SPI-M-O: Statement on events and gatherings

Date: 19th August 2020

Statement following discussion of SPI-M-O of work by Warwick University

FINAL - REISSUED 20TH AUGUST FOLLOWING FEEDBACK FROM SAGE

1. In early advice to SAGE, SPI-M-O advised that the cancellation of large events would have only a modest direct impact on the progression of the epidemic. This was in the context of increasing prevalence where the proportion of transmission occurring in gatherings of hundreds of people is very likely to have been very small, compared to other environments such as in homes, workplaces and leisure facilities such as pubs. Essentially the argument was that shutting large gatherings might lower the reproduction number R, for example, from 2.9 to 2.7.

2. Since then, behavioural and environmental changes – both voluntary and legally enforced – have reduced transmission by about two thirds in line with a strategy of keeping incidence low and therefore the reproduction number R below 1. In this context, a relatively small absolute increase in transmission has a much larger relative impact on R, particularly whilst R is close to 1 when it could result in R exceeding 1 and therefore a return to exponential growth of the epidemic. This paper cautions that the same absolute increase (say from R =1.1 to R=1.3) would represent a material change in circumstances. In both situations, the consideration is about the incremental difference that large events have compared to not having them. This paper offers advice to SAGE on gatherings more broadly, not just those which are large scale. The overall impact on all such gatherings is anticipated to be much more significant than large gatherings alone.

3. The risk of COVID-19 transmission taking place at an event or gathering will depend on the prevalence of infection at that time. Although it is relatively low at the moment, the reproduction number is around 1. Permitting larger gatherings is likely to help escalate the increase in R that SPI-M expects to see over the next few months, as more restrictions are relaxed and we move towards Autumn. This will create a feedback loop where such events become more and more risky as time goes on.

4. The risks of permitting a type of gathering broadly fall into two categories: the risk of cases (and severe cases) that directly result from the event, and the wider impact on R. Larger events tend to happen less frequently than smaller ones, such as family gatherings and pub visits, and will therefore will have less of an impact on overall transmission rates. The

more people that are in close proximity, however, the greater the potential for a superspreading event to occur.

5. There is a misconception that close contact for less than 15 minutes is very low risk. Although the longer the close contact leads to greater risk, close contact with 15 people for 1 minute each has a greater risk than close contact with 1 person for 15 minutes. Similarly, the number of potential close contacts at a social gathering increases with the square of the number of attendees; the number of potential transmission events increase much more quickly than the number of people gathering.

6. It is not only the event itself that can increase risk of transmission – some large-scale events will bring attendees from different parts of the country (and world) together. This has the potential to spread infections from high prevalence areas to low ones.

7. For many large gatherings, particularly those held outdoors, risk from activities associated with the event or incidental parts of it may be greater than from the gathering's main purpose. For example, if an outdoor sporting event were permitted with physically distanced spectators, the risk of transmission from transport, entry points, hospitality boxes, and spectators meeting in pubs before or after the event is likely to be as high or higher than the event itself.

8. Some types of large events, such as conferences, were associated with outbreaks in the early stages of the epidemic. It is critical that the National Institute for Health Protection monitors the environments where outbreaks occur so that riskier activities can be paused when R exceeds 1. Pilot events should provide an opportunity to understand whether attendees are able to comply with and adhere to the relevant mitigation measures that each event puts in place.

9. When determining the risk of different types of event, several factors should be considered. The table below gives a qualitative categorisation by SPI-M of different classes of event. By its nature, this is a subjective assessment to some extent. The table is non-exhaustive and there will be variation of risk within each event type.

10. The different categories are:

    - **Frequency** at which such events happen. The more common the event is, the greater the likely impact on R, even if each particular event is low risk.
    - **Numbers of attendees** (at each event). Larger numbers clearly correlate with an increased risk of at least one attendee being infectious; larger events also pose greater risk for a large-scale outbreak. A distinction should be drawn, however, between the number of attendees and the number of effective contacts made at the event.

- **Likelihood of attendance by mildly unwell participants**. It is now widely accepted that asymptomatic and mildly symptomatic infection can lead to onward transmission; if events are sufficiently rare or important to an individual, they may attend even if unwell, increasing the potential risk of secondary cases.
- **Risk of transmission** if one person infected. If an infected person attends, the nature of the event will determine the risk of infection to others. This depends on many factors such as: indoors vs outdoors, density of attendees, and the volume of speaking, cheering or singing at the event. Further consideration of each of the types of event below should be undertaken by environmental experts.
- **Ability to trace and isolate contacts**. If an outbreak occurs at any mass gathering, it is important that NHS Test and Trace noticee it quickly and that attendees can be easily traced, especially those who have had close contact with identified cases.
- **Elderly and vulnerable in attendance**. Events in which there are high numbers of older and more vulnerable individuals attending pose a greater direct health risk.
- **Most risky aspect** (if managed well). For some events (such as outdoor sports) simply being a spectator may pose very little risk. Activities associated with the event, such as post-match drinks, corporate hospitality, or accessing facilities, however, may pose a much higher risk of random, close-proximity, and uncontrolled mixing.

11. There are important behavioural considerations with each sort of event, as well as environmental factors of importance. They lie outside the expertise of SPI-M and should be considered by SAGE with the input of SPI-B and the Environmental Modelling Group (EMG).

Event	Frequency	Numbers attending each event	Attendance by mildly unwell participants	Risk of transmission if one person infected	Elderly in attendance	Ability to trace & isolate contacts	Most risky aspect (if managed well)
Family celebrations	Very common	Low / Moderate	Likely	Very High	Likely	Yes	All
Theatre & indoor performances	Common	High	Probable	Low / Moderate	Likely	Yes, for nearby seats only	Facilities, intervals, entry / exit
Arena & stadium events (music / indoor sports events)	Less Common	High	Probable	Moderate	Possible	Yes, for nearby seats (if seated). Otherwise no.	Facilities, entry/exit. Pre- or post-event activities
Conferences	Less Common	High	Unlikely	Moderate	Unlikely	Too many to effectively isolate	Facilities, entry / exit, evening events
Trade shows	Less Common	High	Unlikely	Moderate	Unlikely	Too many to effectively isolate	Facilities, entry / exit
Outdoor sporting events	Common	High	Possible	Very low	Likely	Yes, for nearby seats only	Facilities, entry / exit. Pre- or post-event activities
Corporate Hospitality	Common	Medium	Likely	High	Likely	Yes	All

Lowest Risk Low Risk Moderate Risk High Risk