One-hundred-and-fifth SAGE meeting on COVID-19, 10 February 2022

Held via Video Teleconference

Situation update

1. Case rates continue to fall across England (including in school-age children), although there remains some regional heterogeneity. A recent increase has been observed in the 60+ age group in some regions. While LFD positivity has previously closely tracked positivity estimates from the ONS Coronavirus Infection Survey, changes in testing behaviour and policy have recently altered the relationship between these metrics. This is expected to stabilise over time.
2. Admissions and bed occupancy (including ICU) levels in England continue to decrease, particularly in the North and the Midlands. CO-CIN data suggest a recent increase in nosocomial infections, which had been trending downwards. General pressure across NHS England remains high, with recent increases seen in non-COVID-19 emergency care attendance. Duration of stay in hospital has slightly reduced.
3. The proportion of admissions with a positive test in England for which COVID-19 is the primary diagnosis has reduced to 48% (and is lower in London). CO-CIN report a recent increase in nosocomial infections and continued high rates of short-term admissions of children under 5.
4. Growth of the BA.2 variant continues to suggest a relative advantage over BA.1, although the evidence does not suggest any change to disease severity or a significant change in vaccine effectiveness. ONS Coronavirus Infection Survey positivity is highest in Northern Ireland and increasing, potentially driven by a high proportion of BA.2 infections.
5. Mobility data (which only captures the level of mixing rather than the type of contact) suggest mixing has gradually increased throughout January, with a marked change following the lifting of Plan B measures. SPI-M-O currently estimates that a combination of behavioural change (e.g. increased home working, mask wearing) and mitigations (e.g. testing, self-isolation) are currently reducing transmission by 20–45%. This suggests there is significant potential for transmission to increase if behaviours revert rapidly to pre-pandemic norms and mitigations are removed (medium confidence). The faster growth of BA.2 may also increase this risk.
6. SPI-M-O has reviewed several sets of prior modelled scenarios, where R has been set to a range of values from a given date, against actual admissions data. The period of flat prevalence and admissions in summer and autumn 2021, is suggestive of a significant role for self-regulation of behaviour, in which testing is likely to have played a part (low confidence). Future waves of infections could have sharper peaks if reduced testing availability hampers self-regulation.

ACTION: CO-CIN to reassess data on under-5s admissions to hospitals next week and report back.

ACTION: SAGE Secretariat to seek update from **UKHSA** on work comparing Omicron with previous variants for ICU admissions.

Update on long-term viral evolution

7. New SARS-CoV-2 variants will continue to emerge, and the previous possible future evolutionary scenarios set out by NERVTAG remain valid, including variants that are less susceptible to current vaccines, resistant to antivirals, or are associated with altered disease severity (high confidence).
8. There is no reason why future dominant variants should be similarly or less severe than Omicron, which may be an exception in having lower severity. The next dominant variant in the UK (and internationally) could have similar pathogenicity to previous variants, such as Delta. The range of evolutionary possibilities also includes substantial change to immune recognition.
9. Future dominant variants with a range of characteristics could emerge from the Omicron lineage or, as seen previously, from some other non-dominant lineage. Our understanding of the origin of different SARS-CoV-2 variants is limited. Studies of persistent infections in immune compromised hosts should be carried out and potential zoonotic crossover events investigated. Knowledge of the long-term evolutionary trajectory of human coronavirus could be improved by study of sequences from archived biological samples. Emergence of new variants in immunocompromised individuals remains a concern.
10. The use of antivirals should be undertaken in a way to reduce the risk of emergence of resistance. In the event of a highly immune escaping variant, rapid access to effective antivirals will be a critical pharmaceutical countermeasure (medium confidence).

ACTION: NERVTAG to revise paper to clarify wording on vaccines and antivirals.

COVID-19 Scenarios

11. There are a range of possible futures for the course of the pandemic. SAGE considered four scenarios describing plausible outcomes in the next 12–18 months and in the longer term (with the two central scenarios considered the most likely).
12. These scenarios describe a range of evolutionary trajectories and possible impacts, although scenarios outside of this range are possible. Each scenario assumes that a relatively stable pattern is reached over several years. However, it is likely that the transition to a stable pattern is highly dynamic and unstable, with shifts between scenarios possible. A constant in each scenario is the possibility of continued disproportionate impacts on certain groups, for example communities with lower vaccination rates (high confidence).
13. The interaction of future SARS-CoV-2 waves with other respiratory infections, such as influenza, will be important. Co-circulation over a season is possible, as is displacement (where different waves of infection peak at different times), which could lead to a longer period of pressure on healthcare services. There is further evidence from ISARIC that co-infection with SARS-CoV-2 and influenza is more likely to require ventilation or lead to death, compared to SARS-CoV-2 infection alone.
14. The emergence of new variants and a resultant wave of infections can occur very quickly, potentially within just several weeks. The ability to rapidly detect and characterise new variants and to scale up necessary responses (such as TTI and vaccinations) quickly will be very important. Considerations for future response preparedness and surveillance infrastructure should take this into account.
15. SAGE reiterated the ongoing importance of the ONS Coronavirus infection survey as a critical tool for understanding the state of the epidemic. Lead indicators are required, and this might need additional surveillance mechanisms

ACTION: **Authors of viral evolution narratives** to revise the paper to capture the range of potential interactions with influenza, international context, and inequalities of impacts.

