Addendum to fourteenth SAGE meeting on Covid-19, 10th 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.

<u>**Attendees:**</u>
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), John Edmunds (LSHTM), Brooke Rogers (King's), Russell Viner (UCL), Jeremy Farrar (Wellcome), Peter Horby (Oxford), David Halpern (CO), Osama Rahman (CSA DfE), Carole Mundell (CSA FCO), Maria Zambon (PHE), James Rubin (King's), Andrew Rambaut (Edinburgh).*

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

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.

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

Summary
1. SAGE agreed that social distancing measures for the elderly should apply to those aged 70+. Modelling using 65+ and 70+ deliver comparable results, but there is a large drop off in efficacy if the measures are confined to 80+.
2. SAGE advised that these social distancing interventions should consider 2 distinct groups: a) those aged 70+ who are generally well and b) vulnerable groups of all ages (including those aged 70+).
3. Limited evidence suggests that children can be at risk of Covid-19 and will mostly experience mild illness, though they probably transmit the virus.
4. SAGE will revisit its advice on the risks posed by different kinds of social gatherings/meetings and the impacts of restricting them on the epidemic curve at its next meeting (12 March). This will include consideration of the effects of physical distancing among individuals and duration of exposure on infectivity and transmissibility of Covid-19.

Situation update
5. Based on surveillance, including cases in intensive care units (for whom there is no travel history accounting for infection), the UK likely has thousands of cases – as many as 5,000 to 10,000 – which are geographically spread nationally.
6. Transmission is underway in community and nosocomial (i.e. hospital) settings.
7. Available data for the UK are accruing fast. Firmer estimates of infection rates will be available next week.
8. PHE has a serology test up and running for population-level analysis. Analysing greater volumes of samples is now the priority.
9. A test for frontline diagnostics may come from the private sector.
10. It was agreed that PHE and SPI-M should discuss how to make surveillance data more useful for modelling purposes (e.g. providing case location data).
11. It was reported that all pneumonia cases in hospital are now due to be tested.
12. The UK is considered to be 4-5 weeks behind Italy but on a similar curve (6-8 weeks behind if interventions are applied).

ACTION: PHE and NHS to report at the next SAGE meeting (12 March) on:
- Whether currently available capacity for population-based serology for Covid-19 is being fully exploited
- Plans for how PHE can move from 1,000 serology tests to 10,000 tests per week
- Whether all intensive care pneumonia cases are being tested for Covid-19 (as per current policy)
- Plans for consideration of commercial tests for frontline healthcare use.

ACTION: SAGE secretariat to consider how to provide a paper setting out where Italy, France, Germany and Spain are in terms of their epidemics and interventions (including efficacy of and behavioural change related to those interventions). This should be updated for each SAGE meeting.

Understanding Covid-19
13. The main symptoms are fever and/or cough. Public messaging on symptoms will be issued later this week and reviewed at SAGE on 12 March.
14. SAGE endorsed NERVTAG's advice that individual case isolation should last for 7 days from onset of symptoms. Individuals should self-isolate on more than one occasion if they have relevant symptoms (but SAGE recognised that compliance rates may drop the more this happens, hence the need to trigger this at the right time).

15. Children can be infected with Covid-19 and mostly experience mild illness, with less incidence of fever (limited evidence, low confidence). They likely transmit Covid-19, but there are no data on this.
16. For pregnant women infected with Covid-19, there is some evidence of premature delivery. There is no evidence of vertical transmission (mothers passing Covid-19 to unborn children). It does not appear that Covid-19 poses more of a risk to pregnant women than other infections, but the risk of premature delivery means that they should be considered in plans for vulnerable groups are developed.
17. Russell Viner agreed to share evidence on impacts of isolation and hospitalisation of children with DHSC and NHS England to inform policy development and NHS planning.

