

**ADVICE FROM THE SCOTTISH GOVERNMENT COVID-19 ADVISORY GROUP**  
2 July 2020

**Advice Commissioned by the First Minister and Chief Medical Officer on Physical Distancing**

**The Group discussed this paper at its meeting of 25 June and concluded that:**

The fundamental science around distance and transmission remains unchanged. Risk increases with proximity to an infected individual. Moving from 2 metres therefore increases the risk of transmission from infected individuals occurring. The risks of transmission can be mitigated by reducing the time of contact, being outdoors, proper ventilation, using screens and visors and other measures including hand washing and respiratory hygiene.

Without a vaccine, physical distancing and good hygiene practices remain the best tools to prevent the spread of the virus.

Generally, as the number of infected individuals falls, absolute risk is lower and given the continuum of risk, and different wider benefits, it is ultimately a matter of policy as to what physical distance is tolerated in different environments.

Risk is heterogeneous, with the relative risks to children and young people being significantly lower than to the elderly.

The harms of children not being in school are well-evidenced and there is broad consensus that 2m distancing between children in schools will not be necessary should the incidence rate and situation remain as it is currently.

It is vital that any change from 2m distancing is accompanied by clear messaging that the virus remains a threat and that there cannot be an immediate return to 'normal'.

### **Physical Distancing Recommendations**

#### **General Comments**

The discussion around 2m distancing and reducing this distancing is not a binary discussion of what is safe versus what is unsafe. The notion of relative risk is central to the considerations outlined below.

The advisory group has reviewed comprehensive advice from SAGE, and primarily focussed on the immediate impact to health from COVID-19. The group acknowledges the impact that economic difficulties caused by maintaining 2m

distancing will have on both the physical and mental wellbeing of the Scottish population.

The risk of transmission between children carries relatively very low risk and there is evidence also that transmission from children to adults appears to be much reduced. There is, under the current circumstances, therefore likely to be low value and high cost to maintaining physical distancing between children. Similarly, the risks posed to adults by children seem to be relatively low so physical distancing is of much less importance than other settings.

For the distancing recommendation between adults, the group concludes that the risk of transmission will be increased if the physical distancing recommendation is reduced to 1m from 2m. This is not only because of the increased risk of direct transmission from respiratory secretions, but also because of increased surface contamination that would occur in indoor environments with higher occupancy. Set against this, is the fact that the levels of infection within the Scottish population are currently very low, with only about 1 in 2,000 of the population currently infectious.

There is also the consideration of the benefits to the hospitality industry of reducing the physical distance to 1m, as well as to groups who wish to meet under less constrained conditions, such as places of worship. These are not just economic benefits, but also will have indirect health consequences.

Thus, in balancing these considerations, a value judgement must be taken as to whether reducing the physical distancing to 1m is a tolerable risk. If this is a policy decision, it must be accompanied by clear guidance on spacing in any indoor environment, emphasis on surface cleaning, hand hygiene and cough etiquette. Messaging must be clear that the virus is still present and a continued threat

## **1. What is the current evidence for applying a 2 metre physical distancing measure?**

SAGE has reviewed evidence on transmission. The Scottish Government Covid-19 Advisory Group has reviewed this and completely supports the conclusions reached by SAGE. There is an increased risk somewhere between 2 and 10 fold in reducing from 2m to 1m. Most infectious droplets are no longer in the air beyond 2m so the benefits of going beyond 2m are minimal. The paper also stresses the important additional consideration of the duration of interaction.

It is important to note that the science has not changed (in the context of the physics of droplets and aerosols) and 2m remains safer than 1m<sup>1</sup>.

