

Fifty-ninth SAGE meeting on Covid-19, 24th September 2020
Held via Zoom

Summary

1. Incidence across the UK continues to increase rapidly. The latest estimate of R for the UK is 1.2 to 1.5.
2. Unless current NPIs reduce R back below 1 soon, it is possible that infection incidence and hospital admissions will over time exceed scenario planning levels. Further measures will be needed to bring R below 1 in the event that current measures do not do so. The earlier additional measures are introduced the more effective they will be.
3. The relative importance of different causes of ethnic inequalities in COVID-19 remains unclear. There is likely to be an interplay of social, economic, biological and pre-pandemic health risks that vary across ethnic groups. Genetics alone cannot explain the higher number of severe cases and deaths among ethnic minorities. There is an urgent need for both social science research and clinical data to better understand risk factors.
4. Culturally tailored public health messages have a positive impact on reach and accessibility in ethnic communities and improve knowledge and understanding of the spread of the virus, and awareness of symptoms and how to seek care.
5. Cases and recorded outbreaks in care homes are beginning to increase again across the UK (high confidence). Understanding the different routes of transmission and their relative impact is critical.
6. There is growing evidence of the negative mental health and wellbeing impacts of isolation on care home residents and their families, and policymakers will need to balance these against the transmission risk from visits when developing guidance.

Situation update

7. Incidence across the UK continues to increase rapidly, and data show clear increases in hospital and ICU admissions (high confidence). Incidence and growth rates are higher in some parts of the UK than others.
8. The latest estimate of R for the UK is 1.2 to 1.5, while the daily growth rate estimate for new infections is +4% to +8%. The latest estimate of R for England is also 1.2 to 1.5, while the daily growth rate estimate is +4% to +8%.
9. As previously noted, these estimates do not fully reflect recent changes from the last two to three weeks and SAGE expects the current growth rate and R to be higher than this (moderate confidence). Operational issues in the testing systems have increased the level of uncertainty in estimates.
10. The growth rate estimates equate to a doubling time for new infections of 9 to 14 days, though estimates produced using hospital admissions data suggest the doubling time could be as short as 7 days nationally. There is potentially even faster growth in some areas.
11. Data from the ONS infection survey and the REACT survey, which are not affected by operational testing issues, also indicate rapidly increasing incidence in line with that modelled, particularly in the North West and North East.
12. Test positivity is also increasing, which similarly indicates that incidence is likely to be increasing even where operational constraints mean that the number of confirmed cases may not be increasing as quickly.
13. There are variations in data from different sources on transmission in London, which may be due to differences in demand for testing, adding further uncertainty to the modelling.
14. Incidence continues to increase across all age groups and remains highest in younger people.

15. As previously, non-pharmaceutical interventions (NPIs) on both a local and national scale are needed to bring R back below 1 (high confidence). Unless recently announced measures reduce R to below 1 soon, it is possible that infection incidence and hospital admissions will over time exceed the Reasonable Worst Case Scenario (RWCS) planning levels. Further measures will be needed to bring R below 1 in the event that current measures do not do so. The earlier additional measures are introduced the more effective they will be.
16. SAGE previously advised that a two week 'circuit-breaker', where more stringent restrictions are put in place for a shorter period, could have additional impact. A shorter break of a week or less is likely to be less effective in reducing the number of infections and slowing the growth of the epidemic.
17. However, while a single circuit breaker has the potential to keep prevalence much lower than no intervention, it is not a long-term solution. Long-term control of the virus will likely require repeated circuit breaks, or for one to be followed by a longer-term period with measures in place to keep R at or below 1. Longer-term sustained measures will also be essential.
18. Lower prevalence would provide benefits of lower incidence and therefore less pressure on test and trace systems and the reduced risk of having to apply emergency measures.
19. Long-term management of the epidemic will require a balance between direct and indirect effects on health caused by COVID-19 and the economic and health disbenefits caused by intervention measures.
20. SAGE has previously advised on the risk of co-infection with influenza over winter, which is likely to place additional strain on hospital capacity and resources (high confidence).
21. Although the impact of influenza infection in people with COVID-19 remains unclear, CO-CIN analysis suggests that people co-infected with influenza and COVID-19 were more likely to be admitted to critical care and had nearly twice the length of stay in hospital. However, there were no significant mortality differences associated with co-infection, though this may be due to the small sample size.
22. As previously, it will be important to optimise the flu vaccination programme this year to protect at-risk groups in the UK, including to those identified as high-risk for severe COVID-19 in the UK.

ACTION: ONS, JBC, and PHE to consider how best to bring different datasets on testing together to provide insight to policy makers (with input from CO if required).

