Fifty-seventh SAGE meeting on Covid-19, 17th September 2020
Held via Zoom

Summary

1. Incidence across the UK continues to increase rapidly, and data now show clear increases in hospital and ICU admissions. Medium-term projections indicate a rapid increase in hospital admissions in the coming weeks, and in a scenario where there were no interventions, this would have the potential to overwhelm the NHS.
2. The latest estimate of R for the UK is 1.1 to 1.4. Non-pharmaceutical interventions (NPIs) on local and national scale are needed to bring R back below 1. Individual NPIs are highly unlikely to achieve this, and a package of measures will be needed. In choosing options it is important to recognise that NPIs will likely need to be in place for a significant length of time.
3. A 'circuit-breaker' type of approach, where more stringent restrictions are put in place for a shorter period could have a significant impact on transmission. Modelling indicates that a two-week period of restrictions similar to those in force in late May could delay the epidemic by approximately four weeks.
4. Adherence to any measures put in place will be central to their effectiveness. Support to enable and promote adherence will be needed, including clear, simple messaging, removal of disincentives, and explanation of the rationale behind guidance or restrictions.
5. In addition to NPIs, the effectiveness of other operational response measures will be absolutely critical, particularly in care homes, hospitals, workplaces and Test, Trace and Isolate (TTI) systems. SAGE advises that excellent operational effectiveness will be required in all these areas.
6. Current rates of full self-isolation of people with symptoms including cough, fever or anosmia are likely very low (moderate confidence). A package of support measures including financial and non-financial support; improved communication and advice; and greater access to social or psychological support should be considered to address disincentives to self-isolation and quarantine. Clear explanation of why self-isolation and quarantine are needed is required to encourage better adherence.
7. Use of face coverings should be considered in situations where they may be required for longer periods, though tolerability and equity need to be considered. Levels of adherence to guidance around when and how to use face coverings are likely to be a more significant factor in effectiveness than the duration of wearing.

Situation update

8. Incidence across the UK continues to increase rapidly, and data now show clear increases in hospital and ICU admissions (high confidence). Transmission has changed from localised hotspots to a more generalised epidemic (high confidence). It is certain that increases in infections will lead to further increases in hospitalisations and deaths (high confidence).
9. The latest estimate of R for the UK is 1.1 to 1.4, while the daily growth rate estimate for new infections is +2% to +7%. The latest estimate of R for England is 1.2 to 1.4, while the daily growth rate estimate is +3% to +7%.
10. As previously noted, these estimates do not fully reflect recent changes from the last two to three weeks such as the reopening of schools in England and SAGE expects the current growth rate and R to be higher than this (moderate confidence). The growth rate estimates equate to a doubling time for new infections of 10 to 20 days, though currently this doubling time could be as short as 7 days nationally and even shorter in some areas.

11. Operational issues in the testing systems mean that there is greater uncertainty in these estimates than usual. Delays in testing have increased and may be different for positive and negative results, which makes the data harder to interpret.
12. Data from the ONS infection survey and the REACT survey, which are not affected by such issues, also indicate rapidly increasing incidence in line with that modelled.
13. Increases in hospital admissions are now being seen, with a doubling time of around 7-9 days. CO-CIN data indicate that those admitted to hospital with COVID-19 since the start of August are younger on average than those admitted earlier in the epidemic.
14. The current situation continues to reflect the Reasonable Worst-Case Scenario (RWCS). Medium-term projections indicate a rapid increase in hospital admissions in the coming weeks, and in a scenario where there were no interventions (which is not expected to be the case), this would have the potential to overwhelm the NHS.
15. Non-pharmaceutical interventions (NPIs) on local and national scale are needed to bring R back below 1 (high confidence). Individual NPIs are highly unlikely to achieve this, and a package of measures will be needed (high confidence). Some NPIs will need to be in place for a significant length of time, though an earlier and more comprehensive response is likely to reduce the length of time for which they are required (moderate confidence).
16. Interventions differ in their effectiveness in reducing transmission and have different types and levels of harm associated with them. Evidence for the effectiveness and harms related to individual interventions is limited as packages of measures have usually been implemented together. It is important to consider the direct effect on Covid-19, indirect health effects and other harms.
17. PHE data show that household transmission is currently the most commonly identified route, whilst other risk factors are associated with working in health & social care, close personal services, and hospitality.
18. REACT data indicate that currently only about 10% of confirmed cases have a known history of exposure to another case, which suggests that much transmission may be through unrecognised contacts (which are more likely to occur in settings such as hospitality venues), or from asymptomatic transmission.
19. Interventions which will have greatest effect on transmission are those which lead to the biggest reduction in number, duration, and variety of indoor close contacts. Considering the infectiousness and vulnerability of different groups of people is also important (e.g. children may contribute less than adults to transmission and are less vulnerable to disease). Measures relating to interaction with the most vulnerable may have greater effects on morbidity and mortality than they do on overall levels of community transmission.
20. A 'circuit-breaker' type of approach, where more stringent restrictions are put in place for a shorter period could have additional impact. Modelling indicates that a two-week period of restrictions similar to those in force in late May could delay the epidemic by approximately four weeks, if the epidemic had a daily growth rate of 4% prior to this period.
21. This approach has greater impact when the epidemic is growing faster. More stringent measures and application over a longer period would also have more impact. A "circuit-breaker" period could be planned for, which may allow some of the harms to be mitigated, and taking this approach may also reduce the risk of needing to make similar interventions with less notice (and less opportunity to mitigate harms) at a later point. Consideration would need to be given to the impact on behaviours before and after this period (e.g. it would be important to avoid a "pre-circuit-breaker party" response).
22. Adherence to any measures put in place will be central to their effectiveness. Support to enable and promote adherence will be needed, including clear, simple messaging,

