)
- Rob Harrison (CO)
- Robin Grimes (CSA Nuclear)
- Thomas Waite (JBC)
- Tom Rodden (DCMS CSA)

Secretariat

- Simon Whitfield
- Stuart Wainwright

Total: 85

1 scientific experts, 10 observers and government officials and 15 Secretariat members redacted.