

Theory and evidence base for initial SPI-B recommendations for phased changes in activity restrictions (April 2020)

Assuming that infection rates indicate that infection control needs to be maintained at the current level for weeks or possibly much longer than it is important to consider how to do this in a way that will maximise public support and adherence and minimise transmission. Since it is inevitable that there will come a point when it is sensible to reduce restrictions it is also important that this is commenced in a safe and credible manner, with appropriate planning, preparation and guidance. This paper makes recommendations relevant to the current situation, focusing on carefully revising restrictions on the lowest risk activities while seeking to increase adherence to methods of reducing risk in higher risk contexts. Trialling this approach to phased introduction of changes to advice on activity will provide useful preparation for further, more far-reaching changes to advice in the future.

The recommendations in this paper draw particularly on Protection Motivation Theory[1], which has an extensive evidence base across a range of contexts[2], including pandemic-related behaviour[3-6]. Applied to COVID-19, Protection Motivation Theory predicts that adherence to public health advice is likely to be high as long as (i) perceptions of the risk of Covid-19 to self and others are high, (ii) the perceived efficacy of the advice for reducing infection transmission and mortality is high, (iii) people are confident they can follow the advice (e.g. they feel they have adequate support and access to resources), and (iv) the costs to self and others of adhering are viewed as tolerable (such as financial insecurity, damage to social relationships, impact on physical and mental health). It is also important to ensure that there are realistic opportunities for people to follow the advice[7] – for example, that their working conditions or the environmental context allow social distancing. Our suggestions for a phased, evidence-based approach are informed by a recent review[8] showing that in a wide range of contexts public support for policy is increased by concrete evidence of its effectiveness. We also draw on evidence from observation of current attitudes and behaviour in the UK and elsewhere[9-11], and additional theories and evidence relevant to particular suggestions.

Infection control experts advise that to reduce infection further it will be most effective to improve control in high risk settings where it is currently suboptimal, such as care homes and many workplaces. They also advise that transmission from very brief outdoor encounters are unlikely to contribute significantly to infection transmission. This paper therefore provides suggestions on how to 1) improve adherence in the high risk environments and 2) maintain sufficient adherence in the low risk environments while revising restrictions.

1. Improving adherence in high risk environments

a) To improve infection control the focus needs to shift from policing rare and probably unimportant deviations from 'Stay Home' advice to monitoring and improving infection control in contexts where transmission is much more likely, such as care settings and some workplaces, or where adherence is currently unknown such as among shielded groups in the community. This change in focus should not only improve infection control but also help to reduce the health inequalities currently resulting from decreased ability of people on lower incomes to stay at home (resulting in greater exposure to them and hence also their families)[12].

New communication strategies will be required, as the 'Stay Home' message cannot be applied to these settings. Alternatives to the 'Stay Home' message need to be developed and successfully communicated to support the next phase of pandemic management since the 'Stay Home' message

is unsuitable for trying to limit transmission while resuming activities outside the home. It will therefore be necessary to introduce new messaging to communicate the need to reduce infection transmission as far as possible in all settings. New messaging could be based on improving implementation in all settings the WHO and PHE advice on social distancing of 2 metres, cleaning shared surfaces, plus the usual cough-sneeze and hand hygiene. A public health campaign will be required to help people understand and follow the new guidance, using the communication and implementation strategies recommended in the other SPI-B papers on communication and maximising adherence.

We anticipate that existing Health and Safety regulations and enforcement processes should be able to play a key role in ensuring that employers and employees engage with the new initiative. Personal and workplace risk assessments should evaluate infection risks to everyone in the workplace and should form the basis for identifying and monitoring appropriate methods of reducing these. Helplines should be available to allow anyone in a workplace or care setting to seek advice or to alert appropriate officials about insufficiently managed risks.

