Addendum to twenty-fourth SAGE meeting on Covid-19, 9th April 2020
Held via Zoom

This addendum clarifies the roles of the SAGE attendees listed in the minute. There are three categories of attendee. Scientific experts provide evidence and advice as part of the SAGE process. HMG attendees listen to this discussion, to help inform policy work, and are able to provide the scientific experts with context on the work of government where appropriate. The secretariat attends in an organisational capacity. The list of attendees is split into these groups below.

Attendees:
Scientific experts: *Patrick Vallance (GCSA), Chris Whitty (CMO), Jonathan Van Tam (Deputy CMO), Steve Powis (NHS), Sharon Peacock (PHE), Calum Semple (Liverpool), Maria Zambon (DD PHE), Ian Diamond (ONS), Angela McLean (CSA MoD), Charlotte Watts (CSA DfID), John Aston (CSA HO), Andrew Morris (Scottish Covid-19 Advisory Group), Jeremy Farrar (Wellcome), Graham Medley (LSHTM), Neil Ferguson (Imperial), John Edmunds (LSTHM), Peter Horby (Oxford), Brooke Rogers (King's College), James Rubin (King's College), Wendy Barclay (Imperial), Andrew Rambaut (Edinburgh), Ian Young (CMO Northern Ireland), Rob Orford (Health CSA Wales).*

Observers and Government Officials: *Vanessa MacDougall (HMT), Simon Whitfield (GoS).*

Secretariat: [redacted]

Names of junior officials and the secretariat are redacted.

Participants who were Observers and Government Officials were not consistently recorded therefore this may not be the complete list.

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Summary

1. The epidemic may be reaching its peak, but it could remain at a plateau for some time. There is no expectation for bed occupancy to decrease over the next 2 weeks.
2. SAGE advises there is no evidence globally pointing to high levels of population immunity gained at this stage in the pandemic.
3. SAGE advises that work to date on excess deaths may be using an underestimate of the fall in UK GDP. It agreed the importance of further investigation, beyond 6 months, into impacts by region and by demographic, with particular focus on vulnerable social groups.

Situation update

4. ICU numbers appear to be flattening and new admissions to hospitals stabilising. Doubling times in hospitals continue to lengthen.
5. Calls to NHS111 and 999 – possible indicators of community cases – appear to have peaked and be on the decline.
6. The epidemic may be reaching its peak, but could remain at a plateau for some time. There is no expectation for bed occupancy to decrease over the next 2 weeks.
7. It is important to model hospital transmission separately, and for the CO-CIN study to record nosocomial infection rates, as defined by various time intervals (below 14 days).
8. The Nosocomial Working Group is collecting data from hospital groups. SPI-M will need relevant data to model hospital transmission.
9. NERVTAG advice on self-isolating for 7 days remains sound, but is to be reviewed and a paper produced.
10. SAGE is satisfied with the content of the SPI-M nowcast.
11. The exit strategy subgroup is meeting on Friday 10th April.

ACTION: NERVTAG to produce papers on a) infection duration of Covid-19 and b) use of facemasks (taking into account the potential of pre-symptomatic or asymptomatic transmission), including any behavioural aspects related to the use of masks (drawing on SPI-B where necessary) for next SAGE meeting (14th April)

ACTION: SPI-M, **Nosocomial Working Group** and **CO-CIN** to ensure data on nosocomial infection is collected in a way that is useful for epi-modellers

ACTION: SAGE Secretariat to develop a process to take relevant nowcasting output from SPI-M to NHS (full set) and CCS (consensus summary)

Understanding Covid-19

12. WHO has concluded there is currently no conclusive evidence that facemasks are beneficial for community use.
13. SAGE will review a NERVTAG paper on facemasks at its next meeting, covering their value in limiting spread from pre-symptomatic/asymptomatic cases and what potential research studies might be commissioned.
14. NERVTAG advised there is still insufficient data to reach any conclusion about whether loss of taste and smell should be added to the case definition for Covid-19.
15. The Chief Veterinary Officer has advised that the risk of transmission from cats to humans is low.

ACTION: Peter Horby to circulate "Neutralising antibody response in SAR-CoV-2 and those recovering from COVID19 recovered patient cohort and their implications"

ACTION: NERVTAG (Wendy Barclay) to produce a paper on the immune system and duration of immunity, and how this relates to the requirements and limitations of testing

ACTION: SAGE Secretariat to circulate CVO paper on infectiousness of pets

ACTION: Charlotte Watts to advise on which academic group can investigate role of pollution in Covid-19 morbidity/mortality levels and to return to SAGE with the output

Testing strategy

16. Overall responsibility for this strategy lies with CMO. It needs to be linked to the overall exit strategy.
17. The Royal Society is examining comparative international approaches to testing.

