Forty-second SAGE meeting on Covid-19, 18th June 2020
Held via Zoom

Summary

1. SAGE congratulated the RECOVERY trialists on the hydroxychloroquine and dexamethasone results, which reaffirm the central importance of randomised trials.
2. SAGE noted the importance of understanding risk to marginalised groups, including migrant workers, and the need to prepare for anticipated outbreaks in areas of high deprivation. The issue will be taken up with Cabinet Office.
3. SAGE agreed that double testing of travellers could enable quarantining terms of less than 14 days.
4. SAGE noted that super-spreading environments and clusters of infections are particularly important.
5. SAGE agreed that the risk of environmental transmission will likely increase in the winter months. Public toilets were identified as of particular concern.

Situation update

6. SAGE approved the latest R estimates for publication: for the UK, R is 0.7 to 0.9 (90% confidence interval). R estimates have not changed significantly from the previous week.
7. SAGE approved growth rate estimates for publication: for the UK, the growth rate is -4% to -2% per day (90% confidence interval). Growth rate estimates are based on different data from R estimates are more statistically stable.
8. Case numbers and fatalities are declining, but the rate of decline is slowing.
9. Hospital acquired infections are declining, with an approximate 30% decrease in cases occurring in hospitals after day 8. CO-CIN data also point to an improving situation.
10. SAGE reiterated its concerns about the risk of discharging patients from hospital while still infectious. Advice from SPI-M and from NERVTAG about pre-discharge testing of patients is being considered by the Senior Clinicians Group, which contains those who have accountability for determining actions to be taken.
11. SAGE noted the importance of fully understanding NHS admissions data to reconcile operational needs with requirements for accurate modelling. This requires more detailed information on patients being admitted.
12. SAGE noted the excellent findings from the RECOVERY trial on dexamethasone, which demonstrated clearly the importance of randomised trials. The UK should aim for even higher numbers enrolled in clinical trials and this work should start now.
13. ONS (supported by DHSC and the Government Actuaries Department) will publish national statistics each month on excess deaths under 4 categories, including analysis of potential causes (publication starting a fortnight from now).
14. Further to previous SAGE discussion of transmission risk in institutional settings, SAGE noted the importance of understanding risk to migrant workers (e.g. DEFRA understanding risk to fruit pickers) who often live in dormitory-style settings. Better demographic data are needed for all vulnerable and marginalised groups. The importance of joining up different pieces of work on this issue which have been discussed at SAGE was reiterated.
15. SAGE also noted the need to prepare for outbreaks in areas of high deprivation and/or featuring high concentrations of BAME communities – and consider research in these areas.
16. Social contact data trends remain flatter than mobility data trends – pointing to public cautiousness following the release of lockdown measures.
17. SAGE will receive a COG-UK paper at a future meeting on introductions of the virus to the UK during March.

ACTION: Graham Medley, PHE and **NHS Medical Director** to convene group to resolve 'ground truth' on hospital admissions recorded as Covid-19; **PHE** to confirm status of

epidemiological study into Covid-19 generation time and its response to John Edmunds's note on epidemiological data requirements (circulated at SAGE40) by 25 June

ACTION: Cabinet Office to decide how to address potential Covid-19 outbreaks in vulnerable/marginalised groups (e.g. migrant agricultural workers) building on 'Impact of occupational exposure to disease, proximity to others during work and income on mortality from COVID-19' paper and work by Andrew Hayward, and linking to Mary Dixon-Wood's new group, by 25 June; **UKRI** to identify associated research priorities, by 2 July

ACTION: PHE to link its new work on risk of Covid-19 in night shelters and hostels to ongoing work in MHCLG on institutional settings (already discussed at previous SAGE meetings) by 25 June

Quarantine release

18. SAGE reviewed several papers on repeat testing, which reached consistent conclusions.
19. Given the current state of the epidemic in the UK, SAGE reiterated its previous advice that quarantining of travellers entering the UK is most effective when those travellers come from a country with higher incidence than the UK.
20. Double testing of travellers significantly reduces the risk of false negatives, and could enable quarantine duration of less than 14 days. The optimal days of testing are between days 5-8 post exposure (moderate confidence).
21. If initial testing is carried out prior to travellers entering the UK, the duration of quarantine in the UK could be shortened further (with the caveat that travellers should self-isolate between testing and travelling). Pre-testing of this kind would require international agreements and common standards.
22. SAGE noted some complicating factors, including test turnaround times; ongoing uncertainty around test positivity over time in asymptomatic cases; the importance of public adherence; the challenges of establishing true incidence in some countries; and that the approach to quarantine for TTI cannot be identical to that of travellers entering the UK (because of the problem of an increased likelihood of false positives).

