

Thirty-fifth SAGE meeting on Covid-19, 12th May 2020

Held via Zoom

Summary

1. The credible range for R is nationally is now 0.7-1.0 and while it is very likely to be less than 1 it could be close to it. It is almost certain to be lower than this in the community (outside hospitals and care homes), where it could be as low as 0.5-0.6.
2. There is a limit to the precision and timeliness with which R can be estimated. There should be an increasing reliance on incidence data for decision making as the quality of those data improve. Leading indicators will also be valuable for timely decision making.
3. There is evidence that sunlight rapidly reduces viral stability as well as some evidence that increased temperature and humidity reduce stability.
4. Workforce management and behaviours are key factors in transmission in care homes and hospitals. In particular, operating models and staff availability present a barrier to reducing transmission in care homes.
5. SAGE reiterated the importance of extensive and rapid testing focused on those at highest risk of becoming infected and transmitting the virus to others including health and social care workers.
6. SAGE remains of the view that a monitoring and test, trace & isolate system needs to be put in place.

Situation update

7. The published recovery strategy was noted. SAGE has previously advised that Phase 1 as modelled (20% increase in work contacts) is not likely to push R above 1. Phase 2 is dependent on response to Phase 1. The modelling underpinning this advice is based upon the assumption of a very effective test and trace system being operational, which is not currently the case.
8. The announcement of the Joint Biosecurity Centre was welcomed. SAGE agreed on the value of integrating data from multiple sources and being able to identify and respond rapidly to local outbreaks (in line with its previous advice)
9. The rate of decline of new hospital cases may be beginning to slow. The credible range for R is nationally now 0.7-1.0 and while it is very likely to be less than 1 it could be close to it.
10. R is almost certain to be lower than this in the community (outside hospitals and care homes), where it could be as low as 0.5-0.6. Key workers and their households are likely to represent a significant proportion of infections in the community (this is consistent with published ONS analysis).
11. The central case in each region still forecasts a declining number of deaths and new hospital cases. However, uncertainty means that in some regions plateaus or even increases cannot be ruled out.
12. It is not possible to provide a precise value of R, as data sources are subject to delays and assumptions are made in modelling. There should be an increasing reliance on incidence data for decision making as the quality of those data improve. Leading indicators will be crucial for timely decision making, and SPI-M will provide a view on what indicators should be considered.
13. There is a clinically meaningful and statistically significant improvement in case fatality rates for shielded groups. It is not clear what the relative contributions to this effect are from shielding and from improved clinical care. It is also not known whether there has been a change in the severity of cases.
14. Mutations of the spike protein do not provide cause for immediate concern, but further work is needed to better understand variants of the virus and their biological effects. NERVTAG will review the evidence on this.
15. Evidence suggests that SARS-CoV-2 is stable for long periods (half-life measured in hours) in indoor environments, both on surfaces and when aerosolised (experimentally).

There is some evidence for it becoming less stable at higher temperature and humidity within typical indoor operating ranges (moderate confidence), and some evidence that it is very stable at low temperatures (low confidence).

16. This could be reflected in operational guidance for relevant organisations, though the evidence for ventilation is stronger, so changes to temperature or humidity should only be considered where ventilation can still be maintained. Previous advice on the relative contribution of droplets and aerosols to transmission remains current.
17. These data increase the possibility there may be a degree of seasonality.
18. There is evidence that sunlight rapidly reduces viral stability (to a half-life of a few minutes), based on laboratory simulations (high confidence). This supports the previous advice that there is a much lower risk of transmission outdoors than indoors, especially from surfaces. There may be some scope for use of certain types of light (e.g. UV) indoors to reduce risk in some settings.

ACTION: SAGE secretariat to arrange for Tom Hurd (Joint Biosecurity Centre) to present to a group of SAGE participants; Ian Diamond to present design principles for monitoring from the Evaluation subgroup by 15 May

ACTION: Angela McLean and SPI-M secretariat to provide a short explanatory note on R for HMG communication experts by 13 May

ACTION: SPI-M to advise on leading indicators on changing infection rates following lifting of various measures, ahead of fully functioning testing and tracing and scale-up of the Joint Biosecurity Centre, by 14 May (SAGE remains concerned about the lack of a monitoring and test, trace and isolate system in place)

ACTION: CO-CIN to investigate the case fatality rate by age band and presence or not of one or more comorbidities over time and provide a view on factors behind improvements in case fatality rates for shielded groups by 19 May

ACTION: NERVTAG to provide a paper on biological effects of variants of the virus and implications for infections by 14 May

ACTION: Environmental and Modelling Group to consider whether updates to advice to HSE or others are needed and investigate what role UV light could play in indoor environments by 18 May; **Jonathan Van Tam** to frame question on risks and potential for UV light use and other potential mitigations in dentistry for group to consider

