

Ninety-fifth SAGE meeting on COVID-19, 09 September 2021

Held via Video Teleconference

Summary

1. SAGE noted that the epidemic is entering a period of uncertainty. Key uncertainties include the potential impact of any waning of immunity and any significant changes in contact patterns associated with increased attendance at workplaces and reopening of education settings. It will take several weeks to be able to understand the full impact of any such changes.
2. Hospital admissions will continue to be a critical metric to assess the trajectory of the epidemic, particularly in the elderly. Increasing cases remain the earliest warning sign that hospital admissions are likely to rise. Other early warning signals would be a change in the relationship between cases and hospital admissions, or a change in the pattern of admissions to hospital of those who are fully vaccinated.
3. SAGE reiterated the importance of acting early to slow a growing epidemic. Early, "low-cost" interventions may reduce need for more disruptive measures and avoid an unacceptable level of hospitalisations. Late action is likely to require harder measures.

Situation update

4. SAGE noted that the epidemic is entering a period of uncertainty with rapidly altering patterns of behaviour associated with schools reopening and more people returning to workplaces.
5. From UKHSA: R is between 0.9 and 1.1 in England; 0.9 to 1.2 in Ireland; 1.2 to 1.4 in Wales; and 1.3 to 1.6 in Scotland. R is a lagged indicator, and these estimates most likely reflect the situation in mid-August.
6. In Scotland, cases began to increase two weeks before the return of schools. Case rates have been highest in younger age groups and appear to be stabilising at c. 2,700 per 100,000 in 14- to 15-year-olds.
7. SAGE noted the medium-term projections from SPI-M. Cases in England are flat but at high levels.
8. There are no reports of untoward developments on variants. Sequencing capacity is expected to increase ahead of winter. The majority of cases from travellers from red-listed countries are being sequenced.
9. There is currently limited evidence on how environmental mitigations reduce the transmission of Delta in different settings. There is no evidence which suggests the need to revise current advice on the types of mitigations required. SAGE noted that there remains significant scope to implement current advice more widely and more effectively.
10. The establishment of UKRI/NIHR longitudinal studies on vaccine-derived immunity is underway.
11. SAGE endorsed the paper "COVID-19 Transmission in Hotels and Managed Quarantine Facilities".

Medium-term scenarios and review of step 4 modelling

12. Step 4 Roadmap modelling was reviewed in light of new data. Hospitalisations in August did fall within expectations under some scenarios, but occupancy and deaths were lower than expected under central assumptions. Behaviour change following step 4 has been slower than in some modelled scenarios and the future trajectory is increasingly unlikely to reach the peak of the January 2021 wave.

13. SAGE considered three medium-term scenarios in which a step-change in transmission occurs on 6 September 2021, resulting in a subsequent increase in hospital admissions. One scenario, where R was set to 2.0, was included as an absolute maximum and was considered highly unlikely, without the emergence of a novel variant of concern or waning immunity. A rise of R in England to above 1.5 would be a significant cause for concern.
14. The current SPI-M medium-term projections for Scotland (which assume no behaviour/policy change), where schools have been open for several weeks, fall between the R=1.5 and R=1.1 scenarios. Even the R=1.1 scenario results in a relatively large number of COVID-19 hospital admissions in England, but below previous peaks.
15. Key uncertainties include the potential impact of any waning of immunity and any significant changes in contact patterns associated with increased attendance at workplaces and reopening of education settings. It will take several weeks to be able to fully understand the impact of any such changes.
16. Although the epidemic appears to have stayed relatively stable in the last six weeks, contact networks are likely to change in the coming weeks, increasing transmission.
17. When R is around 1, even small changes can lead to a significant change in the number of infections and subsequently hospitalisations. Similarly, small interventions can be effective to bring rates back down. This is particularly true in the presence of high levels of population immunity.
18. Hospital admissions will continue to be a critical metric to assess the trajectory of the epidemic, particularly in the elderly; these have been rising recently from a low base. Increasing cases remain the earliest warning sign that hospital admissions are likely to rise. Other early warning signals would be a change in the relationship between cases and hospital admissions, or a change in the pattern of people admitted to hospital who are fully vaccinated.
19. SAGE reiterated the importance of acting early to slow a growing epidemic. Early, "low-cost" interventions may forestall need for more disruptive measures and avoid an unacceptable level of hospitalisations.
20. SAGE noted that European comparators with similar levels of vaccination have maintained more interventions (masks, vaccine certification, work from home) than the UK and are seeing their epidemics decline.
21. It is not yet clear why trajectories in Wales, Scotland and Northern Ireland have been so different from England, where cases appeared to flatten rapidly in mid-July across all regions.

ACTION: SPI-B to set out data requirements for understanding and then advising on public resumption of protective behaviours to limit infections

Update on waning immunity

22. There is evidence from real-world data in England of waning of vaccine effectiveness against symptomatic disease from approximately 10 weeks after second dose. Protection against hospitalisation and death remains high up to at least 20 weeks in healthy adults; indications of waning with respect to hospitalisation and death appear to be predominantly in higher risk groups.
23. There remains significant uncertainty around exact estimates and different studies both in England and internationally have reported different impacts of waning. It is important to consider potential confounders such as follow up time, age, vaccine and dosing interval.
24. SAGE noted again the importance of identifying a correlate of protection against hospitalisation. Level of neutralising antibodies may be a correlate for waning against infection risk, but it is not yet clear whether this also correlates with protection against severe disease and death. The precise determinants of protection are not known.

