

Large Events and Venues

SPI-B Extended Paper – Behavioural evidence of reopening of large events and venues

Response to DCMS commission

Version 2.0

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DCMS is requesting support to help it issue guidance as to which events can be opened up, and the mitigation measures which should be considered in order to reduce the risks of transmission to a sufficiently safe level.

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/evidence¹ (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.

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 on-going epidemic?

Mathematical models of the likely spread of the virus at events and gatherings might make assumptions about the behaviour and psychology of people at such events.² Therefore it would be useful for this subgroup/SPI-B to work with SPI-M on some of the key variables to be included in any modelling.

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?

We share the concern expressed in the commission document: ‘The number, density, age and distance travelled of participants are all concerns.’

More generally, it is important to recognise that the risks are not confined to the event itself. In many cases, attendance at the event is integrally bound up with activities outside the event: travelling to the event, meeting at the pub, walking together to the venue, entry and exit,³ going back to the pub afterwards. Hence it is important to consider behaviour in all these sites (which is generally less controlled and less surveilled than at venues) and also to consider how people travel to and from large events. Careful consideration and resourcing is needed to manage this. This could include staggering travel, entry and exit times. It is perhaps worth investigating how this was done in the case of the London Olympics, where a combination of different

¹ On SPI-B advice on restricting events, see ‘SPI-B insights on public gatherings’ (12 March 2020)

² Templeton, A., Drury, J., & Philippides, A. (2015). From mindless masses to small groups: Conceptualising collective behaviour in crowd modelling. *Review of General Psychology*, 19(3), 215-229. doi.org/10.1037/gpr0000032

³ SPI-M-O: Consensus Statement on events and gatherings (19th August 2020)

communication strategies successfully managed the scheduling of movement of thousands of people round crowded public transport systems for the events.

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 crowds 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 adherence and even lead to collective conflicts.^{4 5 6}

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 and dancing, alcohol use, food sharing, group identities, group norms, relationships with other groups such as staff) contribute to the risk associated with these events?

Group identities

With the possible exception of trade shows, all the types of gatherings covered in this commission (i.e., outdoor performances, arena events, stadium events, theatre and indoor performances, family celebrations, business and academic conferences) are typically different from other common types of gathering (e.g., at shopping centres, transport hubs, beaches) in certain key respects. In the case of the gatherings covered in this commission, people typically attend to be with other people and in particular other people with the same aims and interests as themselves. The crowds at these events are typically made up of one or more *psychological crowds* – to varying degrees, they share a social identity and see themselves as a ‘we’ or ‘us’ in that context. Where the events are sporting events, there will generally be two or more such psychological crowds (e.g. representing fans of each team, with police possibly seen as a further group). Other than for business and academic conferences, people typically attend these events in pairs or groups rather than as single individuals. However, because they see the rest of the crowd at the event as ‘us’, they interact with strangers differently (in terms of both quality and quantity) than they would do in mere physical crowds where there is no sense of shared identity or psychological unity, such as those at a shopping centre or transport hub. In addition, many of the crowds who attend these events exist also as networks outside the event itself, meaning that at each event there will be a number of others that people already know, even if just as acquaintances. This creates the conditions for extensive interaction between people who normally belong to different social networks (e.g. geographically, occupationally).

⁴ Reicher, S.D, & Stott, C. (2020). On order and disorder during the COVID-19 pandemic. *British Journal of Social Psychology*, 59(3), 694-702.

⁵ Public Disorder and Public Health: Contemporary Threats and Risks SPI-B Policing and Security sub-Group (SPI-B paper, July 2020)

⁶ ‘SPI-B insights on public gatherings’ (12 March 2020)

Compared to being in a physical crowd (e.g., shopping centre crowd), among people in a psychological crowd there will be more:^{7 8 9 10 11 12 13}

- Interaction/ talking
- Intimacy/ touching
- Mirroring of actions and emotions
- Coordinated movement/ joint action
- Mutual trust
- Mutual concern
- Mutual helping
- Willingness to make personal sacrifices for others and for the collective good

Crucially, this will be the case among strangers and casual acquaintances in the crowd, as well as within groups of friends/ family.