ACTION: GO-Science communications team to consider options for communicating the consensus or central view of the scientific community on the epidemiological situation.

ACTION: SAGE secretariat to release CO-CIN analysis, to support communication on importance of flu vaccination.

ACTION: SAGE secretariat to arrange update on the National Core Studies.

Drivers of prevalence and potential biological factors in minority ethnic groups

23. SAGE endorsed the Ethnicity Subgroup paper 'Drivers of the higher COVID-19 incidence, morbidity and mortality among minority ethnic groups', subject to minor amendments.
24. SAGE noted that ethnicity is a multi-dimensional concept which includes culture, language, religion, migrant status and physical appearance (race), with considerable diversity within and between different ethnic minority groups.

25. These different dimensions of ethnicity could each lead to risks being potentially different along various stages of the disease (e.g. from exposure, developing symptomatic disease, disease severity and to long-term consequences of the disease).
26. Evidence shows many ethnic minority groups have experienced higher prevalence of SARS-CoV-2 infection (medium confidence); higher incidence of COVID-19 disease (high confidence); and higher COVID-19 mortality than White ethnic groups (high confidence) since the start of the epidemic.
27. The relative importance of different causes of ethnic inequalities in COVID-19 remains unclear but genetics alone cannot explain the higher number of severe cases and deaths among ethnic minorities, given the difference in genetics between different ethnic minorities (high confidence). There is likely to be an interplay of social, economic, biological and pre-pandemic health risks that vary across ethnic groups.
28. SAGE reinforced the importance of identifying modifiable risk factors (e.g. occupation and access to healthcare) and putting targeted measures in place.
29. Ethnic groups may be at greater risk of infection after having come in contact with the virus, for example due to differences in immune response and nutritional status, which in itself could be related to stress or environmental conditions such as air pollution (differential susceptibility to infection). There was no evidence of an effect from Vitamin D to date.
30. While access to testing does not substantially differ across ethnic groups, ethnic minorities admitted to hospital may be more likely to experience poorer outcomes, including death and critical care admissions, compared to White ethnic groups (medium confidence). Differences in accessibility of healthcare services or in health-seeking behaviours may also be a contributing factor to the observed increase in risk.
31. Social factors such as poverty and occupation make a large contribution to the greater burden of COVID-19 in ethnic minorities (high confidence).
32. Evidence highlights some minority ethnic groups are overrepresented in health and social care and other key public sector occupations. There is also evidence to suggest ethnic minorities working in the same occupation as White ethnic groups experience greater COVID-19 risk. Further work is needed to understand transmission in occupational settings.
33. SAGE noted that risk of household transmission is particularly high amongst ethnic minorities. This is due to a combination of a relatively greater probability of more crowded housing and multi-generational households, leading to greater exposure to infection particularly amongst older generations.
34. It is hard to make international comparisons due to differences in access to healthcare services. Social deprivation is also likely to be a key factor in differences in outcomes across countries, including in middle income countries.
35. It should not be assumed that a second wave will follow a similar pattern to the first wave, and risk of infection may differ across ethnic groups.
36. There is an urgent need for both social science research (quantitative and qualitative) and clinical data to better understand risk factors related to ethnicity.

ACTION: CMO, ONS and Andrew Morris to consider ways in which data linkage between health and non-health data could be made more straightforward.

ACTION: Ethnicity subgroup to update paper '*Drivers of prevalence and potential biological factors in minority ethnic groups*' by 1st October. **SAGE Secretariat** to circulate updated paper to No.10, CO, DHSC and MHCLG for policy consideration.

Public health messaging to minority ethnic communities

37. SAGE endorsed the Ethnicity subgroup paper 'Impacts of public health communications to minority ethnic groups and related challenges', subject to minor changes.
38. SAGE has previously advised on the importance of tailored public health messaging for different communities. Culturally tailored public health messages have a positive impact on reach and accessibility in ethnic communities and improve important determinants of behaviours, such as knowledge and understanding of the spread of the virus, and awareness of symptoms and how to seek care and information.
39. Community engagement, such as through local networks, local faith centres and pre-existing partnerships, are key to tailoring messaging. They allow for the co-designing and operationalisation of messages using culturally acceptable and relevant language, appropriate translation of messages and suitable channels (e.g. WhatsApp, Zoom, phone calls, face to face contact).
40. However, tailored messaging can cause confusion where there are multiple guidelines (e.g. national measures as well as local measures) in place at the same time, as has been observed in Leicester. There can also be challenges in some diasporic ethnic minority communities where some people may also receive health messaging from abroad.
41. There is, however, a risk that tailored public health messaging can also result in stigmatisation and increased racialised explanations leading to lower protective health behaviours. People may also feel victimised or stigmatised because of more stringent control measures and the tendency to have high police presence and enforcement in areas of social deprivation and areas of ethnic diversity.
42. To those outside of the targeted community, seeing tailored messages targeted at others can lead to the incorrect assumption that they are at low risk themselves.
43. Structural imbalances negatively impact uptake of messages, even if they are culturally appropriate. For example, the increased knowledge and understanding associated with tailored messaging may not lead to a change in behaviour where there are barriers (e.g. financial instability).
44. There is a need for data around the impact of tailored messaging to improve development and delivery of future public health messages.
45. One way to frame tailored messaging might be to consider the three questions: Does the core message have to be different due to different risk? Does it need to be tailored differently? Does it need to be delivered via a different channel?

