SPI-B consensus on the reopening of large events and venues

General summary

Introduction

The risk of transmission at a large venue/event will depend on the specific context, including likely levels of infection among participants, the design of the environment, and the nature of the event and the audience. It is not possible to provide a single guide to how risky particular classes of venue/event will be or how best to mitigate the risks. Rather, we explain the general principles governing risk in large events, the factors which influence how specific risks are likely to vary between events, and potential methods of mitigating risks. These principles can inform the development of risk assessments and mitigation plans specific to each venue/event, which should be co-produced by all relevant stakeholders and tailored to the specific context.

Risks posed by large events and venues

- Large venues and events – particularly those held indoors - typically pose high risks of transmission due to mixing of large numbers of people from different social networks who share a sense of identity.
- The shared sense of identity is often expressed through behaviour which increases the risk of transmission, such as seeking close proximity, sharing food and drink, hugging, singing, cheering, dancing and jumping. These behaviours may also be enhanced by alcohol use.
- A comprehensive analysis of risk must not only analyse what happens at the event/venue itself but also during travel and congregation before and afterwards. It must also take into account the risks involved in not holding/banning events.

Mitigating these risks

- Behaviours that reduce transmission should be enabled by adaptations to the environment, such as lowering the density of people in all spaces, mandating wearing of face-coverings, providing ventilation and multiple hand-sanitising stations and minimising surfaces requiring contact.
- These adaptations to the venue should be supplemented by interventions that shape group norms to discourage behaviours that increase risk of transmission and encourage those that reduce it. Such interventions will only be effective if developed with group members themselves in advance of events, are supported and demonstrated by respected group members (including performers at an event) and are systematically communicated before and during events. Note that behaviours that are central to the group identity will be more resistant to change.
- All mitigation measures and communications should be co-produced with and implemented by all relevant stakeholders, including venue/event organisers and workers, participants (e.g. fan clubs) and performers.
- Condition of entry could be made dependent upon agreement to adhere to required behaviours e.g. wear face covering, avoid cheering and jumping.

Research recommendations

- Pilot trials are needed for a range of different types of event, and should scientifically evaluate how well transmission risk has been mitigated and the barriers and facilitators to behaviours which reduce transmission, using observational data (e.g. based on CCTV footage and wearing of electronic sensors). and self-report data.
- Where possible, experimental evaluation should be used to test feasibility and effectiveness of potentially important mitigation measures (e.g. effects of limiting/prohibiting sale of alcohol, feasibility of discouraging risky normative behaviour such as cheering and jumping).

SPI-B: Summary advice on large events and venues

Date: 17 August 2020

This commission response describes the key variables that we suggest will affect behaviour in the context(s) of the re-opening of large events and venues. It addresses the questions set for us in the commission through presenting what is known from (1) previous SPI-B advice/ evidence (2) research evidence from non-pandemic conditions (3) research events from during the pandemic, and (4) relevant theory. Policy practice implications are not part of the brief. However, where there are clear practice and policy implications, we draw these out.

QUESTION 1: How do we model and quantify the risks of transmission associated with these different forms of events in terms of the overall impact on managing the ongoing epidemic?

[No response required from SPI-B]

QUESTION 2: How do we understand the risks of transmission associated with these events and can we understand the particular sources of risk to best inform risk assessment and guidelines?

[No response required from SPI-B]

The risk of transmission will be heavily dependent on the specific context. This is true in terms of (a) levels of infection in the local area; (b) the design of the environment in which events take place; (c) the nature of the event and the audience including, the ways in which the identities and social norms of the groups involved impact behaviours which facilitate or prevent transmission. When considering risks around transmission, the number, density, age and distance travelled by participants when attending large events will also play an important role. Thus, a differentiated approach will be needed for different types of events, as well as different periods and pinch-points within a single event.

As a consequence of this diversity and complexity, it is not possible to provide a single guide to how risky different classes of venue/event will be or how best to mitigate the risks. Rather, we explain the general principles governing risk in large events and the factors which determine how specific risks vary between events. In this way, we provide an understanding of the process by which risk assessments and mitigation plans should be conducted based on the premise that these must be co-produced by all relevant stakeholders for each venue/event, and tailored to the specific context.

In addition to the risks associated with events taking place, it is also important to consider the risks of events not taking place. For instance, if people are banned from attendance at

events such as football matches (which are in outdoor stadia) will they then congregate in bars to watch (which, being indoors, create a greater risk of transmission)? Moreover, if particular events are banned (say pop concerts) while others are allowed to go ahead (say classical concerts), and when this maps on to important demographic differences in the audiences affected (age, social class), then even when there are good epidemiological reasons for the decision (singing, dancing and touching are more likely at the pop concert which increases risks of transmission), it may nonetheless be seen as illegitimate, undermine compliance and even lead to collective conflicts.

QUESTION 3: How do the key psychological variables in influencing crowd behaviour at these different classes of event (e.g., higher risk activities such as singing, chanting ad dancing, alcohol use, food sharing, group identities, group norms, relationships with other groups such as staff) contribute to the risk associated with these events?

