

# Encouraging behaviour change to reduce Covid transmission

## Summary of two rapid scoping evidence reviews

### Authors

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### Summary of review topic

The SARS-COV-2 virus which causes COVID-19 is transmitted directly or indirectly between people. Its spread can be limited by making transmission less likely.

This briefing highlights the findings from two reviews of the literature on transmission. The reviews, undertaken in June 2020, excluded consideration of ventilation and air flow, and looked at 138 items found in a search of English- and Chinese-language publications in this area. This is a small subset of the 3,646 publications found overall on the subject. Many of these contain valuable practical information, but are not based in empirical research.

Evidence was gathered mainly for institutional settings including hospitals, offices, care homes and schools. Many are reported as measures of a process such as compliance with an intervention, and by a mix of self-reporting, direct observation and indirect measurement, for example the volume of hand gel used.

#### The interventions examined were of two main kinds:

1. Structural changes such as partitioning spaces in buildings; separating entrances and exits; adding screens, no-touch lighting and hand sanitiser dispensers; reorienting desks; and removing seating, fridges, kettles, and tableware.
2. Attempts to regulate the use of space. These included barriers, time limits on movement, the managed use of lifts and corridors, and restrictions on the use of shared spaces such as kitchens and lavatories, as well as signs such as markings indicating where to stand, and prompts to wash hands.

The review looked at steps which can be taken to encourage a range of outcomes. Some involved reducing the quantity and seriousness of interpersonal contact. Indicators of effectiveness include the proportion of people staying more than 2m apart, the proportion of people not oriented face-to-face, contact time between individuals, and the proportion of people using face coverings outside clinical settings. A further consideration was reduced surface-touching including the use of gloves and non-contact technology, while a third was hygiene including handwashing, sanitising and reduced face-touching.



## Key Findings

- Hand hygiene is a key aspect of transmission prevention. For example, it helps reduce the contamination of shared surfaces in offices. The review found that self-reported hand hygiene can improve in response to a major outbreak of disease. But observation of 2,941 individuals passing a sanitiser station at the entry to a New Zealand public hospital during the H1N1 pandemic found that only 18% used it.
- Many of the successful interventions in the review are multimodal, and include employee training, signs, flyers, reminders, and other measures. Signs stressing positive effects increase sanitiser use. Some interventions featured common-sense 'point-of-action' positioning of dispensers, for example at the patient's bedside or at entrances and exits.
- Handwashing reminders by gatekeepers to physical space such as receptionists also improve compliance.
- Evidence from Kenya and Indonesia suggests that nearby handwashing facilities are most likely to be used, for example those sited within 10m of a toilet or inside 10 paces from the toilet or kitchen.
- Mask-wearing is a behaviour of key importance in virus suppression, and has been reviewed in a range of clinical settings as well as in households and primary schools. There seems to be general willingness to wear masks if asked in clinical settings. But there was mixed compliance with mask-wearing on transit during the H1N1 outbreak in Mexico City, although masks were recommended for the general public and mandated for bus and taxi operators. Masks are far less acceptable in settings such as at home, in primary school and in military establishments.
- Case reports, feasibility studies, and guidance documents have been published in response to COVID-19 and other respiratory disease outbreaks for areas such as nursing, public transport, meat and poultry facilities, military barracks, pharmacies, primary care, and schools and preschools. They offer guidance for preventing transmission in a variety of physical settings, often based on practical experience and professional consensus rather than formal empirical evaluation.
- A key finding is that nurses who perceive workplaces to be clean and orderly report higher compliance with recommended infection-prevention protocols, while the provision of personal protective equipment for hospital workers and their families increased their willingness to report to work in a hypothetical pandemic.
- Effective physical interventions include the installation of plastic shields between assembly line workers, the creation of outdoor break rooms, the provision of PPE, the elimination of face-to-face contacts among hospital staff by virtual meetings, and the rearrangement of student desks to face away from one another. Drive-through medicine has been implemented to decrease the number of symptomatic patients sitting in emergency department waiting rooms.
- Transmission reduction raises unexpected issues of equity. Some of the commentaries analysed for this review describe risks for disadvantaged populations from social and physical distancing. According to the World Health Organisation, people with disabilities need access to information, continuity of care and social support, economic support, and non-discrimination, and need to be fully involved in decisions affecting them. They may be endangered by having a higher than expected need to touch surfaces and people, and by difficulties in accessing hand hygiene facilities. They may also be affected when care workers comply with social and physical distancing guidelines.
- Prison populations are a further group for which virus transmission raises social justice considerations. Crowding can affect both prisoners and staff. And because much of the information flow about COVID-19 is electronic rather physical, it can be inaccessible to people with limited access to the internet and related technology.

## Major evidence gaps

This research is unavoidably incomplete.

- We do not know how transferable findings from institutions such as primary schools, universities, health care or care homes are to other settings, and most of the academic evidence comes from clinical care facilities.
- More anthropological and sociological research on human behaviour and the physical environment could be found. For example, insights on crowding and pedestrian movement might be drawn from urban design and transport research.
- What constitutes a 'common sense' intervention in the UK may not be so obvious elsewhere, and vice versa.