In addition to these factors shaping behaviour in a psychological crowd, their behaviour will be shaped by the physical environment of the venue including the flow and density of people in the space. This is elaborated upon in the section below on the key health behaviours to deliver for a COVID-19 safe event.

Norms

There are generic or societal norms that shape behaviour at these kinds of events (e.g. politeness conventions) but also group norms specific to the culture or genre of the event, and these moderate the behaviours characteristic of psychological crowds. For example, all queues outside music venues are social systems with sets of rules (e.g. no pushing in) but some artists' followers may have a specific set of additional rules of the queue.¹⁴ To take another example, at some rock concerts, intense physical contact (in the form of moshing)¹⁵ looks uncontrolled

⁷ Neville, F., & Reicher, S. (2011). The experience of collective participation: Shared identity, relatedness and emotionality. *Contemporary Social Science*, 6(3), 377-396.

⁸ Drury, J., Novelli, D., & Stott, C. (2015). Managing to avert disaster: Explaining collective resilience at an outdoor music event. *European Journal of Social Psychology*, 4, 533–547. doi: 10.1002/ejsp.2108

⁹ Hopkins, N., Reicher, S., Stevenson, C., Pandey, K., Shankar, S., & Tewari, S. (2019). Social relations in crowds: Recognition, validation and solidarity. *European Journal of Social Psychology*, 49(6), 1283-1297.

¹⁰ Cruwys, T., Stevens, M, Greenaway KH. A social identity perspective on COVID-19: Health risk is affected by shared group membership. *British Journal of Social Psychology* 2020 May 31;59(3):584-593. DOI: <https://doi.org/10.1111/bjso.12391>

¹¹ Hopkins, N., & Reicher, S. D. (2017). Social identity and health at mass gatherings. *European Journal of Social Psychology*, 47(7), 867-877.

¹² Neville, F. G., Novelli, D., Drury, J., & Reicher, S. D. (2020). Shared social identity transforms social relations in imaginary crowds. *Group Processes & Intergroup Relations*, <https://doi.org/10.1177/1368430220936759>

¹³ Templeton, A., Drury, J., Philippides, A. (2018). Walking together: Behavioural signatures of psychological crowds. *Royal Society Open Science* 5, 180172. <http://dx.doi.org/10.1098/rsos.180172>

¹⁴ Helweg-Larsen, M., & LoMonaco, B. L. (2008). Queuing Among U2 Fans: Reactions to Social Norm Violations 1. *Journal of Applied Social Psychology*, 38(9), 2378-2393.

¹⁵ Spencer, J. (2014). Ten rules of moshpit etiquette. *Citypages*

and even violent to outsiders, but moshing is limited to the ‘pit’ area in front of the stage and is structured by a set of rules that limit the ‘violence’.

A key point about all the high-risk behaviours identified (singing, chanting and dancing, alcohol use, food sharing) is that they tend to be normative. This means several things. First, it means that they will be valued, encouraged, and expected in the group. Second, it means that people join in with them when others start. Third, even when people are more emotionally involved and apparently uncontrolled, they continue to act in line with these norms (rather than abandon them).

Certain kinds of music events are likely to have greater risk potential, in terms of free movement between people (rather than seating), consumption of alcohol which can lead to greater risk taking¹⁶, and the fact of loud noise which means people will have to shout and stand closer to each other to communicate.

Because many of these behaviours are normative, trying to prevent them by ‘policing them out’ can become a source of conflict and loss of trust with authorities. For example, trying to prevent football fans from celebrating a goal by jumping up and down and cheering. Simply banning these behaviours and punishing those who ignore the ban is likely to be seen as illegitimate.¹⁷ This is also true for attempts to ban alcohol in the context of football, which can have unintended consequences of increasing other forms of risk.¹⁸

However, it may be possible to work with crowd members to develop less risky expressions of these norms¹⁹ (for instance, finding alternative ways of expressing passionate commitment for one’s team besides chanting, shouting and hugging when goals are scored) – this will be discussed in greater detail below. We also address ‘relationships with staff’ below.

