

Addendum to sixteenth SAGE meeting on Covid-19, 16th March 2020
Held in 10 Victoria St, London, SW1H 0NN

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), Charlotte Watts (CSA DfID), Angela McLean (CSA MoD), John Aston (CSA HO), Sharon Peacock (PHE), Graham Medley (LSHTM), Neil Ferguson (Imperial), Brooke Rogers (King's College), James Rubin (King's College), Jeremy Farrar (Wellcome), David Halpern (CO), Ian Diamond (ONS), Tom Rodden (CSA DCMS), Aidan Fowler (NHS), Maria Zambon (PHE), Phil Blythe (CSA DfT), Wendy Barclay (Imperial), Peter Horby (Oxford), John Edmunds (LSTHM), Carole Mundell (CSA FCO).*

Observers and Government Officials: *Ben Warner (No.10), Stuart Wainwright (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.

**Sixteenth SAGE meeting on Wuhan Coronavirus (Covid-19), 16th March 2020
Held in 10 Victoria Street**

Summary

1. On the basis of accumulating data, including on NHS critical care capacity, the advice from SAGE has changed regarding the speed of implementation of additional interventions.
2. SAGE advises that there is clear evidence to support additional social distancing measures be introduced as soon as possible.
3. These additional measures will need to be accompanied by a significant increase in testing and the availability of near real-time data flows to understand their impacts.
4. SAGE will further review at its next meeting whether, in the light of new data, school closures may also be required to prevent NHS capacity being exceeded.
5. SAGE did not review the work on intermittent application of measures nationally or geographically in detail but will do so.

Situation update

6. London has the greatest proportion of the UK outbreak. It is possible that London has both community and nosocomial transmission (i.e. in hospitals).
7. It is possible that there are 5,000-10,000 new cases per day in the UK (great uncertainty around this estimate).
8. UK cases may be doubling in number every 5-6 days.
9. The risk of one person within a household passing the infection to others within the household is estimated to increase during household isolation, from 50% to 70%.

Behavioural and social interventions

10. The objective is to avoid critical cases exceeding NHS intensive care and other respiratory support bed capacity. The figures for capacity are now clear but intensive care bed capacity will increase by 20% or more.
11. It is vital to understand numbers of cases regionally relative to NHS capacity, to know where local more stringent interventions might need to be introduced.
12. With sufficient interventions (assuming they are implemented and adopted effectively for a sufficient period of time), modelling indicates it may be possible to keep cases below the NHS's critical and respiratory care capacity.
13. The science suggests additional social distancing measures should be introduced as soon as possible.
14. Compliance with the measures by the public is key.
15. It is expected to take two to three weeks before the impacts of measures are observed (this needs to be monitored carefully and the appropriate metrics need to be in place).
16. SAGE cannot be certain that the measures being considered by HMG will be sufficient to push demand for critical care below NHS capacity but they may get very close under the RWC scenario.
17. While SAGE's view remains that school closures constitutes one of the less effective single measure to reduce the epidemic peak, it may nevertheless become necessary to introduce school closures in order to push demand for critical care below NHS capacity. However school closures could increase the risks of transmission at smaller gatherings and for more vulnerable groups as well as impacting on key workers including NHS staff. As such it was agreed that further analysis and modelling of potential school closures was required (demand/supply, and effects on spread).
18. SAGE agreed that its advice on interventions should be based on what the NHS needs and what modelling of those interventions suggests, not on the (limited) evidence on whether the public will comply with the interventions in sufficient numbers and over time.

ACTION: DHSC to compile numbers – to be updated daily – of cases regionally, set against local NHS ventilator and ICU capacity. **SPI-M** to check approach meets their needs. The data on epidemic growth and ventilator/ICU capacity need to be linked to predict areas of potential pressure (this model should be owned within DHSC or NHS – CMO has asked Clara Swinson)

ACTION: SPI-M to coordinate further rapid modelling of school closures taking account of key factors and at risk groups

ACTION: DfE to work with **DHSC** and **PHE** on specific guidance for schools and universities, including personal hygiene measures and methods to apply social distancing within these settings building on what has been done elsewhere (eg Singapore)

UK testing

19. SAGE highlighted the critical importance of scaling up antibody serology and diagnostic testing to managing the epidemic. A solution is urgently required, with a plan for implementation.
20. Antibody testing is particularly vital to address the central unknown question of the ratio of asymptomatic to symptomatic cases.
21. PHE explained how testing is being scaled up over the coming weeks to 10,000 per day – focused on intensive care units, hospital admissions and key workers.
22. PHE is urgently assessing commercial self-test options, with accuracy a key criterion.

ACTION: PHE to update **SAGE** on the efficacy and feasibility of rolling out a rapid home swab test for antigens, including the mechanism for collection (for next meeting).