ACTION: PHE to develop policy options for screening incoming visitors to the UK based on SAGE advice and papers, by 23 June; this advice to go to DfT, HO and DHSC and also cover double testing and release of contacts identified through contact tracing

Super spreaders

23. SAGE agreed there is strong evidence for the existence of epidemiological (rather than biological) super-spreading events. These events are caused by a combination of the characteristics of infected individuals and environmental factors.
24. Individuals likely to facilitate the seeding of super-spreading events may be asymptomatic or paucisymptomatic. Understanding asymptomatic infection is key to understanding super-spreading events.
25. Environments linked to super-spreading events tend to be internal, crowded locations where it may be necessary to speak loudly.
26. Studies of cluster tracing approaches adopted internationally (in particular Japan) have highlighted that schools and possibly universities do not appear to be centres of super-spreading events (low confidence). These studies advocate a cluster-based approach to contact tracing, as has been previously recommended by SAGE (including with backward contact tracing).
27. It may be relatively straightforward to retrospectively identify super-spreading events when they occur in a single setting, but more challenging to identify if transmission occurs across multiple, disparate settings.
28. Genomics analysis has potential in linking apparently un-clustered cases to a single super-spreading individual, but probably greater potential to unlink apparently connected

clusters. The UK is in a unique position to do this work given the scale of its genomic efforts, but the response would need to be regional and rapid.

29. SAGE re-emphasised that a key metric for understanding effectiveness of a test and trace system is the number of new cases picked up through the system versus the number occurring outside of it.
30. SAGE again agreed that cluster tracing is very important, as is capturing information on features of super spreaders unrelated to the disease itself, e.g. occupation, location. This may help identify other likely super spreaders in future.
31. SAGE reiterated the importance of understanding the optimum duration for backwards contact tracing.

ACTION: JBC to confirm metrics that relate to known clusters and linked cases versus infections not detected by test and trace, including how genomics could assist in case linkage and verification, by 23 June

ACTION: SPI-M to incorporate additional consensus input from Wendy Barclay and PHE on asymptomatic viral shedding in its advice to NHS T&T/JBC on optimal time frame for backward tracing, by 23 June

Outdoor and wider transmission

32. SAGE approved the paper 'Evidence of wider environmental transmission', contingent upon a number of minor amendments.
33. There is no clear link between outdoor air quality and the likelihood of transmission, owing to rapid dilution of the virus in external environments and its relatively short lifetime.
34. There remains uncertainty around the dose of the virus required to cause infection and the decay rate of the virus in natural (as opposed to laboratory) settings.
35. During winter the virus will survive for longer on surfaces because of decreased day-light, humidity and temperature, which will lead to greater outdoor surface transmission.
36. SAGE noted that public toilets pose a comparatively high risk of transmission, with the main transmission route in that setting being from surfaces. This is due to a combination of low levels of natural light, confined space and the risk of faecal or urine transmission.
37. There is a low risk of infection from treated wastewater, or fresh or marine bodies of water, though risk may increase slightly after heavy rainfall.
38. SAGE acknowledged that more work is required to better understand surface and faecal transmission.

ACTION: Wider Environmental Subgroup to update 'Evidence of wider environmental transmission of SARS-CoV-2' paper and send to DEFRA, MHCLG, DCMS and other relevant departments by 19 June

ACTION: UKRI and **HSE** to consider additional research questions and commissioning relating to Covid-19 risks from external fomites

Future meetings

39. SAGE agreed to consider the impacts of universities restarting teaching (online and face to face) and of student mobility (including the risks posed to vulnerable groups).

ACTION: DfE to consider effect on infection rates from return of students to universities for SAGE by 2 July

List of actions

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DfE to consider effect on infection rates from return of students to universities for SAGE by 2 July

Attendees

Scientific Experts (37): *Patrick Vallance (GCSA), Chris Whitty (CMO), Jenny Harries (dCMO), Jonathan Van Tam (dCMO), John Aston (CSA HO), Andrew Curran (CSA HSE), Charlotte Watts (CSA DfID), Carole Mundell (CSA FCO), Robin Grimes (CSA Nuclear), Osama Rahman (CSA DfE), Gideon Henderson (CSA Defra), Andrew Morris (Scottish Covid-19 Advisory Group), Steve Powis (NHS), Mark Wilcox (NHS), Sharon Peacock (PHE),* [redacted] *Maria Zambon (PHE), Yvonne Doyle (PHE),* [redacted] *Peter Horby (Oxford), Calum Semple (Liverpool), Graham Medley (LSHTM), John Edmunds (LSHTM), Lucy Yardley (Bristol/Southampton), Michael Parker (Oxford), Wendy Barclay (Imperial), Ewan Birney (European Bioinformatics Institute), Adam Kucharski (LSHTM), James Rubin (KCL), Catherine Noakes (Leeds), Ian Diamond (ONS), Jeremy Farrar (Wellcome), Venki Ramakrishnan (Royal Society), Ian Boyd (St Andrews), Rob Orford (Health CSA Wales), Fliss Bennee (Wales Technical Advisory Cell), Nicola Steedman (dCMO Scotland)*

Observers (8): *Ben Warner (No.10),* [redacted] *Vanessa MacDougall (HMT),* [redacted]

Secretariat (all GO-Science) (21): [redacted] *Simon Whitfield,*

[redacted] *Stuart Wainwright,* [redacted]

Total: 63