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)?

This question is intended to help us understand the extent to which trends in public beliefs, attitudes and behaviours that have been occurring with the easing of lockdown are likely to affect crowd behaviours at the events in question. We put our answer in context by summarizing what is known about proximity behaviours (1) in normal times, (2) during the height of lockdown, and (3) during the easing of lockdown

Proximity behaviours at these events pre-pandemic²⁰

Spatial distancing behaviour – how close people seek to be when they stand, sit and move together – varies between types of gatherings as mentioned previously. When personal identity

¹⁶ Graham, K., Wells, S., & West, P. (1997). A framework for applying explanations of alcohol-related aggression to naturally occurring aggressive behaviour. *Contemporary Drug Problems*, 24, 625–666.

¹⁷ Reicher, S., & Stott, C. (2020). On order and disorder during the COVID-19 pandemic. *British Journal of Social Psychology*, 59(3), 694-702.

¹⁸ Pearson, G., & Sale, A. (2011). ‘On the Lash’—revisiting the effectiveness of alcohol controls at football matches. *Policing & Society*, 21(2), 150-166.

¹⁹ Hopkins, N.P. & Reicher, S.D. (in press) Mass gatherings, health and well-being: from risk mitigation to health promotion. *Social Issues and Policy Review*.

²⁰ Drury J., Reicher, S., & Hopkins, N. (2020). Psychology of physical distancing. *The Psychologist*. <https://thepsychologist.bps.org.uk/volume-33/summer-2020/psychology-physical-distancing>

is salient (e.g., in crowds in shopping centres and transport hubs), individuals normally seek to maintain personal space from strangers. In the crowds that attend some sports events, festivals and other music events, and some religious events, it is much more likely that strangers feel comfortable in very close proximity, and the proximity of others is not experienced as an invasion of personal space but as sharing social identity space and therefore something tolerable or even positive.²¹ They may also feel safer in such close proximity.²² In normal circumstances, social interaction happens at a physical distance of about 1 metre,²³ but in psychological crowds a smaller distance is likely to feel comfortable. For example, at music events, many seek out the most dense areas of a venue, and it is here that some say that there is the best ‘atmosphere’.²⁴ At such events, there will be an extremely crowded area in front of the stage (up to 9 people per square metre). The bar area will also often be subject to similar levels of density (although not as deep).

However, it is not just within the venue but in many areas in and leading up to the event that people will tolerate, enjoy and even seek proximity and also engage in forms of intimacy characteristic of psychological crowds (such as touching, coming close to others to speak into their ear, sharing drinks, and greeting others with handshakes, kisses and hugs). This will include on the way to and from the event, in venues around the event (pubs etc.), in the queue, at the bar, at the front and so on.

Finally, it is important to note that while there is a general tendency towards greater proximity and greater intimacy in psychological crowds this can, in certain circumstances, be over-ridden by specific social norms. For instance, in some mass gatherings such as religious gatherings, crowd members express their intimacy with others by giving them space, not interacting with them and so allowing them to devote themselves to spiritual activities.²⁵ As we explain below, this potential for ‘normative over-ride’ may be of use in developing mitigations against proximity at large events.²⁶

Proximity behaviours during the height of lockdown

On a number of self-report measures, during the height of lockdown compliance with the regulation on physical distancing was high – the regular UCL survey for March and April found that over 98% of respondents scoring very high on compliance with less than 0.1% of

²¹ Novelli, D., Drury, J., & Reicher, S. (2010). Come together: Two studies concerning the impact of group relations on ‘personal space’. *British Journal of Social Psychology*, 49, 223–236. DOI:10.1348/014466609X449377

²² Alnabulsi, H., & Drury, J. (2014). Social identification moderates the effect of crowd density on safety at the Hajj. *Proceedings of the National Academy of Sciences*, 111(25), 9091-9096. doi: 10.1073/pnas.1404953111

²³ Sorokowska, A., Sorokowski, P., Hilpert, P., Cantarero, K., Frackowiak, T., Ahmadi, K., Alghraibeh, A. M., Aryeetey, R., Bertoni, A., Bettache, K., Blumen, S., Błażejewska, M., Bortolini, T., Butovskaya, M., Castro, F. N., Cetinkaya, H., Cunha, D., David, D., David, O. A., . . . Pierce, J. D., Jr. (2017). Preferred interpersonal distances: A global comparison. *Journal of Cross-Cultural Psychology*, 48(4), 577–592..