removal of disincentives, and explanation of the rationale behind guidance or restrictions (particularly where policies might appear contradictory). Measures which rely on individual decision-making may not have the same levels of adherence than those which rely on responses from businesses and other organisations. Behavioural responses need to be considered when people are discouraged or prevented from certain activities, particularly if it may lead them to engage in other, potentially higher-risk, activities instead.

23. In addition to NPIs, the effectiveness of other operational response measures will be absolutely critical, particularly in care homes, hospitals, workplaces and Test, Trace and Isolate (TTI) systems. SAGE has previously advised on these issues, including highlighting steps needed in preparation for winter. Excellent operational effectiveness will be required in all these areas.

ACTION: John Edmunds to develop NPIs paper with support from Graham Medley, SPI-B and Mike Parker. Updated paper to reflect work on circuit breakers, behavioural aspects, and equity issues and to be circulated to Cabinet Office alongside previous SAGE advice on workplaces, care homes and nosocomial transmission, by 21st September at the latest. Speed of response is key.

ACTION: Steve Powis to share medium-term forecasts with NHS regional teams

Impacts of financial and other targeted support on rates of self-isolation or quarantine

24. SAGE endorsed the SPI-B consensus paper on 'The impact of financial and other targeted support on rates of self-isolation or quarantine'.
25. SAGE has previously advised that the effectiveness of any test, trace, and isolation system in reducing transmission depends critically upon self-isolation of people who may have Covid-19.
26. Current rates of complete adherence to self-isolation by people with symptoms including cough, fever or anosmia are likely very low (18-25%) based on self-report (moderate confidence), with adherence rates particularly low among younger populations and those from socio-economically disadvantaged communities. Given that self-report is subject to bias e.g. people may be unlikely to admit lack of adherence to rules, rates could be lower than reported.
27. For those that do not completely adhere there will be different levels of partial adherence. This might range from only leaving self-isolation once (and avoiding contact with others while doing so), through to making no effort to self-isolate or reduce contacts.
28. There are several factors which could impact a person's ability to self-isolate, including financial loss, the need to care for elderly or vulnerable relatives, or a lack of understanding of the rationale for adherence.
29. SAGE agreed that a package of support measures including financial and non-financial support; improved communication and advice; and greater access to social or psychological support should be considered to address disincentives to self-isolation and quarantine. Provision of financial support to safeguard incomes could have the most significant impact on improved adherence to self-isolation in all populations.
30. As previously, SAGE advised that any financial support mechanism would be most effective if it ensured those required to self-isolate were not financially disadvantaged including people on zero-hour contracts or self-employed.
31. As well as increasing the ability to adhere, particularly for those on lower incomes, financial support may also increase the motivation to adhere (and this may be the case across a range of income levels).

32. Proactive outreach to households to identify and resolve any practical needs (e.g. access to food or care for elderly relatives) may be beneficial in improving adherence to isolation.
33. Public health messaging is crucial to increase understanding of how and when to self-isolate, and to explain the rationale for decisions. There may be benefits in introducing regular provision of information to those self-isolating (e.g. via SMS or telephone), as well as in delivering guidance to the general public in a clear format (e.g. a campaign similar to the current #HandsFaceSpace adverts).
34. SAGE reiterated the importance of considering the different impacts of Covid-19 on BAME communities. Advice and guidance would benefit from co-production and testing with target communities.
35. Social support and clinical interventions (e.g. mental health support) might also be beneficial for some.
36. Support measures should be evaluated to quantify the impact of the interventions; to identify the most effective incentives; and identify any barriers to implementation or uptake.

