

Policy for England on face coverings to reduce transmission of SARS-CoV-2

A proposal for consultation from Independent SAGE

13th July 2020

Key points

1. The purpose of this document is to foster an informed public conversation about what should be government policy on face masks.
2. Scientific evidence on wearing face coverings to reduce spread of COVID-19 continues to accumulate and policies should reflect this. Recent studies point to face coverings playing a useful role in the reduction of COVID-19 spread when worn properly in public indoor spaces.
3. Face coverings should be used alongside, not instead of, other protective measures such as improving ventilation, adoption of rigorous hand cleansing regimens, and social distancing.
4. Most but not all members of Independent SAGE believe that there is sufficient justification for making wearing of appropriate face coverings compulsory in specified enclosed public indoor spaces such as on public transport, in shops and in entertainment venues. Additional measures are required to realise the benefit and minimise the adverse unintended consequences. Legislation should be for light-touch enforcement as in Scotland.
5. The policy should be accompanied by a comprehensive public information campaign about how face coverings can provide a benefit, what kinds of coverings to use, as well as how they should be worn, stored, and disposed of or cleaned.
6. Equity and engagement should be central when considering this issue.

Background

Government policy on face coverings in England is currently to mandate their use when travelling on public transport, subject to specified exclusions, and to recommend their use in other public indoor spaces where effective social distancing is not practicable. This is based on the view that the evidence of net benefit in community settings is not conclusive but is suggestive. It also recognises issues with incorrect usage, false reassurance, and the possibility that face coverings might spread infection as fomites.

Evidence continues to accumulate. The WHO and countries, including Scotland (1), are taking more positive steps to increase wearing of face coverings in certain situations (2). In addition, organisations such as the Royal Society and British Academy are calling for England to adopt stronger measures to get people to wear face coverings (3). The Prime Minister has suggested that policy in England may be revised to extend the mandate to shops.

Aims

This report sets out a proposal for government policy in England on face coverings taking into account new evidence and behavioural factors that need to be addressed for any policy to be effective. It also raises what we believe to be key issues that need to be addressed involving, and in partnership with, stakeholders

Proposal

It is proposed that the government:

1. *mount a public information campaign setting out the reasons for wearing face coverings, how to use them effectively, store them, dispose of or clean them safely, the circumstances in which they can be protective, what are appropriate face coverings and how to obtain or make them, and the circumstances in which their use is recommended*
2. *legislate as soon as is practicable to extend the current light-touch mandate to wear an appropriate face covering (subject to defined exclusions) to a range of enclosed public spaces with limited ventilation, including shops and entertainment venues*
3. *co-ordinate its policy on face coverings with other infection control measures such as social distancing and fostering regular, rigorous hand cleansing, and creating more protective environments, ensuring that use of face coverings is not be seen as an alternative to these but as additional.*

Relevant evidence

The biomechanics of transmission: SARS-CoV-2 virus transmission occurs because virus particles are expelled from the mouth or nose of an infected person and ingested via the mouth, nose or eyes of another person (4). Evidence from laboratory studies indicates that certain types of face covering can trap droplets of the kind that could carry virus particles that are expelled from the mouth or nose during coughing, sneezing, singing or talking (5). Note, however, that SARS-CoV-2 can enter the body via the eyes which are not protected by a face covering.

It has become increasingly evident that SARS-CoV-2 can be transmitted via very small droplets (aerosol) that are suspended in the air for an extended period and can travel several metres from the source in indoor spaces, and conversely that very little transmission occurs outdoors (6–9).

Protection in clinical settings: There is clear evidence that use of personal protective equipment, including face masks made to appropriate specifications, is effective when used by trained professionals in clinical settings (10).

Protection in community settings: Evidence from randomised controlled trials is equivocal on whether or not wearing face coverings reduces infection rates in community settings (11,12). Note that the studies do not indicate no effect, rather the findings leave open the question of whether or not there is a reduction in infection rates.