²⁴ Novelli, D., Drury, J., Reicher, S., & Stott, C. (2013). Crowdedness mediates the effect of social identification on positive emotion in a crowd: A survey of two crowd events. *PLoS ONE* 8(11): e78983. doi:10.1371/journal.pone.0078983

²⁵ Reicher, S.D., Hopkins, N.P., Stevenson, C., Pandey, K., Shankar, S. & Tewari, S. (2020) Identity enactment as collective accomplishment: Religious identity enactment at home and at a festival. *British Journal of Social Psychology*.

²⁶ Drury et al. (2020). Psychology of physical distancing. Op. cit.

respondents reported not complying at all with the guidelines.²⁷ The ONS survey for May 15th similarly found over 90% since week 1 of the survey reported avoiding contact with other people when outside their homes.²⁸ Behavioural observations also suggested that distancing behaviours were a new norm in public spaces.²⁹

Trends in distancing behaviours and relevant beliefs/ perceptions that have been occurring with the easing of lockdown

On 20th May, the UCL weekly survey began to report that following all the behavioural regulations (including physical distancing) was down,³⁰ though the ONS survey of 29th May continued to report high levels of adherence to physical distancing.³¹ The easing of some aspects of lockdown, which took place on July 4th, was , and was preceded by a considerable media fanfare (e.g. using terms such as ‘freedom pass’ and ‘end of lockdown’), as well as a public discussion about whether the 2 metre rule would be changed. Both ONS³² and the UCL survey³³ report in mid-July that only about half respondents were consistently maintaining physical distancing. In terms of process or mechanism, these trends are contemporaneous with several factors, all of which could contribute: decline in trust in the government,³⁴ decline sense of national togetherness,³⁵ and decline in perceived risk³⁶.

How these trends might interact with the opening of large events and venues

Changes in general adherence may impact on levels of adherence at large events. In addition, the reopening of large venues may, alongside the reopening of schools, universities and other sites, send a signal³⁷ that the threat of the virus has receded and hence precautions, including

²⁷ Fancourt, D. et al. (2020, April 28) https://b6bdcb03-332c-4ff9-8b9d-28f9c957493a.filesusr.com/ugd/3d9db5_9dec89d6b9c24e45819db478998dc3af.pdf

²⁸ ONS (2020, May 15) Coronavirus and the social impacts on Great Britain. <https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/healthandwellbeing/bulletins/coronavirusandthesocialimpactsongreatbritain/14may2020>

²⁹ Laurier, E. et al. (2020, May 5). Guest blog: Walking in the time of COVID-19. <https://rolsi.net/2020/05/05/guest-blog-walking-in-the-time-of-covid-19/>

³⁰ Fancourt et al. (2020, May 20). https://b6bdcb03-332c-4ff9-8b9d-28f9c957493a.filesusr.com/ugd/3d9db5_cf6736fab93e4fb898d42d8668a350a6.pdf

³¹ ONS (2020, May 29) <https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/healthandwellbeing/bulletins/coronavirusandthesocialimpactsongreatbritain/29may2020#actions-undertaken-to-prevent-the-spread-of-the-coronavirus>

³² ONS (2020, July 17) <https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/healthandwellbeing/bulletins/coronavirusandthesocialimpactsongreatbritain/17july2020>

³³ Fancourt, D. et al. (2020, July 15) https://b6bdcb03-332c-4ff9-8b9d-28f9c957493a.filesusr.com/ugd/3d9db5_dc64263647624fd3842e6521c186aa69.pdf

³⁴ Fancourt et al. (2020). *Lancet* op cit. In much of June-July, the YouGov survey for the Cabinet Office reported high levels of trust in the government and measures taken, but on 15th July the survey reported trust and satisfaction with government performance (information provided) ‘fall to the lowest scores to date’.

