SPI-M-O: Consensus Statement on 2019 Novel Coronavirus (COVID-19)

Date: 2nd March 2020.

Incidence

1. It is highly likely that there is sustained transmission of COVID-19 in the UK at present. It is almost certain that there will be sustained transmission in the UK in the coming weeks.

Reproduction number and doubling time

2. The basic reproduction number (R_0) is the average number of secondary infections produced by a single infected individual in an otherwise entirely susceptible population. This is a measure of the epidemic potential of an infection. The critical issue is whether R_0 is greater than one. The doubling time is the time it takes for the number of new infections to double in size.

3. Both the reproduction number and doubling time are dependent on the characteristics of the population so may be different in the UK, and may be different in different groupings within the UK.

4. The reproduction number seen in the city of Wuhan in the early stages of the outbreak is estimated to have been in the region of 2 – 3.

5. If a reproduction number in the region of 2 – 3 occurred in the UK it would correspond to around 80% of the population becoming infected. Not all of them would be symptomatic.

6. Our best estimate for the doubling time seen in Wuhan is 4 – 6 days.

Transmission and control

7. Population-wide reduction in contact rates will impact transmission. The effectiveness of any non-pharmaceutical interventions will depend on adherence rates, the extent of reduction in contact, and the role of asymptomatic cases and children in transmission.

8. Measures which reduced contact rates would be expected to flatten the peak of a UK epidemic and extend it to some extent. They are unlikely to greatly reduce the overall clinical attack rate.

9. More stringent measures, or a combination of measures would be expected to have a greater impact. Were they to have such a large impact on transmission that the reproduction number could be reduced to somewhere in the region of 1, a large increase in cases would be expected once they were lifted.