Eighty-second SAGE meeting on COVID-19, 25 February 2021

Held via Video Teleconference

Situation Update

1. The number of new infections continues to decline although there are signs of a slowing of the rate of decline, particularly in children and younger adults.
2. R in the UK is between 0.6 and 0.9, and in England, Scotland, and Wales it is between 0.7 and 0.9. For Northern Ireland, R is between 0.6 and 0.9. The growth rate in new infections in the UK is between -6% and -2% per day. Estimates lag changes in transmission due to the time between people being infected, having symptoms, being tested and needing healthcare. Different models use different data (with different degrees of lag) but these combined estimates lag changes in transmission by two to three weeks.
3. There are currently estimated to be between 9,000 and 25,000 new infections per day in England. For the most recent week of the study (13th to 19th February 2021) the ONS Community Infection Survey estimates that an average of 373,700 people had COVID-19 in the community in England (credible interval 346,400 to 401,300).
4. There remains heterogeneity in levels of transmission across the country, with some data suggesting that there are areas where the number of new infections is not declining and may be increasing. It would be useful to study the characteristics of these areas to understand if anything can be learnt about these communities or settings within them. It will be particularly important to monitor these areas as restrictions are relaxed.
5. As community prevalence decreases, outbreaks in particular settings will become more detectable and influential. There have been a significant number of recent outbreaks in prisons. SAGE has previously advised limiting transfer of individuals between prisons (see SAGE 7).
6. The relationship between positive test results of different types (lateral flow and PCR) and the infectiousness of individuals is inferred from several indirect observations. A study comparing results of PCR tests, lateral flow tests, and virus culture, both between individuals and longitudinally within individuals, would be valuable for understanding this relationship. This could inform design of testing programmes.
7. There continue to be outbreaks of various new variants around the world. Reducing prevalence continues to be the most effective way of reducing the risk of the emergence of new variants of concern (high confidence). There may also be a need for guidance for those involved in the care of immunocompromised people with COVID-19, including advice on the use of therapeutic antibodies, to address specific risks in that group.

ACTION: PHE to lead a group to identify whether there are any common characteristics between areas which are continuing to see high levels of transmission.

ACTION: Maria Zambon to consider running a study comparing results of PCR tests, lateral flow tests, and virus culture both between individuals and longitudinally within individuals.

ACTION: CMO and **Peter Horby** to consider the need for advice on management of immunocompromised patients with COVID-19.

Long Covid

8. In an ISARIC study of the long-term effects of COVID-19 in those that survived hospital admission (based on self-reporting from 325 people), half of participants reported feeling not fully recovered from COVID-19 (median follow-up 7 months). The response rate was around 40% and, as with all such studies, there may be some responder bias as individuals who experienced symptoms (or more significant symptoms) may have been more likely to respond.
9. Fatigue was the most common symptom (77% of respondents), followed by shortness of breath (54% of respondents). Fatigue and breathlessness commonly occurred together, often along with other neurological and pain symptoms. Around a quarter reported a new disability in sight, walking, memory, self-care and/or communication.
10. Long COVID is likely to encompass a number of post-COVID syndromes rather than a single one, and these syndromes may have different outcomes. There may also be differences between those who were hospitalised compared to those who had infection that did not become severe. There are not currently any internationally agreed case definitions. The ISARIC analysis shows that symptoms commonly occur in related clusters, which may provide some preliminary indications about sets of symptoms that define these syndromes.
    a. The first of these clusters includes fatigue, being breathless on exertion, headache, dizziness, muscle pain, joint pain, disturbance of balance and limb weakness.
    b. The second is nested within the first and includes muscle pain, joint pain, disturbance of balance and limb weakness.
    c. The third includes loss of smell, taste, difficulty passing urine, weight loss and disturbance of appetite.
11. Overall, participants reported a drop in quality of life including greater difficulty doing their usual activities and increases in anxiety, depression and pain.
12. Outcomes were worse in working age females than males. Females under 50 were over five times more likely to report incomplete recovery, over five times more likely to report a new disability, more likely to have severe fatigue, and more than six times more likely to report increased breathlessness than males under 50. The long-term impact of post-COVID syndromes on the working age population is not well-understood but is may be very significant.
13. Participants who had required invasive ventilation were four times more likely to report an incomplete recovery compared to those who had not required supplementary oxygen.
14. The most effective way to reduce prevalence of these syndromes is to reduce the prevalence of COVID-19 (high confidence). The impact of vaccination on reducing prevalence of these syndromes is not yet known; post-COVID syndromes can occur after mild disease and the impact of vaccination on mild disease is not yet entirely clear.
15. Further work is underway including studies in people who have not been hospitalised and work to bring together different studies to better understand the overall impact of these syndromes. It will be important to have a better understanding of physiology including oxygen levels, lung function and evidence of scarring.

ACTION: National Core Studies (Nishi Chaturvedi) to provide an overview of the work being done on post-COVID syndromes, including evidence on workforce impacts, and to share insights as they emerge with GCSA, CMO and Senior Clinicians Group.

List of actions

PHE to lead a group to identify whether there are any common characteristics between areas which are continuing to see high levels of transmission.

Maria Zambon to consider running a study comparing results of PCR tests, lateral flow tests, and virus culture both between individuals and longitudinally within individuals.

CMO and **Peter Horby** to consider the need for advice on management of immunocompromised patients with COVID-19.

National Core Studies (Nishi Chaturvedi) to provide an overview of the work being done on post-COVID syndromes, including evidence on workforce impacts, and to share insights as they emerge with GCSA, CMO and Senior Clinicians Group.

Attendees

Scientific experts (34): *Patrick Vallance (GCSA), Chris Whitty (CMO), Angela McLean (MOD), Calum Semple (Liverpool), Catherine Noakes (Leeds), Charlotte Deane (UKRI), Charlotte Watts (FCDO CSA), Graham Medley (LSHTM), Harry Rutter (Bath), Ian Boyd (St Andrews), Fliss Bennee (Wales), Janet Scott (Glasgow), Jeanelle de Gruchy (ADPH), Jeremy Farrar (Wellcome), Jenny Harries (DHSC), John Edmunds (LSHTM), Jonathan Van-Tam (dCMO), Kamlesh Khunti (Leicester), Linda Partridge (Royal Society), Lucy Yardley (Bristol/Southampton) Maria Zambon (PHE), Mark Walport (UKRI), Mark Wilcox (NHS),* [redacted] *Michael Parker (Oxford), Nisha Chaturvedi (UCL), Peter Horby (Oxford), Sharon Peacock (PHE), Sheila Rowan (Scotland, CSA) Stephen Powis (NHS England), Stuart Elborn (NI), Wei Shen Lim (JCVI), Wendy Barclay (Imperial), and Yvonne Doyle (PHE).*

Observers and government officials (24): *Alan Penn (MHCLG CSA), Andrew Curran (HSE CSA), Andrew Morris (HDR UK),* [redacted] *Ben Warner (No.10), Daniel Kleinberg (Scotland),* [redacted] *Gideon Henderson (DEFRA CSA), James Benford (HMT), Jennifer Rubin (HO CSA), Jim McMenamin (Health Protection Scotland), Julian Fletcher (CO), Laura Gilbert (No.10),* [redacted] *Osama Rahman (DfE, CSA),* [redacted] *Paul Monks (BEIS CSA),* [redacted] *Phil Blythe (DfT CSA),* [redacted] *Rob Harrison (CO), Robin Grimes (CSA) and Tom Rodden (DCMS CSA).*

Secretariat (all GO-Science) (14): [redacted] *Simon Whitfield,* [redacted].

Total: 72