Understanding this should be helpful for determining future need and timings for regular boosters or further vaccination for those who may not develop an effective antibody response after initial doses.

25. SAGE approved the latest version of the vaccine effectiveness table. It was suggested that future versions could consider additional data on vaccines deployed outside of the UK with appropriate caveats to indicate the expert panel's view of data quality and reliability. In future, the table will be updated monthly as a minimum.

ACTION: Wendy Barclay to update vaccine efficacy table to avoid confusion about availability of data on some vaccines.

Impact of vaccines on hospital admissions

1. SAGE endorsed a paper considering hospitalisation of vaccinated individuals using data from ISARIC.
2. Of the 40,000 Covid patients in the study, admitted between December 2020 and July 2021, 33,496 were unvaccinated (84%) and 3,460 (9%) had received their first vaccination ≤ 21 days previously.
3. For patients admitted after 16 June 2021 (by which time vaccination rates in adults were high) the majority of patients had received two doses. This is to be expected, as SAGE has noted previously.
4. Vaccination generally reduced the odds of in-hospital mortality, although immunocompromised patients in the study had persistently high risk of mortality after both first and second dose vaccines.

Comparing waves 1 and 2 for child hospitalisations

5. SAGE endorsed a paper comparing hospitalisations among children during waves 1 and 2 using ISARIC data.
6. This analysis found no difference in overall morbidity in children between waves 1 and 2. Children admitted were slightly older in wave 2 but had similar comorbidities and average length of stay remained around 2 days. There was no difference in reported symptoms. More asymptomatic children were identified through testing, and around one fifth in hospital with COVID-19 were admitted for other reasons.

Direct and indirect health impacts of COVID

7. SAGE welcomed a paper from DHSC and ONS on the direct and indirect health impacts of COVID-19 in England, which highlighted that the greatest mortality impact has been seen among the most deprived, although more QALYs have been lost in younger age groups.
8. Significant changes in health seeking behaviour (e.g., reduced GP visits, particularly in those under 11 or over 70 years of age) have resulted in different demands on the healthcare service. This analysis should be considered as part of operational planning.

ACTION: DHSC CSA to share paper on direct and indirect health impacts with **other CSAs including DWP**.

List of actions

SPI-B to set out data requirements for understanding and then advising on public resumption of protective behaviours to limit infections.

Wendy Barclay to update vaccine efficacy table to avoid confusion about availability of data on some vaccines.

DHSC CSA to share paper on direct and indirect health impacts with **other CSAs including DWP**.

Attendees

Scientific experts (38): Patrick Vallance (GCSA), Chris Whitty (CMO), Angela McLean (MoD CSA), Ann John (Swansea), Annemarie Docherty (Edinburgh), Brooke Rogers (KCL), Calum Semple (Liverpool), Catherine Noakes (Leeds), Charlotte Deane (UKRI), Charlotte Watts (FCDO, CSA), Declan Bradley (Northern Ireland Executive), Edward Wynne-Evans (JBC), Fliss Bennee (Welsh Government), Graham Medley (LSHTM), [REDACTED], Harry Rutter (Bath), [REDACTED], Ian Boyd (St Andrews), [REDACTED], Jenny Harries (UKHSA), John Edmunds (LSHTM), Julie Fitzpatrick (Scottish Government, CSA), Kamlesh Khunti (Leicester), Linda Partridge (Royal Society), Lucy Chappell (DHSC CSA), Maria Zambon (PHE), Mark Wilcox (Leeds), Meera Chand (PHE), Michael Parker (Oxford), Nicola Steedman (Scottish Government, dCMO), Peter Horby (Oxford), Rob Orford (Health CSA Wales), Stephen Powis (NHS England), Susan Hopkins (PHE/NHST&T), Thomas Waite (dCMO), Wei Shen Lim (Nottingham), Wendy Barclay (Imperial), and Yvonne Doyle (PHE).

Observers and government officials (29): Andrew Morris (HDRUK), [REDACTED], Charlette Holt-Taylor (DHSC), Daniel Kleinberg (Scottish Government), David Fishwick (HSE), David Lamberti (DHSC), [REDACTED], Fergus Cumming (JBC), Gideon Henderson (Defra, CSA), Giri Shankar (PHW), Henry Cook (No.10), Jennifer Rubin (HO, CSA), Jim McMenamin (Health Protection Scotland), Laura Bellingham (CO), [REDACTED], Liz Lalley (Welsh Government), Louise Tinsley (HMT), [REDACTED], Osama Rahman (DfE CSA), [REDACTED], [REDACTED], [REDACTED], Rob Harrison (CO), Sarah Sharples (DfT CSA), Soheila Amin-Hanjani (BEIS dCSA), [REDACTED], and Will Musker (No.10).

Secretariat (all GO-Science) (12): [REDACTED], and Simon Whitfield.

Total: 76