ACTION: PHE to develop a proposal for ramping up antibody serology and diagnostic testing capacity, seeking input from **DSTL** and the **National Laboratories Alliance**

Data flows

23. Close to real-time, high-quality data are important to the strategy the UK is pursuing. All options to get this data flow need to be considered. NHS and PHE are arranging a workshop ASAP to discuss and make this happen. Duplication of effort on this needs to be avoided.
24. Duplication of effort also needs to be avoided on other data requirements, e.g. for measuring public behaviour (ONS will coordinate efforts on this).

ACTION: DHSC, NHSE and **PHE** to urgently work with **NHSX** and **GO-Science** on a data strategy, ensuring there is access to real time data to track the UK epidemic and that is delivered in a form of use to operational leads, SAGE and COBR

Publication of SAGE papers and other materials

25. SAGE agreed to publish a chronological set of papers and other documents which have informed the questions it has considered and its advice to date.
26. It is important to demonstrate the uncertainties scientists have faced, how understanding of Covid-19 has developed over time, and the science behind the advice at each stage.

ACTION: SAGE secretariat to explore option of launching release of SAGE materials at Science Media Centre, involving several SAGE participants

Next meeting of SAGE

27. The next meeting will revisit the effects of school closures (including impact on epidemic curve, behavioural effects, workforce consequences).

ACTION: SAGE to discuss at its next meeting how school closures could affect NHS critical care capacity, considering in particular:

- a. additional epidemiological benefits of school and university closures over and above HMG measures to be announced (**SPI-M**)
- b. effects of closing schools before Easter holidays vs not reopening schools after Easter holidays (**SPI-M**)
- c. effects of partial school closures (e.g. allowing attendance for children of key workers only) and internal social distancing measures within schools (as per Singapore) (**SPI-M**)
- d. whether the health benefits of school closures could be outweighed by the effects of children being looked after by grandparents/childminders and/or pupils interacting socially in other locations (**SPI-M** and **SPI-B**)
- e. impacts of school closures on NHS staffing (including respiratory trained) (**NHS**)
- f. Alternatives to closure

List of actions

DHSC to compile numbers – to be updated daily – of cases regionally, set against local NHS ventilator and ICU capacity. **SPI-M** to check approach meets their needs. The data on epidemic growth and ventilator/ICU capacity need to be linked to predict areas of potential pressure (this model should be owned within DHSC or NHS – CMO has asked Clara Swinson)

SPI-M to coordinate further rapid modelling of school closures taking account of key factors and at risk groups.

DfE to work with **DHSC** and **PHE** on specific guidance for schools and universities, including personal hygiene measures and methods to apply social distancing within these settings building on what has been done in other places (e.g. Singapore)

PHE to update **SAGE** on the efficacy and feasibility of rolling out a rapid home swab test for antigens, including the mechanism for collection (for next meeting)

PHE to develop a proposal for ramping up antibody serology and diagnostic testing capacity, seeking input from **DSTL** and the **National Laboratories Alliance**

DHSC, NHSE and **PHE** to urgently work with **NHSX** and **GO-Science** on a data strategy, ensuring there is access to real time data to track the UK epidemic and that is delivered in a form of use to operational leads, SAGE and COBR.

SAGE secretariat to explore option of launching release of SAGE materials at Science Media Centre, involving several SAGE participants

SAGE to discuss at its next meeting how school closures (all setting for under-18s) could affect NHS critical care capacity, considering in particular:

- a. additional epidemiological benefits of school and university closures over and above HMG measures to be announced (**SPI-M**)
- b. effects of closing schools before Easter holidays vs not reopening schools after Easter holidays (**SPI-M**)
- c. effects of partial school closures (e.g. allowing attendance for children of key workers only) and internal social distancing measures within schools (as per Singapore) (**SPI-M**)

- d. whether the health benefits of school closures could be outweighed by the effects of children being looked after by grandparents/childminders and/or pupils interacting socially in other locations (**SPI-M** and **SPI-B**)
- e. impacts of school closures on NHS staffing (**NHS**)
- f. Alternatives to closure.

Attendees

SAGE participants: Patrick Vallance (chair), Chris Whitty, Jonathan Van Tam, Steve Powis, Charlotte Watts, Angela McLean, John Aston, Sharon Peacock, [REDACTED] Graham Medley, Neil Ferguson, Brooke Rogers, James Rubin, Ben Warner, Jeremy Farrar, David Halpern, Ian Diamond, Tom Rodden, Aidan Fowler

By phone: Maria Zambon, Phil Blythe, Wendy Barclay, Peter Horby, John Edmunds, Carole Mundell

SAGE secretariat: [REDACTED]

Stuart Wainwright, [REDACTED]