

**Addendum to the eighth SAGE meeting on Covid-19, 18 February 2020
Held in 10 Victoria Street, 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), Charlotte Watts (CSA DfID), Angela McLean (CSA MoD), John Aston (CSA HO), Phil Blythe (CSA DfT), Sharon Peacock (PHE), Ian Hall (Manchester), Neil Ferguson (Imperial), John Edmunds (LSHTM), Maria Zambon (PHE), Peter Horby (Oxford), Wendy Barclay (Imperial), Brooke Rogers (King's), Andrew Rambaut (Edinburgh), James Rubin (King's).*

Observers and Government Officials: None.

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.

**Eighth SAGE meeting on Wuhan Coronavirus (Covid-19), 18 February 2020
Held in 10 Victoria Street**

Summary:

1. There is some evidence that case incidence is decreasing in China. However, this does not rule out a resurgence once restrictions on internal movement are lifted.
2. SAGE agreed it is essential that the UK plans for how it will handle clinical trials and treatment should there be an outbreak of Covid-19 in the UK.

Situation update:

3. Data from China indicates that the incidence of Covid-19 is decreasing. However, this does not rule out a resurgence of the disease later in the epidemic as internal travel restrictions are lifted and schools return.
4. Indications from international partners suggests that children with Covid-19 are displaying milder symptoms, but this does not preclude them from being carriers of the disease.
5. Discussions are taking place across Government on how researchers can access clinical samples. An access committee, coordinated by UKRI, is being set up to balance the needs of the scientific community and consider what will have a demonstrable impact on controlling the epidemic.
6. Priorities will shift during a potential outbreak from containment and isolation on to delay and, finally, to case management.
7. Currently PHE can cope with five new cases a week (requiring isolation of 800 contacts). Modelling suggests this capacity could be increased to 50 new cases a week (8,000 contact isolations) but this assumption needs to be stress tested with PHE operational colleagues.
8. SAGE agreed that alongside contact tracing, early warning surveillance systems – community and sentinel based – need to feed into trigger points for decisions on when the current monitoring and contact tracing approach is no longer working.
9. When there is sustained transmission in the UK, contact tracing will no longer be useful.

ACTION: PHE to present a paper at the next SAGE meeting, informed by SPI-M, proposing trigger points for when the current approach to monitoring and contact tracing should be reviewed, revised or stopped.

ACTION: SAGE secretariat to share GCSA discussion with Singapore note with PHE; and China CDC paper and PHE paper on virology with SAGE participants.

Data from UK cases

10. To better understand asymptomatic cases, more comprehensive swabbing of returning global travellers during isolation would be useful.
11. Given the higher risk posed by passengers from the Diamond Princess, a different sampling regime will be required than for previous UK returnees.
12. Blood samples are being taken from all UK returnees in isolation, both upon discharge and later after completion of the isolation period. This regime will also be applied to those returning from the Diamond Princess.
13. Out of the 9 confirmed UK cases, 7 have had genetic sequencing. Samples taken from the respiratory tract appear to be most reliable for testing, with some positive detections in faeces.
14. There has been no positive detection from blood or urine so far. This suggests that the transmission route may be faecal-oral alongside respiratory (e.g. coughing and sneezing) and contact.
15. Detection appears most straightforward shortly after disease onset when viral load is higher, with viral detection usually gone after 10-12 days. However, definitive

conclusions are hard to draw on a small number of cases and, therefore, a 14-day isolation period remains a reasonable estimate.

16. Serology testing will not be available for several weeks.

ACTION: Andrew Rambaut and PHE to discuss use of virus genome sequencing to track transmission and spread of Covid-19.

Transmission characteristics

17. There is currently no evidence available on how temperature or humidity affects transmission of Covid-19 but there are data from other coronaviruses that could give a potential indication.

18. There is extremely limited evidence on whether vertical transmission by pregnant mothers is possible.

Persistence in the environment

19. There is evidence that Covid-19 persists in the environment for longer than the influenza virus.

20. The infection risk from environmental contamination will decline over time.

21. SAGE agreed that 72 hours is a reasonable threshold after which there is a negligible risk of the virus persisting in the environment. This does not guarantee a total absence of infectious virus after this point, but the likelihood of transmission will be very significantly reduced and likely absent.

22. SAGE agreed that these principles apply for both community and healthcare settings, and routine cleaning procedures are sufficient to prevent transmission of the virus.

23. It was noted that viruses typically persist less on soft surfaces (e.g. clothes) than on hard surfaces, and this is likely to be the case for Covid-19.

24. It was agreed that there is currently no evidence of the virus spreading via use of hand driers.

ACTION: PHE to share its decontamination guidance paper with SAGE secretariat.

Clinical management

25. Antiretrovirals including Lopinavir/ritonavir (LPV/r) are being trialled.

26. Chloroquine is being used in China to treat Covid-19. Chloroquine represents a potential treatment that is low cost and widely available. However, SAGE is unaware of any clinical trials assessing its effectiveness.

27. It is essential that the UK agrees principles for clinical trials and treatment should an outbreak occur on the UK, learning lessons from previous epidemics such as Ebola in West Africa and severe flu in the UK. This will support NHS planning.

ACTION: NERVTAG (with dCMO) to provide advice on principles for trialling Covid-19 treatments in the UK.

Review of reasonable worst-case (RWC) scenario and planning

28. There is currently no new data prompting review of the RWC planning assumptions.

29. Additional data is becoming available, which will help refine the case fatality rate within China. The implications of this, and of additional modelling, will be considered at the next SAGE meeting.

ACTION: PHE to check and confirm it is receiving data from all available international sources; other SAGE participants to advise PHE of available sources it might have missed.

ACTION: SAGE secretariat to explore how to create a single, accessible repository for relevant papers on Covid-19.

For discussion at future meetings

30. SAGE will meet again on 20 February and consider modelling related questions.

List of actions:

PHE to present a paper at the next SAGE meeting, informed by SPI-M, proposing trigger points for when the current approach to monitoring and contact tracing should be reviewed, revised or stopped.

SAGE secretariat to share GCSA discussion with Singapore note with PHE; and China CDC paper and PHE paper on virology with SAGE participants.

Andrew Rambaut and **PHE** to discuss use of virus genome sequencing to track transmission and spread of Covid-19.

PHE to share its decontamination guidance paper with SAGE secretariat.

NERVTAG (with dCMO) to provide advice on principles for trialling Covid-19 treatments in the UK.

PHE to check and confirm it is receiving data from all available international sources; other SAGE participants to advise PHE of available sources it might have missed.

SAGE secretariat to explore how to create a single, accessible repository for relevant papers on Covid-19.

Attendees:

SAGE participants: Patrick Vallance (Chair), Chris Whitty, Charlotte Watts, Angela McLean, John Aston, Phil Blythe, [REDACTED] Sharon Peacock, [REDACTED] Ian Hall, Neil Ferguson, John Edmunds, Maria Zambon, Peter Horby, Wendy Barclay, Brooke Rogers, Andrew Rambaut, [REDACTED] James Rubin

SAGE secretariat: [REDACTED]
[REDACTED]