Behavioural and social interventions
18. Modelling suggests the UK is 10-14 weeks from the epidemic peak if no mitigations are introduced.
19. As per point 14, case isolation entails 7 days of self-isolation from onset of symptoms.
20. Household isolation entails 14 days of isolation for all household members from the point the first member has symptoms. If a household member develops symptoms on, say, day 12, the clock does not restart for other members. If the first symptomatic person is well after 7 days, s/he can leave the household, but not the other members.
21. Social distancing ("cocooning") is for those 70 and over, as well as those of any age in vulnerable groups.
22. The modelling concludes that restricting this group to 70+, rather than 65+, would not cause a significant increase in numbers of deaths.
23. SAGE agreed cocooning could be tiered, covering those at the highest risk, and those at increased risk but not in the highest risk.
24. The social distancing expected of those in the intermediate risk group may be less stringent. SAGE should review the policy proposal developed around this to consider any impacts (the trade off between stringency and compliance was noted).
25. GPs should have discretion to advise certain patients who do not automatically fall into the highest risk category that they should nevertheless follow the advice being issued to this group, based on the risk posed to them by Covid-19.
26. SAGE noted that a tiered approach to social distancing might reduce its overall impact on the epidemic curve and on mortality – this needs to be reviewed once the policy is worked up.
27. It also noted that in theory maximum efficacy from all interventions would be achieved through simultaneous introduction, but that there is some flexibility in timing that would not materially alter the effectiveness. Long periods of social isolation may have significant risks for vulnerable people.
28. SAGE agreed that a balance needs to be struck between interventions that theoretically have significant impacts and interventions which the public can feasibly and safely adopt in sufficient numbers over long periods.
29. Input from behavioural scientists is essential to policy development of cocooning measures, to increase public practicability and likelihood of compliance.
30. SAGE advised that special policy consideration be given to care homes and various types of retirement communities (where residents are more independent).
31. Once policies are formulated, SAGE should review them through the lenses of epidemiological modelling and behavioural science.
32. A summary of triggers and timings for the 3 interventions under consideration is set out in the table below.
33. It is vital to measure the impacts of these interventions (beyond disease surveillance) where possible.
34. SAGE noted that the public will face considerable challenges in seeking to comply with these measures, (e.g. poorer households, those relying on grandparents for childcare).

Measure and/or combination of measures	Suggested Trigger Point	Estimated time of occurrence
(1) Home Isolation of symptomatic cases	ICU cases tracking and other surveillance data, with a presumption that we have reached 100 ICU cases (cumulative)	Within the next 10 days
(2) Whole Household isolation	Based on cumulative ICU cases tracking and other surveillance data

Actual trigger point: somewhere between 100 and 300 ICU cases (cumulative) | 1-3 weeks after (1) |
| (3) Social distancing for 70+ and vulnerable groups | Cumulative ICU cases and other surveillance data

Somewhere between 100 and 300 ICU cases (cumulative) | 1-3 weeks after (1) |

ACTION: DHSC and **Cabinet Secretariat** to develop policy around implementation of the three behavioural and social interventions under consideration (case isolation, household isolation, social distancing for elderly and vulnerable), clarifying eligibility, numbers affected and essential symptoms. This should be shared with SAGE and its advisory groups.

ACTION: SPI-B to consider how to measure resulting behavioural change from the implementation of behavioural and social interventions (e.g. engagement, compliance).

ACTION: SPI-M to consider the likelihood of secondary infection in confined spaces, e.g. households.

Reasonable worst case scenario
35. SAGE agreed that, for planning purposes, it is not useful at this stage to produce a "most likely" scenario until more UK data are available.
36. The reasonable worst case remains the most useful scenario for planning, but a most likely scenario will be more viable as additional data become available within 1-2 weeks.

Next meeting of SAGE
37. SAGE noted that public gatherings pose a relatively low but not zero public risk. People are more likely to be infected by people they know, not strangers. But it acknowledged the importance of advice in this area and agreed to review it and to look at different types of gatherings/meetings.

ACTION: SAGE advisory groups (SPI-M, SPI-B, NERVTAG) to reconsider for the next SAGE meeting (12 March) advice on public gatherings, including risk to individuals and the impact of restricting gatherings on the epidemic curve. This should include the relative risk of different types and sizes of public gatherings (e.g. football matches, religious gatherings, restaurants/bars).
- As part of this, NERVTAG to consider effects of distance and duration of exposure among individuals on infectivity and transmissibility of Covid-19.

List of actions

PHE and NHS to report at the next SAGE meeting (12 March) on:

- Whether currently available capacity for population-based serology for Covid-19 is being fully exploited
- Plans for how PHE can move from 1,000 serology tests to 10,000 tests per week
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Attendees

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SAGE secretariat