Care homes

19. Extensive testing of both residents and staff is crucial both in care homes which have reported cases and those which have not.
20. Preventing cases coming into homes should be a key aim, with avoiding transmission within homes also important.
21. Workforce management and behaviours are key factors in transmission. SAGE reiterated the need to minimise, and ideally avoid completely, staff moving between homes. This presents a challenge to the operating model of many care home providers.
22. Working conditions in the sector similarly present challenges, including disincentives to self-isolate. Addressing these issues is critical to reducing transmission.
23. Infection prevention and control procedures are important and should draw upon expertise from healthcare.
24. There are other settings where similar issues may arise, such as domiciliary care, hostels, and university halls of residence. Similar principles may apply in these settings.

25. Further targeted studies, including to understand variation in scale of outbreaks between different care homes and the reasons for this, are needed. Serological data, viral sequencing, behavioural data, and data from DAs will also be valuable.
26. SAGE endorsed the paper from the Care Home Group subject to some changes to reflect SAGE discussion.

ACTION: Environmental and Modelling Group to link to work by Andrew Hayward (UCL) on other high-risk environments/disadvantaged settings where transmission could be high by 19 May

ACTION: Care Homes Group to agree with ONS, PHE and DHSC and other relevant groups or partners what additional data sources could be used to monitor care home infection and how this can be provided, by 14 May

ACTION: DHSC and Care Homes Group to draw on infection protection and control guidance from hospital environments to inform care homes guidance by 14 May

Nosocomial transmission

27. Data indicate that the number of nosocomial cases is plateauing, and therefore comprising an increasing proportion of total cases (as the number of new cases in the community falls).
28. Better data feeds are needed to understand patterns at a local level, which are being developed.
29. There are interventions already in place within hospitals. The focus of the next phase of work is on reducing transmission between healthcare workers and on urging rapid implementation of recommendations from the Environmental and Modelling Group.
30. The importance of extensive and rapid testing was reiterated, for both patients and staff. This should include point of care testing. The question of whether all visitors and entrants to hospitals should wear masks should be considered.
31. All staff need to be considered including those not directly employed in the NHS, as well as visitors and others working in hospitals. Understanding behavioural factors and adherence will be an important part of this.
32. The Chief Nurse will lead the implementation of this work within the NHS.

ACTION: Nosocomial Group to work with SPI-B on a survey of health care workers; consider possible infection spread from visitors, outpatients, and day patients; and ensure improved data collection of nosocomial cases from all NHS Trusts by 19 May

ACTION: ONS to provide data on asymptomatic cases from household survey to NERVTAG; **NHS Medical Director** to provide any relevant NHS data on asymptomatic cases to NERVTAG by 12 May. **NERVTAG** to produce updated paper on asymptomatic transmission.

Planning scenarios

33. SAGE endorsed the scenarios from SPI-M and will review further scenarios once these are developed.

Future meetings

34. The next meeting will consider bubbling, relative infection rates in asymptomatic people, and improving understanding of regional variations.
35. There is work underway on the potential effects of winter on the virus and response, and on serology and immunology. SAGE will consider these in future meetings.

List of actions

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Attendees

Scientific experts (32): Patrick Vallance (GCSA), Chris Whitty (CMO), Jonathan Van Tam (dCMO), Jenny Harries (dCMO), Angela McLean (CSA MoD), John Aston (CSA HO), Charlotte Watts (CSA DfID), Stephen Powis (NHS), Sharon Peacock (PHE), Maria Zambon (PHE), Calum Semple (Liverpool), Graham Medley (LSHTM), John Edmunds (LSHTM), Ian Hall (Manchester), Peter Horby (Oxford), Brooke Rogers (King's), Lucy Yardley (Bristol), Wendy Barclay (Imperial), Andrew Rambaut (Edinburgh), Cath Noakes (Leeds), Sheila Rowan (CSA Scotland), Nicola Steedman (dCMO Scotland), Jim McMenamain (Health Protection Scotland), Andrew Morris (Scottish Covid-19 Advisory Group), Rob Orford (Health

CSA Wales), Fliss Bennee (Wales Technical Advisory Cell), Ian Young (CMO Northern Ireland), Mark Walport (UKRI), Venki Ramakrishnan (Royal Society), Jeremy Farrar (Wellcome), Mike Parker (Oxford), Ian Boyd (St Andrews)

Observers and government officials (9): [REDACTED]
[REDACTED] Bob Butcher (DHSC), Ben Warner (No. 10), [REDACTED] Vanessa MacDougall (HMT), [REDACTED]

SAGE secretariat (16): [REDACTED]
[REDACTED] Stuart Wainwright, [REDACTED]
[REDACTED] Paul McCloghrie, Simon Whitfield,
[REDACTED]

Total participants: 57