Comparative observational studies have found that use of surgical type masks in community settings are associated with a reduction in infection risk (11). In most of these studies there is a significant probability that the association could be due to confounding with other precautionary behaviours. However, in a recent study involving the crew in a US Navy aircraft carrier, an apparent protective effect was found and the risk of this being due to confounding appears to be low (13).

Population-level studies, and most notably a recent longitudinal study from Germany which used a synthetic control method to analyse the effect of the staged introduction of mandatory face mask wearing in different parts of the country (14), strongly suggest that mandating use of face coverings in public spaces can substantially reduce infection rates.

Issues and questions that need to be addressed

What types of face covering? Face coverings need to be made in such a way that they trap droplets while allowing users to breathe comfortably. We are already seeing advice being given on the types of coverings to wear and how to manufacture them at home (15). Arguably, reusable face coverings may be preferable because of the issue of plastic waste, cost and there is evidence that these can trap virus particles (16). However, in a hospital setting one study was found that cloth face coverings were less effective than surgical masks (17). Current advice is for face coverings to have a double layer of material, preferably from two different fabrics because they have different weave and different electrostatic properties (18).

The British Standards Institute has produced recommendations concerning protective equipment, including face coverings, in health and care settings (6). It may make sense to commission an extension of this document to include face coverings for virus protection of the kind that would be appropriate for members of the public in community settings. In the meantime, there is a need for a public information campaign to support public choice and manufacture of face coverings.

In what situations should face coverings be worn? Given that use for long periods can be uncomfortable it seems appropriate to restrict it to situations where they are likely to confer a benefit. In addition, if a person is infected, the longer he or she has the covering on the more contaminated it will become and the greater the risk that it will act as a fomite.

The case for mandating wearing of face coverings appears to be strongest in spaces such as on public transport, shops, and indoor entertainment venues. This is because ventilation will often be limited, there is often a high throughput of members of the public and people working in those spaces may receive prolonged exposure to virus particles if these are present.

It is impractical to eat and drink while wearing a face covering and taking it on and off in a bar or restaurant may increase transmission via surfaces. It therefore seems unrealistic to mandate wearing of face coverings in bars and restaurants. It should be noted, however, that as long as Covid-19 transmission rates remain relatively high at many hundreds of new cases per day (19), Independent SAGE is recommending that bars and restaurants only be allowed to serve customers who remain outside of enclosed spaces when consuming their products.

The issue of mandating wearing of face coverings in enclosed spaces in schools, Universities, offices, and production facilities is complex and needs further consultation and consideration. The fact that some kinds of production facility such as garment factories and meat processing plants continue to be a source of outbreaks suggests that, while wearing face coverings may reduce infection rates to some degree, much greater protection will be needed for workers than this (20). This may require re-engineering the facilities to ensure much better ventilation and to reduce risk of fomite transmission. This is an area where stakeholder engagement will be crucial to determining an effective and workable policy.

Given that only a small proportion of virus transmission occurs outdoors, it does not seem appropriate to mandate their use there. In the future, if infection levels are reduced sufficiently to allow large outdoor gatherings, mandating wearing of face coverings in those gatherings may be considered.

What exemptions should there be, if any? There is a need to establish what the exclusions should be (e.g. for medical reasons) and to have these clearly set out and included in public information campaigns, giving reasons. A significant issue that arises with this is that it will generally not be possible to tell just by looking at someone whether they are in an exempt group. There is a theoretical possibility of hostility, discrimination, and stigmatisation. On the other hand, a claim to exemption may also be used by people who are not exempt as a way of avoiding wearing a face covering. This is another issue that needs to be addressed in the public information campaign; it requires detailed examination and stakeholder engagement. In the meantime, it would seem sensible to follow the lead of other countries that have mandated use of face coverings without rigid enforcement, e.g. Scotland.

Is mandating use of face coverings enforceable? Survey evidence suggests that around 10% of people in England are not wearing face coverings on public transport despite them being mandated (21). Widespread enforcement of extending mandatory use of face coverings is undesirable and likely to be impractical, and it would not be reasonable or practicable to expect staff in those spaces to take the responsibility for this. It has, however, been demonstrated that countries and regions where face covering use is compulsory have higher adherence than those where they are voluntary (22). Occasional violations can be tolerated because the public health benefit will still accrue if most people adhere to the rule. Moreover, legislation can be effective in changing behaviour just by virtue of the signal it sends to the community.