ACTION: SAGE Secretariat to circulate SPI-B Consensus paper to No.10, HMT, CO, DHSC by 17th September; **James Rubin** to follow up with No.10 on communications campaign recommendation.

ACTION: SAGE secretariat to share SPI-B Consensus paper with Ethnicity subgroup.

Use of face coverings for extended periods

37. SAGE has previously advised that face coverings are likely to be effective at reducing both close range droplet transmission (less than 2m distance) and longer-range aerosol transmission, particularly in poorly ventilated indoor environments.
38. Reduction in transmission risk due to reduced droplet and aerosol emissions from wearing a face covering significantly outweighs any potential for enhanced risk of transmission through inadvertent contact with a contaminated face covering. This is likely to be the case regardless of the duration that the face covering is worn (medium confidence).
39. SAGE therefore recommends that use of face coverings is considered in situations where they may be required for longer periods, though tolerability and equity need to be considered. Consideration should be given to disadvantaged groups who could be adversely affected (e.g. hard of hearing, young children in education settings).
40. Contamination of face coverings is likely to increase with duration of wearing and therefore the risk of transmission via touching or surface contamination from more heavily contaminated face coverings could increase with time (low confidence).
41. These risks can however be mitigated by simple measures such as increased handwashing and use of hand sanitiser, surface cleaning, and proper disposal of face coverings (high confidence).
42. Effectiveness of face coverings could decline with increased duration of use; however, this would still provide more protection to others than an infected person not using a face covering (high confidence).
43. Levels of adherence to guidance around when and how to use face coverings are likely to be a more significant factor in effectiveness than the duration of wearing (medium confidence).

ACTION: SAGE secretariat to circulate paper *'Duration of wearing face coverings'* to relevant departments, including DHSC, CO, BEIS, DfT, DfE, MHCLG, DCMS, HSE, PHE, and Devolved Administrations by 17th September.

Community case definitions for Covid-19

44. Covid-19 is hard to distinguish from other respiratory infections based on symptoms alone given the commonality in symptoms (high certainty)
45. Compared to other age groups, there is less available data to assess childhood symptoms. However, evidence suggests constitutional symptoms rather than respiratory symptoms may have greater prominence in children (low confidence). Further work is being undertaken to consider case definitions in children.
46. In those aged over 85, delirium, shortness of breath, fever, headache, and cough are the most common symptoms (moderate confidence).
47. Achieving acceptable accuracy requires multiple symptoms to be included in case definitions (high confidence). Community case definitions are intended to support self-diagnosis (and subsequent engagement with TTI systems) rather than to guide clinical practice.
48. Increasing the number of symptoms included the UK community case definition of Covid-19 would slightly increase sensitivity (i.e. the ability of a test to correctly identify those with the disease) but would significantly reduce specificity (i.e. the ability of the test to correctly identify those without the disease) (high confidence).
49. Increasing public awareness of the symptoms in the existing case definitions would be likely to have a greater impact on the ability to find positive cases than changing case definitions would.
50. Decisions on case definitions are made by the Senior Clinicians Group.

List of actions

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Attendees

Scientific Experts (34): *Patrick Vallance (GCSA), Chris Whitty (CMO), Jenny Harries (dCMO), Angela McLean (CSA MoD), John Aston (CSA HO), Robin Grimes (CSA Nuclear), Charlotte Watts (CSA DfID), Andrew Curran (CSA HSE), Carole Mundell (CSA FCO), Steve Powis (NHSE), Yvonne Doyle (PHE), Maria Zambon (PHE), Gregor Smith (CMO Scotland), Sheila Rowan (CSA Scotland), Nicola Steedman (dCMO, Scotland), Jim McMenamin (HP Scotland), Rob Orford (Health CSA Wales), Fliss Bennee (Technical Advisory Cell, Wales),*

Calum Semple (Liverpool), Graham Medley (LSHTM), John Edmunds (LSHTM), Catherine Noakes (Leeds), Ian Boyd (St Andrews), Peter Horby (Oxford), Michael Parker (Oxford), Lucy Yardley (Bristol and Southampton), Andrew Hayward (UCL), Susan Hopkins (JBC), Mark Wilcox (Leeds), Jeremy Farrar (Wellcome), James Rubin (KCL), Venki Ramakrishnan (Royal Society), Andrew Morris (Edinburgh), Theresa Marteau (Cambridge).

Observers (11): [redacted] *Ben Warner (No. 10),* [redacted] *Julian Fletcher (CO),* [redacted] *Emma Payne (CO),* [redacted] *Jonny Medland (HMT),* [redacted] *Dharmesh Nayee (HMT),* [redacted]

Secretariat (all GO-Science) (14): [redacted] *Simon Whitfield, Stuart Wainwright,* [redacted]

Total: 59