ACTION: **Calum Semple** to send latest ISARIC paper to SAGE Secretariat.

ACTION: **ONS** to explore with others (e.g. Zoe app) what data sources represent the best lead indicators for future outbreaks.

Social and behavioural impacts of lifting restrictions

16. Removing access to free testing would make it harder for people to take this and other precautionary actions. It may also increase anxiety among those who have found testing reassuring after possible exposure, particularly those who are or live with someone who is clinically vulnerable. Increased ambiguity about a requirement to self-isolate upon testing positive will also disproportionately impact vulnerable sections of the population (medium confidence).
17. Some people may also take the removal of free and accessible testing as a signal that they should continue to attend workplaces/social gatherings while showing COVID-19 symptoms, as these become conflated with other symptoms of respiratory illness such as influenza. Various proactive measures could be considered to address the culture and impacts of "presenteeism" including encouraging individuals to work from home when unwell (where possible), providing adequate financial support (sick pay) for employees and providing effective incentives, advice and guidance for organisations and employers.
18. Lifting of restrictions should be accompanied with clear and consistent messaging about the scientific rationale and continued benefit of protective behaviours to reduce transmission. Now may be an optimal time to shift messaging from central government to local public health, UKHSA and NHS agencies (high confidence). This could improve adherence but is dependent upon consistency across organisations, including central government.
19. Public messaging should make efforts to stress the different needs and risk appetites of others. This should help to improve understanding of the continued need and adoption of protective behaviours by different groups and reduce the risk of social tensions, abusive incidents and stigma towards minority groups.

ACTION: **SPI-B** to revise paper on the lifting of remaining restrictions to include more confidence statements – and to consider a workshop with HMG/DA comms and UKHSA colleagues (including at local level) to discuss the paper's findings.

List of actions

CO-CIN to reassess data on under-5s admissions to hospitals next week and report back.

SAGE Secretariat to seek update from **UKHSA** on work comparing Omicron with previous variants for ICU admissions.

NERVTAG to revise paper to revisit wording on vaccines and antivirals.

Authors of viral evolution narratives to revise the paper to capture the range of potential interactions with influenza, international context, and inequalities of impacts.

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Attendees

Scientific experts (30): *Patrick Vallance (GCSA), Chris Whitty (CMO), Angela McLean (MoD, CSA), Ann John (Swansea), Brooke Rogers (KCL), Calum Semple (Liverpool), Catherine Noakes (Leeds), Charlotte Watts (FCDO, CSA), Derek Smith (Cambridge), Graham Medley (LSHTM), Harry Rutter (Bath), Ian Diamond (ONS), Ian Young (Northern Ireland Executive, Health CSA), Jenny Harries (UKHSA), Jim McManus (ADPH), John Edmunds (LSHTM), Julia Gog (Cambridge), Julian Hiscox (Liverpool), Julie Fitzpatrick (Scottish Government, CSA), Kamlesh Khunti (Leicester), Lucy Chappell (DHSC, CSA), Mark Wilcox (Leeds), Meera Chand (UKHSA), Michael Parker (Oxford), Nicola Steedman (Scottish Government, dCMO), Peter Horby (Oxford), Rob Orford (Welsh Government, Health CSA), Steve Powis (NHS England), Wendy Barclay (Imperial) and Yvonne Doyle (NHS England).*

Observers and government officials (26): *Andrew Curran (HSE, CSA),* [redacted], [redacted], *Charlette Holt-Taylor (DHSC), Christopher Williams (PHW), Daniel Kleinberg (Scottish Government), David Crossman (Scottish Government, Health CSA), David Lamberti (DHSC) , Edward Wynne-Evans (UKHSA),* [redacted], *Giri Shankar (PHW), Henry Cook (No. 10), Jennifer Rubin (HO, CSA), Jim McMenamin (Public Health Scotland), Laura Bellingham (CO), Louise Tinsley (HMT),* [redacted], *Sarah Sharples (DfT, CSA), Soheila Amin-Hanjani (BEIS, dCSA),* [redacted], *Tom Rodden (DCMS, CSA) and* [redacted].

Secretariat (all GO-Science) (13): [redacted], *Simon Whitfield and Zoe Bond.*

Total: 69