³⁵ <https://www.bbc.co.uk/news/uk-53584856>

³⁶ ONS (2020, May 29) op. cit. The YouGov overnight polling data for the period June-July reports relatively unchanged levels of worry about coronavirus. However, on 1st July, as the publicity for the relaxations was at a peak, it also reports a sharp fall in those who think fatalities will increase as social distancing is relaxed.

³⁷ SPI-M-O Consensus Statement on public gatherings, 11/03/2020

behavioural measures such as physical distancing, are less necessary. This could pose a risk for an increase in risky behaviour in general, not just at the large events – at a time when the combination of seasonality and education resuming may actually be substantially increasing infection rates.

At the same time, there are reasons to think that the impact of the existing societal trends on behaviour at large venues and events might be moderated by (1) other trends (2) interventions:

(1) Some sectors of the public are engaging in protective health behaviour on a large and even increasing scale. A recent Policy Institute study (30th July 2020) based on a survey of 2,237 UK residents aged 16-75 found increased levels of mask use and high levels of reported social distancing. Data collected between 17-20 July 2020 indicated that there was a significant increase in mask wearing, up to 70% from 19% in April.³⁸ This was informed by widespread belief (81%) that face masks help reduce the spread of coronavirus. The authors also argued that “Covid-secure” behaviours seem to be sticking, with 90% of respondents reporting that they were staying 2m away from others, and 88% are washing their hands more regularly⁽⁶⁶⁾. While the extent of these behaviours may be overestimated by self-report, and is lower in some sectors of the community likely to attend large venue events (such as younger adults), the growing acceptance and normalisation of protective health behaviours will help to provide a basis for implementing them at public events.

(2) Venues for large events are typically well controlled with surveillance systems and hence better able to regulate protective health behaviours such as mask wearing, physical distancing and increased hand hygiene. In this way, they may actually contribute to normalising such behaviours and increasing their general adoption. In addition, because participants at these events share identities, they also represent opportunities to translate the already normalised protective health behaviours, such as mask wearing, social distancing, and increased hand hygiene, into these crowded places through promotion or reinforcement of new norms – as discussed below.

Downstream risks

As other examples have shown over the course of the pandemic, the public perception that government decisions were incorrect (and required backtracking) has serious consequences for the public’s relationship with the government and hence with the advice the government give out. There was substantial criticism of holding mass events when infection rates were rising in March. If this is again followed by the need for tightening restrictions this is likely to seriously undermine trust in the management of the pandemic. The imposition of renewed restrictions may also lead to dissent and potential conflict, especially if some large events were stopped while other continued.³⁹

To avoid these risks, it is important to reopen with caution, taking particular account of the local context and levels of infection both in the locality and amongst those attending. It is also critical to have a comprehensive COVID Safety plan developed, validated and monitored by Health and Safety inspectors. For all these reasons, it may be premature to re-open in October and we therefore suggest delaying opening till a later date, such as after the New Year by which time it will be clear whether and how the infection rate can (or cannot) be managed successfully.

³⁸ Duffy, B., Allington, D., Beaverk, K., Meyer, C., Moxham-Hall, V., Murkin, G., Rubin, J., Skinner, G., Smith, L., Strang, L., Wessely, S. (2020). Becoming “Covid-secure”: how the UK is getting used to wearing face masks and other precautionary behaviours. The Policy Institute, King’s College London, 30th July 2020.

³⁹ Reicher & Stott (2020) *British Journal of Social Psychology*, op. cit.

We suggest some specific mitigation strategies below.

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 these behaviours?