## **2. What are the risks/benefits of reducing this to 1.5m or 1m?**

In terms of the general impact of reduction from 2m to 1m, there are some additional behavioural considerations to take into account. Reducing the minimum distance between people to 1m (3 feet) will, in practice, nullify physical distancing as a

measure people use to protect themselves and others. The reason for this, is that in normal times, social interaction happens at a physical distance of about 1m. Because people's bodies are mobile, not static (e.g., as they lean into conversation), a starting point of 1m further reduces physical distancing. Additionally, because people use their bodies as well as voices to interact, a reduction to 1m increases the chance that the normal gesturing and touching that accompanies interaction will produce contact, as well as increase the risk associated with transmission via droplets produced while speaking. Finally, we know that people's ability to perceive distance accurately is influenced by many factors, meaning that the 2m guidance results in many only achieving about 1m. If the guidance were to change from 2 to 1m, the interpretation would in all likelihood move to well under a metre, and distancing as a protective measure would be lost<sup>ii</sup>.

Greater risk of transmission at 1m is likely even with mitigating measures in place, such as the use of face-coverings and better ventilation of indoor workplaces, bars and restaurants. Such measures reduce, but do not overcome, the risks associated with extended periods of interaction. And while such measures help, it may not always be practical to adhere to them in setting such as pubs and restaurants and may be challenging for those who rely on lip reading and facial expression to communicate. Given the lower risk of transmission in outdoor environments due to greater airflow, a reduction below 2m can be considered in outdoor environments.

The international evidence shows that there are less than 10 known examples of children transmitting COVID-19, and in almost all of those cases the child had symptoms and therefore should be isolating. The importance would be to ensure teachers and other adults present continue to distance. Measures should be put in place to limit gatherings of adults in locations such as staff rooms.

The group notes that the World Health Organization (WHO) recommend a 1m physical distance and, if that cannot be maintained, then they advise on the use of face coverings/masks. WHO advise that hand hygiene and surface cleaning are important universally, even when distancing is in place<sup>iii, iv, v, vi, vii, viii, ix, x, xi</sup>.

### **3. What circumstances may lead to advice to reduce this recommendation? (e.g., level of infection falling to a certain level?), locations (e.g., those with lower transmission risk?)**

The principle of physical distancing is to reduce transmission of the virus and thus to lower infection rates. There is a balance between the benefits of limiting viral transmission and the risks to education and the economy.

There is currently insufficient evidence on transmission to be able to confidently quantify absolute risk of infection and the impact of mitigation measures. For some modes of transmission it may be possible to use surrogate approaches, computational models or data from other diseases to estimate the relative effects of prevention and mitigation measures. However as many of these are environment specific it can be difficult to quantify with a high degree of confidence.

There is a well-established concept of “tolerable risk” which is defined by HSE as “...‘tolerable’ does not mean ‘acceptable’. It refers instead to a willingness by society as a whole to live with a risk so as to secure certain benefits in the confidence that the risk is one that is worth taking and that it is being properly controlled”<sup>xii</sup>.

It can therefore be argued that the transmission risk becomes tolerable when the prevalence of infection in the population is also low. When considered on the 25 June, the estimates of the population of Scotland who are part of an infectious pool is about 1 in 2,000 or so. The chances of encountering an infectious person is thus already very low – the slight increase in risk from reducing distancing from 2m to 1m in these circumstances and, with an effective Test and Protect system in place, can be managed.

**4. With what mitigations could a recommendation to reduce the measure for physical distancing from 2m be balanced (e.g., face coverings, advice to public allowing them to make informed decisions)?**

The mitigating measures necessary for reducing physical distancing remain in line with currently recommendations. These are namely: optimising ventilation, using a mask or face covering, hand hygiene, surface cleaning, solid barriers such as Perspex etc. Individual circumstances can be risk assessed when 2m distancing is not possible, to try to mitigate these risks. The communication of policy decision in these circumstances and the rationale for these will be key.

**5. Should different recommendations for distancing be made to people with different personal characteristics (e.g., age, ethnicity, underlying illness) or activities with different durations (e.g., a whole school/working day compared to an hour in childcare)?**

The absolute risk from COVID-19 varies within the population. Children in particular are highly unlikely to develop serious disease and are also very unlikely to spread infection both to each other or to adults. Those at greater risk, including the elderly, should be advised to take greater precautions.