'Large events' as defined in this commission (outdoor performances, arena events, stadium events, theatre and indoor performances, family celebrations, business and academic conferences) typically involve psychological crowds in which people have a sense of shared social identity or 'we-ness'. This can make behaviour very different from that of other kinds of large physical crowds in other settings such as, for example at shopping centres, transport hubs and beaches. The shared sense of identity creates the conditions for extensive interaction between people who normally belong to different social networks (e.g. geographically, occupationally).

Crowd Psychology

Shared identity can lead to a number of important behavioural changes in crowd members:

a) They become more trusting and intimate with each-other, even if strangers - interacting more, getting closer and touching more, talking more, moving together, sharing food, drink, clothing and other resources more;
b) They become more concerned for each other's well-being, helping and supporting each other more;
c) They become more concerned with the collective fate and collective interest, even being prepared to sacrifice individual concerns for the good of the group.

On the one hand, these processes and behaviours (especially enhanced intimacy) can increase the risk of infection. On the other, these processes – especially mutual concern and willingness to sacrifice for the general good - can be harnessed to mitigate risk by encouraging people to reshape their practices and act in COVID safe ways that protect the group.

Crowd Norms

In crowds, those participants sharing an identity will act in terms of group norms. These will be very different for different identities with important implications for high-risk behaviours identified in the commission (such as singing, chanting and dancing, alcohol use, food sharing).

- Any risk assessment must therefore take note of the relevant identities and norms for a specific event

- A major focus must be on how to shape group norms to reduce transmission risk. It is important to recognise that some behaviours – especially those which are more central

to the group identity - will be very difficult or even impossible to change (e.g. jumping and cheering when a goal is scored at a football match). Nonetheless, working with group members themselves, it may be possible to develop new and less risky behavioural forms for the expression of group norms – such as expressing enthusiasm for one's team by stamping or clapping rather than shouting.

- Different events will also have different periods of increased risk. For example, during a football or rugby match, risk will increase exponentially at half time where those present will normatively congregate on concourses to get access to refreshments and toilets as well as celebrate their identity.

- Some of these risks could potentially be mitigated (e.g. through serving refreshments to fans in their seats and retaining the 'quarter time' break to allow more times where people can go to the toilet without missing play; encouraging standing and clapping rather than cheering to express enthusiasm for performance, goals etc).

QUESTION 4: Are the types of proximity, intimacy and other behaviours normally occurring at different kinds of events affected by the post pandemic context (risk perception, understanding of the current rules)?

Spatial distancing behaviour – how close people seek to be when they stand, sit and move together – varies between types of gatherings and the venues within which they occur (e.g. seated venues restrict migration in ways that are different from unseated venues).

Increased proximity is likely to be the case both at the event as well as in areas leading up to and following the event. Individuals normally seek to maintain personal space from strangers. However, as noted above, where large events incorporate psychological crowds it is much more likely that strangers feel comfortable in very close proximity, and may actively seek to gather together both before events (e.g. meeting up in pubs and walking to the venue) during the event (gathering on concourses) and especially afterwards (e.g. congregating in bars in town centres, where high risk behaviour may be less restricted than at the venue).

If and where venues reopen, it will be vital to mitigate these tendencies by giving messages that promote protective health behaviours (such as physical distancing, mask wearing and hand hygiene) with messages rooting them in both generic and specific group norms (to show you care for fellow fans, wear a mask; we care for each-other, we keep our distance etc.)

Resuming high risk activities on a large scale could potentially signal to the population that the infection risk is now negligible, thus encouraging lower adherence to Covid-secure behaviour in other contexts. The process of reshaping group practices and norms not only acts to mitigate against specific risky practices, it also sends a general signal that things are not 'next to normal'. Moreover such mitigations provide a demonstration of how activities can be resumed while maintaining public safety.

QUESTION 5: What are the key health behaviours required to deliver a COVID-19 safe event? What percentage of attendees will need to comply? What kinds of communication can better enable members of the public and event staff to engage in their behaviours?

The key behaviours to deliver a Covid-19 safe event are those previously recommended:

- physical distancing
- wearing face coverings
- avoiding loud vocalising/energetic movement causing aerosol generation
- hands regularly washed/sanitised

- open air or very good ventilation
- frequent cleaning of shared spaces and surfaces

Each of these can be enabled by the environment in, around and travelling to the venue through the following:

- Limited access/density, staggering entry and exit and effective management of the flow of people in and around the venue;

- Required wearing of face coverings (with special arrangements for those unable to wear them);

- Reminders for Covid-secure behaviour (e.g. to abstain from loud vocalising/energetic movement)

- Hand hygiene stations at multiple points in the venue;

- Minimal shared surfaces that require touching e.g. contactless doors & lavatories;

A communication strategy should aim to make the behaviours listed above into new norms i.e. internalized as an inherent part what it means to be one of the relevant group – and, conversely, to make risky behaviours (such as physical closeness, loud vocalising and sharing food and drink) at odds with being a good group member.

QUESTION 6: How might we manage these events and best communicate with the various stakeholders (e.g, event staff, members of the public (attending), local business and community groups) about these events both during the event and in terms of the strategy for opening up these events?