As with seat belts and other areas of safety legislation, it will be important to use public information campaigns so that most of the public understand the need for the legislation and accept it. Endorsement and wearing by role models such as celebrities, including musicians, actors, and sports figures, could play an important role.

Who do face coverings protect? It is widely believed that the primary role of face coverings is to prevent emission of the virus into the air from an infected person, and that it confers little if any protection to the wearer. However, the comparative observational studies suggest there is also a benefit for the wearer. The

government should review this evidence and consider the appropriate ways to communicate it in its public information campaign.

Is false reassurance a major problem?

Evidence from the German study (14) suggests that if false reassurance is a problem it is outweighed by the benefit. There is also a potentially serious issue that employers and indeed government may use wearing of face coverings as a way of relaxing rules regarding social distancing, and environmental and other protective measures. This would unfairly expose employees or others to risky situations. Recent Government messaging has referred to wearing face coverings as a way of increasing people's confidence to go out and about into enclosed spaces such as shops; promoting it in this way may falsely reassure and undermine perceptions of the inherent riskiness of such situations and the need for other protective measures.

How should we address problems of incorrect use, storage, and disposal of face coverings? Face coverings should cover the nose and mouth and fit tightly against the skin. Wearers should put them on and take them off touching only the sides. There is little hard evidence on the prevalence of incorrect use of face coverings but informal observation of use of face coverings by the public shows that in many cases they are not worn correctly (e.g. not covering the nose, or pulled down when speaking), and they are frequently handled in ways that are not safe.

National and international guidance emphasises not touching the front of the face covering, keeping it on, storing it in a sealed bag when removed, and washing in hot (60°C) water as soon as practicable. To minimise risk of contamination, users of face coverings should arguably always carry hand sanitiser and use it whenever they touch their mask.

Face coverings should be sold with clear instructions for wearing and disposing. It will also be important to mount public information campaigns to address these issues.

What harms might arise from mandating wearing of face coverings?

Legislation to compel behaviours for the sake of public health (e.g. banning smoking in indoor public areas) normally requires a detailed impact assessment to consider how far the benefits outweigh the costs. The urgency of tackling COVID-19 makes it important to undertake this rapidly but does not obviate it.

Wearing of face coverings may reduce ability to communicate. It is not known how significant an issue this is but for most people in most situations it may not be substantial (23). However, an estimated 1 in 6 of the UK population has a significant hearing deficit (24) and for those who use lip-reading to communicate, this will clearly be an issue. It may be that transparent face coverings could help and be practicable in specific situations but in general this is an issue that requires detailed examination with key stakeholders.

It is important that this issue does not exacerbate inequalities already increased by Covid-19. Given that many are facing serious financial hardship, a strong argument can be made that people should be offered free reusable facemasks where needed.

What indirect benefits might arise from mandating wearing of face coverings?

One possible benefit may be to remind people that we are still in the midst of a deadly pandemic. This could reinforce messaging about the importance of the full range of protective behaviours and communicate that such protective behaviours are 'the new normal'.

Besides mandating wearing of face coverings, what else can be done to promote their effective use?

As noted above, public information campaigns will be important to address issues that arise with a new policy on face coverings. These should be alongside engagement with relevant communities such as trade unions, employers and those that are found to be least likely to adhere. Given that this is an issue that will be with us for months if not years, investment in such campaigns will be worthwhile.

Much of this can be done online, including use of, for example, videos on YouTube and Instagram, although provision should be ensured for those without access to digital media and the messaging is tailored in a culturally appropriate way to reduce risk of disparities in diverse populations. Government and government agencies have a responsibility to undertake or commission this, but other agencies and organisations may also play a valuable part. For example, creating norms around wearing of face coverings, and making this practice attractive, is something in which the fashion industry is already playing a role.

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