There is also heterogeneity in the risk of transmission per contact. Factors to consider include how long the contact is, whether it occurs indoors or outdoors, whether face coverings are worn, whether it involves children or adults, and whether it involves persons at higher risk of being infected (e.g. health care workers). Distance is also a factor but may not be the major determinant of risk of transmission. A fixed recommendation regarding distance may be seen as unnecessarily restrictive for some and/or not sufficiently safe for others (especially the elderly and vulnerable).

Those who are unable to work at home and will be most affected by the shift to a 1m rule in workplaces are most likely to be members of vulnerable groups who are already more at risk from infection and death (e.g. BAME communities and precarious contractual workers). As a consequence, such a shift runs the danger of exacerbating existing social inequalities. The group noted that loss of income as a result of maintaining a 2m distance would also certainly have an effect on health.

More work is needed to analyse and understand the impact of COVID 19 on the BAME population in Scotland. That is the subject of separate advice from the Advisory Group.

## **6. Are there any particular issues to consider in relation to schools and physical distancing? And is there evidence from other countries that could support alternative approaches?**

With regards to distancing among children in schools, the evidence suggests that there is little difference in the risk of virus transmission between 1m and 2m distancing, however 2m distancing carries with it an emotional and logistical cost. Maintaining a 2m distancing in schools severely restricts the number of children who can be taught at any one time. The adverse effects of lack of schooling on children has been highlighted by many education experts. Similar arguments apply to further and higher education. It should be noted that there is broad consensus in the group that 2m distancing in schools will not be necessary should the situation remain as it is currently. The group supports the work and approach to developing advice being taken in the Subgroup on Education and Children's Issues.

Mitigation measures should remain in place for adults present in school, and the importance of hand hygiene and surface cleaning should be reinforced to both children and adults.

### **Endnotes**

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<sup>i</sup> Physical distancing, face masks, and eye protection to prevent person-to-person transmission of SARS-CoV-2 and COVID-19: a systematic review and meta-analysis [https://www.thelancet.com/pdfs/journals/lancet/PIIS0140-6736\(20\)31142-9.pdf](https://www.thelancet.com/pdfs/journals/lancet/PIIS0140-6736(20)31142-9.pdf)

<sup>ii</sup> Preferred Interpersonal Distances: A Global Comparison <https://journals.sagepub.com/doi/10.1177/0022022117698039>

<sup>iii</sup> World Health Organisation: Coronavirus disease (COVID-19) advice for the public <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/advice-for-public>

<sup>iv</sup> Argyle, M. (1969). Social interaction. London: Methuen.

<sup>v</sup> Gestures as a resource for the organization of mutual orientation <https://www.degruyter.com/view/journals/semi/62/1-2/article-p29.xml>

<sup>vi</sup> Cekaite, A., & Mondada, L. (eds.) (2020). Touch in social interaction: Touch, language, and body. London: Taylor and Francis

<sup>vii</sup> Aerosol emission and superemission during human speech increase with voice loudness <https://www.nature.com/articles/s41598-019-38808-z>

<sup>viii</sup> An Embodied Approach to Perception: By What Units Are Visual Perceptions Scaled? <https://journals.sagepub.com/doi/10.1177/1745691613489837>

<sup>ix</sup> What is peripersonal space? An examination of unresolved empirical issues and emerging findings <https://onlinelibrary.wiley.com/doi/abs/10.1002/wcs.1472>

<sup>x</sup> Deaths involving COVID-19 by local area and socioeconomic deprivation <https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/bulletins/deathsinvolvingcovid19bylocalareasanddeprivation/deathsoccurringbetween1marchand17april>

<sup>xi</sup> Coronavirus (COVID-19) related deaths by occupation, England and Wales: deaths registered up to and including 20 April 2020

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<https://www.ons.gov.uk/releases/covid19relateddeathsbyoccupationenglandandwalesdeathsregistereduptoandincloding20thapril2020>

<sup>xii</sup> Reducing risks, protecting people <https://www.hse.gov.uk/risk/theory/r2p2.pdf>