There are four elements to creating and encouraging new norms for safer spaces at events and venues:

1. Ensure that the venue is organised in such a way as to make desired behaviours (such as distancing) possible and employ all the facilities in the venue (from loudspeaker announcements to scoreboard displays) to promote the core communication strategy.

2. Draw on an understanding of the relevant group identity, and to invoke higher-order group values (e.g. 'we look after each other') in order to promote the new norms. For example, the event could supply face coverings with identity relevant logos. Wearing the face covering signals common group membership.

3. Messages should address not only what group members *should do*, but also what *they are typically doing*. The role of performers will be important here - for example, in a football match it will be important that football managers and players not to hug and shake hands with the opposition and musicians should discourage singing along or cheering/whistling in order to secure an encore.

4. Messages must be seen as the voice of the group itself, rather than imposed from the outside. Critically, this means involving group members (e.g. fan groups) and performers even before venues are re-opened in the development of the new norms. The principle of co-production is particularly important in this context.

QUESTION 7: What are the most effective mitigation measures to reduce risks of transmission that are suitable for these different events and venues?

It is critical to recognise that attendance at large events is often a ritual in which what happens before and after the event is as critical as the event itself. Moreover, it is important to manage travel to the venue to avoid a rush of people leading to overcrowding. This could include staggering travel, entry and exit times and requires careful coordination with transport providers. It is perhaps worth investigating how this was done in the case of the London Olympics, where a combination of different communication strategies successfully managed the scheduling of movement of thousands of people round crowded public transport systems for the events.

There is growing evidence that aerosol-generating activities can substantially increase transmission (and face coverings cannot eliminate transmission, especially if not very well fitted), it will be necessary to establish rules and norms for minimising the impacts of these activities. Measures for creating and encouraging safer spaces at events and venues may include:

- Low density
- One-way flows of people in the venue
- Ventilation
- Effective, frequent cleaning
- Provision of hand sanitising stations at multiple points in the venue
- COVID-safe lavatories – i.e. require no touch and effective management of flow through lavatory spaces and queuing into them.
- Condition of entry dependent upon agreement to adhere to specific behaviours e.g. wear a face covering, replace cheering and jumping with clapping/waving and standing
- Access to refreshments via service to attendees in their seats

As above, mitigation involves a co-production strategy that should operate at two levels.

- The first is to work with venue organisers and workers to help them understand and implement the principles we propose. This could include training courses and materials either as compulsory or as recommended for staff before re-opening.

- The second is to work with representatives of the audience group (say fan clubs in the case of sports events) in order to discuss new COVID safe practices and how to communicate them. This work needs to start well in advance of reopening

It is important to consider the issue of incentivisation in order to ensure that crowd members adhere to COVID safe practices. On the one hand, there are occasions where individual incentivisation is possible. That is, in football grounds where season ticket-holders sit in allocated seats and there is CCTV technology, then violation of COVID regulations could lead to sanctions such as being barred from the ground. On the other hand, it may be possible to use collective incentives. That is, as with racist chanting or violent behaviour, violations of the regulations could lead to sanctions against the venue (from fines to being closed down or, in sports contexts, docking of points). In this way, such violations would be subject to group pressure since they would undermine the group interest.

QUESTION 8: What are the most efficient study designs for pilots and evaluations of actual events to best inform strategies for opening events with minimal risk of transmitting the virus?

Venues should pilot the running of events at capacity below that estimated to be safe for the events that are likely to take place. In some cases (e.g. the football leagues) pilots may be planned anyway and we may be able to take advantage of these for data collection. In other cases, pilots may need to be created and overseen by the Local Authority as a condition for licencing.

Pilots should be designed so as to investigate the impact of key variables on behaviour, using experimental designs where feasible to evaluate the impact of different communication and mitigation strategies. It will be important to collect a range of types of data including direct measurement of behaviour (e.g. digital (GPS), and CCTV), questionnaire data, interview data and ethnographic data. The data need to address a range of constructs including sense of shared identity, perceptions of group norms, normativity of risk avoidant behaviours etc.

Conclusions

The core of our response is rooted in the understanding that the majority of the events covered by this commission are ones in which people have a sense of shared identity in a crowd. A shared identity - and hence high trust and intimacy - can create behaviours that pose greater risk for the spread of virus among large social networks which will not normally be connected.

Understanding that behaviour is governed by collective processes helps predict (a) how crowd members are likely to act (including with regard to risky behaviours), and (b) how to change behaviours in order to mitigate against risk.

People at different venues will have different identities and norms and this needs to be taken into account both when making risk assessments and when devising mitigations and communications to reduce risk.

The tendency to get closer to other ingroup members is a variable which can be modified or mitigated by adaptations to the environment (including lowering the density of people in a space, mandating wearing of face-coverings, providing multiple hand-sanitising stations and ensuring minimal surfaces requiring contact) and by reinforcing and shaping new norms that will be accepted by people if they are understood as identity-congruent.

For all these events, but perhaps in particular the larger ones, socializing during travel and locally before and after the event poses further risks, since organizers will have less influence so a multi-stakeholder co-production approach is important.