The key behaviours to deliver a Covid-19 safe event are those previously recommended: physical distancing; face coverings; hands regularly washed/sanitised. In addition, specific behaviours that are commonplace at large events - such as singing, shouting, chanting, hugging, jumping up and down - need to be addressed

- i. Many of these behaviours can be moderated by the environment in the venue:
- ii. Limited access/density and effective management of the flow of people in and around the venue
- iii. Enforced wearing of face coverings (with special arrangements for those unable to wear them)
- iv. Hand hygiene stations at multiple points in the venue
- v. Minimal shared surfaces that require touching e.g. contactless doors & lavatories.

The communication strategy that will enable public and staff to engage with these behaviours is based on what we know about the identity processes and social norms that govern behaviour. The following is adapted from guidance⁴⁰ developed with and for colleagues in live events industry and is currently being employed by crowd safety managers in Denmark and other locations in Europe, and also from analyses of health behaviours at mass gatherings.^{41 42} The objective of the communication strategy is to make the behaviours listed above into new norms for those attending music and other gatherings – 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 and sharing food and drink) at odds with being a good group member. There are four elements to creating and encouraging new norms for safer spaces at events and venues.

First, 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.

Second, draw on an understanding of the relevant group identity, in order to promote the new norms (or rather, to promote new forms of behavioral expression for old social norms). For instance, while it is a basic norm of sport that people express passionate support for their team, and without that the whole activity has little meaning, by working together with group members themselves, it may be possible to develop new and distinctive way of expressing that passion (stamping, clapping etc.) that are of lower risk than shouting or singing.

These new forms of expression can then be validated and made normative by associating them with higher-order group values ('we look after each other'; 'we are prepared to suffer a little inconvenience for the good of the group'). In this way, adhering to mitigations becomes a way

⁴⁰ Drury et al. (2020) Psychology of physical distancing op. cit.

⁴¹ Hopkins, N., & Reicher, S. (2016). The psychology of health and well-being in mass gatherings: A review and a research agenda. *Journal of Epidemiology and Global Health*, 6(2), 49-57.

⁴² Hopkins, N., & Reicher, S. (2016). Adding a psychological dimension to mass gatherings medicine. *International Journal of Infectious Diseases*, 47, 112-116.

of demonstrating commitment to (and hence acceptance in) the group and its shared values. This message can be built into the mitigations themselves. For example, event organisers could provide masks with identity-relevant logos (e.g. club crests) and messages.

It should also be stressed that unsafe behaviours put fellow group members at risk and not only within the venue; they also put everybody's families at risk and also the entire community at risk. This in turn would present a major risk to the standing of the group in the community.

More concretely, messaging designed to promote COVID-safe behaviours should centre on presenting these behaviours as:

- For our greater good
- For our public health
- For keeping those we care about safe
- In line with our values
- As a way of showing solidarity
- Because they are good citizens
- As a way of expressing who we are

Third, it is important that messages address not only what group members *should do* (so-called 'injunctive norms'), but also what they *are typically doing* ('descriptive norms')⁴³. Messages which convey examples of bad practice and say 'don't do this' can easily backfire because they can suggest that many people in our group are behaving like this anyway, even if they know they shouldn't. Consequently, it is important to provide concrete examples of people showing concern for each other by keeping their distance (instead of hugging or sharing). It is particularly important that prominent individuals (e.g., players and club officials at a sports event or performers at a concert), who represent prototypes or norm-definers for the group, scrupulously observe restrictions such as not hugging each other after a success or shaking hands with the opposition.

Fourth, the source of information is as important as its content. Any attempt to change norms from the 'outside' will be useless at best and could actively rebound. This must be an activity co-produced with and led by the group itself. Equally communications are unlikely to be listened to if they are just imposed on a group from the outside. It is crucial that the messages are seen as the voice of the group itself, and this too means involving group members in the development of the new norms⁴⁴. Well-known and respected members of the group who are seen to embody the collective values should be the face and the 'voice' of any messaging campaign. These messages should be reinforced by performers and players at an event. Messages can be disseminated via mass and social media. Feedback should be sought from group members in order to develop and refine the messages. In sum, reconfiguring group norms must be something that is done *with* and not *to* a group.