2. Maintaining sufficient adherence in the low risk environments while easing restrictions

Evidence from surveys as well as objective measures (e.g. of footfall, traffic, phone movements) indicates that adherence to public health advice on measures to reduce infection spread has so far generally been very good [9-11, 13-15]. In many ways community cooperation has gone beyond what has been mandated, for example in terms of individual efforts to maintain good hygiene (such as cleaning deliveries before using them)[16]. There is good evidence that intrinsic motivation, based on a sense of autonomy and self-directed effort, is normally a more powerful and enduring motivator than extrinsic motivation, based on pressure or coercion [17]. Personal engagement with taking responsibility for infection control may make a significant contribution to limiting spread; for example, the Japanese culture of ensuring encounters are hygienic has been suggested to play a role in the relatively slow spread in Japan[18]. Where people have visibly deviated from guidance this has often been in a way that is unlikely to significantly increase infection rates – such as walking in small groups in less populated locations, or passing people at a 1 metre rather than 2 metre distance.

Long-term adherence is best maintained by positive reinforcement of the behaviour – i.e. seeing that it leads to positive consequences[19]. Adherence to infection control is positively reinforced by evidence that infection and death rates are being controlled, but can also have many powerful emotional negative consequences for the individual that are likely to increase over time, such as loneliness, frustration, stress, interpersonal conflict and worse physical and mental health [20, 21]. DHSC focus groups and surveys indicate that exercise outside the home is a very high priority for many people and is viewed as vital to their mental health; YouGov polls indicate increasingly widespread emotional problems such as stress, frustration, anxiety, sadness and boredom[22]. Moreover, many members of the public have the expectation that adherence would be relatively short-term and would be rewarded by an ending or easing of restrictions[16]. Prolonged disappointment of those expectations could undermine adherence and cooperation, leading to departures from careful infection control at the level of the individual that will be difficult or impossible to police (for example, using 'exercise' or 'shopping' trips to meet other people, relaxing attention to hygiene).

If restrictions on activity outside the home can be changed in a safe way this is likely to reduce the perceived costs and difficulty of maintaining adherence to the key infection control measures (i.e. avoiding all non-essential indoor social contacts) for a longer period. Increased exercise levels are known to reduce anxiety and depression, maintain better physical health and prevent obesity[23], and should be positively recommended as far as is safe to do so.

To ensure that changing restrictions on activity outside the home does not result in an unacceptable increase in infections the following measures should be adopted:

- It will be vital to explain why and how the selected activities are safe to resume, and that changing restrictions on activity outside the home is not a signal that the risk from coronavirus is over and that it is safe to resume other activities or to abandon social distancing.
- The public must understand that behaviour and infection rates will be very carefully monitored by a wide range of measures, and that tighter restrictions will be immediately re-imposed if there is an increase in risky behaviour or infection rates – but that good adherence will provide the basis for further resumption of activity if infection rates remain well controlled. Trialling each phase of changes to activity in this way will reassure the public that the changes are safe to make and will encourage adherence to guidance for safe implementation by providing evidence of the effects on infection rates.
- Since it is impossible to be certain that changes in restrictions will not increase risky behaviour and infection rates, changing restrictions on activity should only be trialled in locations and/or periods when the NHS would be able to cope with a small temporary rise in infection rates, which would then immediately trigger tighter restriction of activity to ensure that infection control was restored.
- Precise and consistent guidance on how infection control should be maximised must be provided when changing restrictions on activity outdoors – for example, avoiding popular times and places, taking all supplies needed for self-sufficiency, ensuring that both locals and visitors observe social distancing and good hand and surface hygiene; using a mask/staying home if coughing or sneezing.
- As much outdoor space as possible should be made publicly available to reduce the risk of over-crowding – for example, golf courses, school grounds, temporary closures of roads in residential areas to provide safe play areas. To reduce inequalities, those able to travel safely to less used locations should be encouraged to do so, to free up urban space for those unable to travel.
- If necessary, cooperative time zoning could be used to help keep population densities down in popular places. This could include prioritising or reserving particular places, times or days for certain sectors of the population (for example, allowing people access to open spaces based on the first letter of their surname has been used elsewhere; weekend day time could be prioritised for activities involving school age children). Communities could play an active role in anticipating, reporting, stewarding and managing problems with over-crowding or inadequate social distancing.

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