**Sixty-eighth SAGE meeting on Covid-19, 16th November 2020**
**Held via Video Teleconference**

## Duration of isolation and impact of testing for contacts of known index cases

1. SAGE considered the possible effects on transmission of testing using lateral flow antigen (LFA) tests or PCR tests to either reduce the duration of quarantine for contacts of known index cases, or to replace quarantine altogether by testing repeatedly (e.g. daily) upon tracing.
2. Modelling indicates that one of the most effective ways of reducing transmission is to speed up the tracing of contacts, whatever the duration of consequent quarantine or testing (high confidence).
3. Contacts of known index cases are currently required to quarantine for 14 days. As previously advised, a shorter period might be more effective in reducing transmission if it results in more people coming forward for testing and/or improves adherence to quarantine (see SAGE 67). However, there is a trade-off with increased transmission risk from those who are still infectious beyond the end of the quarantine period.
4. Some modelling suggests that a quarantine of 7 or 10 days with a rapid antigen or PCR test on the final day may prevent a comparable amount of onwards transmission to that of the current 14-day quarantine. Pros and cons of reducing the time of quarantine were laid out in the papers. Alternatively, repeated daily testing of contacts for up to 5 days using rapid antigen tests with individuals isolating only upon a positive test or symptom onset may eliminate the time spent in quarantine for many people, with a small increase in transmission risk from infected contacts of index cases.
5. There is significant uncertainty around some of the assumptions used in modelling, including on behavioural effects and adherence, as well as around operational delivery and delays. The ability of LFA tests to detect infection at different points in the infection cycle is also currently not well understood. A pilot is strongly advised to assess operational and other aspects before policy change.
6. Any pilot should enable evaluation of the potential of the system against different desired outcomes (e.g. reductions in the current quarantine period to enable people to get back to work, reductions in transmission, behavioural outcomes such as adherence to self-isolation), and to understand operational issues.
7. Potential challenges include feasibility and acceptability of the self-testing, and possible difficulties or delays in obtaining tests. For example, some people may find it difficult to self-test or lack confidence to do self-testing in their home (i.e. if they cannot understand instructions or use digital methods of uploading results), and/or may not be able to easily access self-testing outside the home. This could potentially increase inequalities in the impact of quarantine, and reduce ability to adhere, particularly in high-risk groups, although there is no direct evidence of this.
8. It may beneficial to offer easily accessible methods of testing and/or provide people with the option to quarantine as an alternative to regular testing. As previously, a strong package of support (financial and non-financial) throughout the quarantine period would help to maintain adherence. Financial, social or work pressures may reduce people's ability to isolate (see SAGE 57).
9. For the system to work, contacts must also be provided with rapid access to test kits. Any difficulties or delays in obtaining tests will reduce the perceived competence of the system and may impact on adherence more generally.
10. SAGE noted the importance of a long-term plan with clear messaging and communication before any change to the current quarantine period or testing strategies. There is the potential for confusion if plans change frequently, impacting people's ability to adhere.
11. SAGE considered several risks with replacing quarantine with regular testing upon tracing, including the continued potential for transmission prior to tracing (due to test and trace delays – this is the case for current and new approaches); potential for

transmission prior to testing (if people have to wait for tests and don't quarantine whilst doing so), or a failure of people to isolate upon developing symptoms (due to false negative test results). In any approach, reducing delays in contact tracing is critical.

12. There is likely to be greater adherence to isolation based on daily testing than any other form of isolation. Increased perceptions of risk of transmission following a positive test could increase motivation to isolate, however there is no direct evidence of this. Ability to isolate will also remain important.
13. Regular testing of contacts could help to reduce transmission within households by allowing earlier identification of cases and therefore enabling households to isolate and adopt other infection control measures earlier to reduce transmission within the home, especially to vulnerable household members. This might reduce household transmission but there is no direct evidence for this.
14. There is highly likely to be considerable benefit of regularly testing contacts which would enable early identification of those who are asymptomatic (or do not report symptoms), and therefore allow better follow-up of asymptomatic transmission.
15. Policymakers will need to consider the desired outcomes and trade-offs between reducing transmission and reducing duration of quarantine. There are benefits and risks to different approaches, and much depends on operational factors and behaviours which can be better understood through a pilot. This could be carried out in a particular area, or in a particular group (e.g. selected by occupation).
16. Increased use of self-administered lateral flow testing may reduce the opportunity to collect genomic information. This could be addressed by subsequent use of confirmatory PCR testing.
17. Overall SAGE is supportive of piloting regular testing to avoid quarantine and assesses that this could provide a similar effect to the current 14 day isolation system.

**ACTION: SPI-M and NERVTAG** to assess how 3 days of testing compares to 5 days of testing under different scenarios (including different contact tracing delays)

**ACTION: SAGE participants** to suggest specific outcomes that a pilot should measure; **Susan Hopkins** to lead a small working group (including SPI-B and DAs) to look at design of pilots.

**Attendees:**

***Scientific Experts (28):*** *Patrick Vallance (GCSA), Chris Whitty (CMO), Ian Diamond (ONS), Susan Hopkins (PHE/NHST&T), Ian Young (Health, NI CSA), Graham Medley (LSHTM), John Edmunds (LSHTM), Calum Semple (Liverpool), Wendy Barclay (Imperial), Andrew Morris (HDR UK), Rob Orford (Health, Wales CSA), Mark Wilcox (Leeds), Lucy Yardley (Bristol/Southampton), Charlotte Watts (DfID CSA), Yvonne Doyle (PHE), Peter Horby (Oxford), Fliss Bennee (Technical Advisory Cell, Wales), Angela McLean (MoD CSA), Nicola Steedman (dCMO Scotland), Steve Powis (NHS England), Michael Parker (Oxford), Sheila Rowan (CSA Scotland), Ian Boyd (St Andrews), James Rubin (KCL), Gideon Henderson (DEFRA CSA), Billy Quilty (LSHTM), Elizabeth Fearon (LSHTM), Thomas Finnie (PHE)*

***Observers and government officials (15):*** *John Aston (HO CSA), Rupert Shute (HO dCSA), Paul Monks (BEIS CSA), Phil Blythe (DfT CSA), Robin Grimes (MoD Nuclear CSA),* [redacted]*, Julian Fletcher (CO),* [redacted]*, James Benford (HMT),* [redacted]*,* [redacted]*,* [redacted]*, Jessie Owen (CO), Ben Warner (No.10),* [redacted]

***Secretariat (all GO-Science) (14):*** [redacted]

[redacted] *Simon Whitfield, Stuart Wainwright,* [redacted]