⁴³ Cialdini, R. B., Demaine, L. J., Sagarin, B. J., Barrett, D. W., Rhoads, K., & Winter, P. L. (2006). Managing social norms for persuasive impact. *Social Influence*, 1, 3-15

⁴⁴ Bonell, C., Michie, S., Reicher, S., West, R., Bear, L., Yardley, L., ... & Rubin, G. J. (2020). Harnessing behavioural science in public health campaigns to maintain 'social distancing' in response to the COVID-19 pandemic: key principles. *Journal of Epidemiology and Community Health*.
<https://jech.bmj.com/content/jech/early/2020/05/12/jech-2020-214290.full.pdf>

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?

The above communication strategy, and the SPI-B document on co-production,^{45 46} suggests involving stakeholders early in the consultation process - certainly long enough before events resume to ensure that outputs are ready by the time of the event

We suggest a nested evaluated communication strategy with similar materials for general public, at point of ticket purchase, at point of entry to the venue, and during the event. For instance, in the same way the #Black Lives Matter messages have been printed on sports performers' clothes and rituals (e.g. taking the knee) have been incorporated into events, similar practices should be built in relation to COVID-19.

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

In line with the communication/co-production strategy above, for some types of event (e.g. conferences) it might be helpful to develop a set of communications for people who will be attending the events/ venues, that can be made available a month in advance. Training courses can also be designed and run with and for staff responsible for public safety and public-facing roles at the event. However, a review of counter-terror training courses with industry stakeholders operating in crowded places in the UK identified the need for the inclusion of evidence-based design and evaluation to increase the likelihood of organisational learning⁴⁷.

As 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 with participants new norms for avoiding these as described above – including alternatives to cheering, chanting, dance or jump. Physical and or management mitigation measures for the venue should include:

Physical and or management mitigation measures for the venue should 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.

⁴⁵ Behavioural principles for updating guidance to minimise population transmission (SPI-B paper, 20 April 2020)

⁴⁶ Bonell et al., op. cit.

⁴⁷ Aplin, D., & Rogers, M. B. (2020). 'Alert not alarm': The UK experience of public counter-terrorism awareness and training with explicit reference to Project Argus. *The Police Journal: Theory, Practice and Principles*, 93(3), 167-182). <https://doi.org/10.1177%2F0032258X19851537>

- Attendance dependent upon agreement to wear a face covering.
- Effective ticket management policy to allow for limited entry. This could include a 'home fans' only policy to enable greater spaces. However, this must be venue specific as some stadiums can easily facilitate large numbers of away fans safely and the increased revenues will be central to economic viability.
- Access to refreshments via service to attendees in their seats

SPI-B participants did not come to a consensus on the banning of alcohol. Some argued for a ban, due to the known associations between alcohol and disinhibition. However others pointed out that a more nuanced approach to managing access to alcohol should be considered, based on research evidence from the football context.⁴⁸ Facilitating access to alcohol can be functional. For example, if alcohol is served in seated areas of football stadiums fans may attend earlier and in more staggered flows, easing demand on transport and entry points as well as concourses. Their levels of drinking can be monitored as well as their behaviour, and they would not congregate as much as they would otherwise do in pubs prior to the event. As with pubs any transgressions can lead to ejections showing strong norm enforcement on the part of the stadium authorities. By contrast banning alcohol would mean that fans gather in pubs beforehand, stay as long as they can to 'load' on beers and then enter stadiums late causing congestion on transport and at entry points and toilets (because they need to access them to urinate having drunk heavily before entry). They would also be harder to manage as they will be heavily intoxicated on arrival with no opportunity for a graduated and differentiated approach to behaviour management.)

The rationale for any changes to guidance and regulations (both the opening of large events and procedures such as how to access refreshments) should be explicitly explained.^{49,50}

It would be useful to produce a set of communications with and for audiences which go through these various points and which they would need to see before attending the event. This could be achieved, for instance, by a resource which people have to complete before buying tickets online.