ACTION: SAGE secretariat to confirm timelines for output from **Royal Society**

Viral testing

18. SAGE agreed that all available testing capacity should be used and noted the importance of anticipating future need, including as social interventions are lifted.
19. NHS estimates that patient testing requires around 8,000 tests per day and NHS staff testing requires a maximum of 6,000 to 7,000 tests per day.
20. LSHTM has done an initial assessment of community testing volumes, which can be further refined and will be reviewed at next meeting.
21. Any consideration of mass testing should consider impacts, if any, on clinical management – including whether testing can anticipate future demand on the NHS – and on enabling people to return to work.
22. It would also need to consider: the relationship between testing and contact tracing; how statistical sampling can inform testing volumes needed; testing in support of shielding the vulnerable; and behavioural consequences of the availability of mass testing (including whether more testing would encourage greater self-isolation).

ACTION: CMO (with **PHE** and **devolved CMOs**) to produce a strategy paper on prioritising viral testing of Covid-19 (covering e.g. critical workers, care homes and reducing nosocomial spread) and test numbers needed

ACTION: John Edmunds modelling group to further refine work on mass testing requirement for next meeting of SAGE (14 April)

ACTION: Angela McLean to produce a strategy paper on longer-term epidemiological modelling of Covid-19 and number of tests needed (viral tests)

Serology

23. The serology working group has responsibility for the UK's overall approach, including research studies and testing capacity.
24. Data is emerging internationally on antibody response. SAGE advises caution over interpreting the presence of antibodies as evidence of presence of neutralising antibodies. It is not known whether antibodies confer resistance against disease and against carriage of virus.
25. Low levels of seroprevalence (c. 0.8-15%) are being reported internationally.
26. SAGE advises there is no evidence globally that we can expect high levels of immunity to have been gained at this stage in the pandemic.
27. Evidence on seropositivity needs to differentiate between positive for prior exposure to the virus versus positive for protection against reinfection.
28. The only commercially viable assay offers low sensitivity – but useful information can be derived from it where testing is repeated. It suggests antibodies may fall away quite quickly over time.
29. More sensitive assays are being developed but are not yet capable of high throughput.

30. No rapid home tests are yet sufficiently reliable, including for potential "immunity passports" in future, but they may be useful for seroprevalence studies.
31. SAGE advised that planning for the use of serology (e.g. in care homes, understanding transmission within households) should be done in advance of being able to deploy a reliable test.
32. SAGE noted the importance of adopting consistent sera standards across the UK (and suggested that NIBS takes this on).
33. SAGE also noted the importance of there being enough material (samples) to develop assays.

ACTION: SPI-B to consider public messaging and behavioural aspects of antibody testing, directly commissioning relevant research where necessary

ACTION: Serology Working Group to a) further clarify requirements for access to samples for serological testing (already funded – ISARIC) and ensure join up between CO-CIN, NIBSC, NHSBT and the relevant access committee; b) ensure that sufficient samples are collected; c) that a single national repository for standards is created; and d) draw up a plan for future uses of serological testing

ACTION: Jeremy Farrar, supported by **Serology Working Group**, to stimulate and drive academic work on improving serological testing, drawing where necessary on relevant funding (e.g. NIHR, MRC) – and to update SAGE (week commencing 20 April)

Nosocomial infection

34. SAGE stressed the importance of the Nosocomial Working Group issuing recommendations to hospitals quickly on how to reduce transmission.
35. The Group has sent a survey to all NHS trusts in order to support the development of best-practice guidelines.

ACTION: Nosocomial Working Group to produce clear, practical advice for NHS as soon as possible

Excess deaths

36. SAGE acknowledged the high quality of the work completed so far.
37. It advised that work to date may underestimate the fall in UK GDP. It agreed the importance of further investigation, beyond 6 months, into impacts by region and by demographic, with a particular focus on vulnerable social groups.

ACTION: SAGE Secretariat to provide a relevant version of the paper on excess deaths to CCS

Next meeting

38. Agenda will include an update on vaccine and therapeutics developments.

List of Actions

NERVTAG to produce papers on a) infection duration of Covid-19 and b) use of facemasks (taking into account the potential of pre-symptomatic or asymptomatic transmission), including any behavioural aspects related to the use of masks (drawing on SPI-B where necessary) for next SAGE meeting (14th April)

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SAGE secretariat to confirm timelines for output from **Royal Society**

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Nosocomial Working Group to produce clear, practical advice for NHS as soon as possible

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Attendees

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SAGE secretariat: [redacted] *Simon Whitfield*