ACTION: Ethnicity subgroup to update paper '*Impacts of public health communications to minority ethnic groups and related challenges*' by 1st October. **SAGE Secretariat** to circulate updated paper to No.10, CO, DHSC and MHCLG for policy consideration.

Care homes – review and summary of evidence

46. Cases and recorded outbreaks in care homes are beginning to increase again across the UK (high confidence).
47. The concurrent ratio of positive tests in care staff to residents was approximately 4:1 (high confidence) suggesting potential staff to resident transmission.
48. There is a positive association between outbreak risk and larger care home size, lower staff to resident ratios, nursing versus residential setting and poor IPC, isolation and cohorting arrangements (medium confidence).
49. Poor data linkage, caused by data deficits, lack of standardisation and governance issues, remains a barrier to understanding the situation in care homes. Current data pathways do not provide the evidence required to reach key conclusions, such as on risk

- associated with discharge from hospital to care homes. There is a particular need to obtain better genomic data, which may require operational changes to testing systems.
50. There is evidence for multiple routes of infection spread into care homes including hospital to care home, direct admission of residents, through staff, and through visitors. Understanding the different routes of transmission and their relative impact is critical.
 51. Current evidence suggests discharge from hospitals may be less significant, and transmission from staff may be more significant, but quantification is difficult without better data linkage.
 52. There is growing evidence of the negative mental health and wellbeing impacts of isolation on care home residents and their families, and policymakers will need to balance these against the transmission risk from visits when developing guidance. Some testing technologies may, in future, enable visitors to be rapidly tested prior to visits.
 53. Infection Prevention and Control practices (IPC) are key to the safety of care homes. An effective testing regime is important and the addition of exit testing at hospitals (or entry testing at care homes) may improve the current regime.
 54. SAGE highlighted the importance of understanding the behaviours of visitors and staff and considering the wellbeing of staff. A survey may be one way of obtaining insight on working practices, and to identify requirements for additional support.

List of actions

ONS, JBC, and PHE to consider how best to bring different datasets on testing together to provide insight to policy makers (with input from CO if required).

GO-Science communications team to consider options for communicating the consensus or central view of the scientific community on the epidemiological situation.

SAGE secretariat to release CO-CIN analysis, to support communication on importance of flu vaccination.

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Attendees

Scientific Experts (33): Chris Whitty (CMO, Chair), Jenny Harries (dCMO), Jonathan Van Tam (dCMO), Angela McLean (CSA MoD), John Aston (CSA HO), Alan Penn (MCHLG), **NR** (CSA HSE), Ian Diamond (ONS), Yvonne Doyle (PHE), Susan Hopkins (JBC), Nicola Steedman (dCMO, Scotland), Ian Young (CSA Health NI), Graham Medley (LSHTM), John Edmunds (LSHTM), Catherine Noakes (Leeds), Peter Horby (Oxford),

Jeremy Farrar (Wellcome), James Rubin (KCL), Brooke Rogers (KCL), Calum Semple (Liverpool), Ian Boyd (St. Andrews), Atiya Kamal (Birmingham City), Wendy Barclay (Imperial), NR MoD Nuclear, Jim McMenamin (Health Protection Scotland), Andrew Morris (Edinburgh), Sharon Peacock (PHE), Ian Hall (Manchester), Vittal Katikireddi (Glasgow), Kamlesh Khunti (Leicester), NR (CSA Scotland), NR (FCDO), Maria Zambon (PHE).

Observers (17) NR Ben Warner (No. 10), NR Julian Fletcher (CO), NR Name Redacted (HMT), David Lambert (DHSC), NR Mike Prentice (NHS), NR Imran Shafi (No. 10), NR NR Charlotte Holt-Taylor (DHSC), NR

Secretariat (all GO-Science) (16) NR NR Simon Whitfield, Stuart Wainwright, NR NR

Total: 66