In addition to communication, it is important to consider means of incentivisation to adhere to COVID-safe guidelines. As with reducing violent or racist behaviour at sports, this can be implemented at two levels. On the one hand, individual incentives can be used. Thus, in football grounds, it would be possible to identify those who violate guidelines and to apply sanctions such as being barred from the ground. On the other hand, collective incentives can be used. Thus, if there are significant levels of violation, the club as a whole could be sanctioned including fines, fans barred from the ground, docking of points, or even (as has been mooted in Scotland when players violated guidelines) stopping the sport entirely. Clearly, any sanctions need to be used carefully and consistently and accompanied by strong messaging (using the principles of co-production and using ingroup voices as advocated above) in order to retain legitimacy. But if used well, they can create powerful collective pressures which prevent individuals from behaving in irresponsible ways.

⁴⁸ Pearson, G. (2012). An ethnography of English football fans. *Cans, Cops and Carnivals*.

⁴⁹ SPI-B insights on public gatherings, 12th March 2020.

⁵⁰ Carter, H., Drury, J., & Amlôt, R. (2018). Social identity and intergroup relationships in the management of crowds during mass emergencies and disasters: Recommendations for emergency planners and responders. *Policing: A Journal of Policy and Practice*. doi:10.1093/police/pay013

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. A number of organisations (e.g. the English Football League) are already considering running pilots and it would be extremely valuable to take advantage of these by SPI-B participants working with the organizers. Moreover, sophisticated pilots have already been carried out in Germany by Restart-19 <https://restart19.de/en/> and we propose working with this team rather than duplicating.

Pilots should be aimed at examining the effects of some of the key factors that we have identified in this paper – such as the effects of having alcohol served to seats, sold as usual, or banned; or else the impact of different types of communications and pre-event communications.

In terms of types of data, both observational methods (including use of CCTV technology and electronic sensors worn by audience members) and self-report (interview and questionnaire) data are necessary. These will allow for accurate measurement of what people actually do (say in terms of distancing) and also of what they think and feel – and, critically, the relationship between these variables as well as the extent to which they listen to official communications etc. This would allow us to examine whether what people think and feel about the source of information affect trust, influence and adherence to the message.

A good example of this comes from the recent Sports Ground Safety Authority pilots which employed such a combination. The questionnaire included items to measure the following:

- How safe people feel
- Their willingness to ignore rules/guidance
- Perceptions of the messaging particularly:
 - Clarity of messaging
 - Respect for the message giver
 - How much they understand what they must do
 - How much they understand why they must do it.
- How much trust they have in the organisers to ensure their safety

Conclusions

The types of gatherings covered in this commission are mostly ones where being with other like-minded people is part of the attraction. Prima facie, those gatherings where there is high shared identity and hence high trust and intimacy are at most risk for spread of virus among large social networks that will not normally be connected. Among these, events where people are freely standing and moving and where there is noise, music, and alcohol pose risks associated with contact and proximity.

In addition the extent to which people interact with others around them can vary within an event. For example, in sports stadiums they may not be freely standing while watching an event but may be so when getting refreshment. Mitigations need to be nuanced accordingly and there will not be a one size fits all approach that is adequate.

There are several ways of mitigating against these risks. These include careful environmental redesign (including lowering the density of people in a space, mandating wearing of face-

coverings, serving refreshments in seats, providing multiple hand-sanitizing stations, and ensuring minimal surfaces requiring contact).

The tendency to move closer to other ingroup members, like other intimacy related behaviours, is a variable which can be modified by specific group norms. An understanding of crowd psychology – and more particularly, an understanding of the specific social identities of specific crowds – provides a powerful tool for reshaping collective practices in ways that making them less risky. Critically, however, this can only be effective if this is done with members of the group, led by members of the group and communicated through members of the group.

It is also important to recognise that the highly controlled environment of most venues in which there are sophisticated systems of surveillance and communication, may be particularly beneficial in terms of developing ways of improving adherence. By contrast, it is in travelling to the venue, gathering (for instance in pubs) beforehand and afterwards that greater problems may arise. Hence any risk assessment and any plans for reopening large events must take a holistic approach and consider all elements involved in attending these events.