

Face-masks and the limits of “evidence-based” health policy

Dr. Louise Caffrey argues that there is good enough evidence to support making face coverings compulsory, if you look beyond what’s strictly medical

During the Covid-19 pandemic the Health Information and Quality Authority (HIQA) has been advising the Clinical Expert Advisory Group in supporting the National Public Health Emergency Team. Most recently, HIQA reviewed the evidence on the use of face covering to prevent people from transmitting the Covid-19 virus. Current policy is to only recommend the public wear face coverings rather than making them compulsory on, for example, public transport, in shops and in services.

Particularly as we move out of lockdown, whether or not to mandate face coverings is a key question since we now know that the virus is spread, not just through coughing or sneezing, but also by speaking. People are contagious for days before they display symptoms and some people who are contagious never display symptoms. For this reason there is a need to stop people who have no idea they are sick giving the virus to others, for example, when they go to the supermarket or use public transport or indeed if they work in a shop or prepare food for the public.

The government’s decision not to make face coverings in enclosed public spaces compulsory is highly controversial because face coverings are most effective at stopping people *transmitting* the virus. Face coverings are much less effective at stopping people who wear them from getting the virus. So for face coverings to be most effective, and for those wearing them to be well protected, they need to be worn by most people. Indeed, for those who can’t wear face coverings, it is vital that others do so that they are protected.

The concept of ‘evidence-based policy’ – one of the defining features of the century - refers to the idea that policies should be based on, or informed by, high quality evidence, as opposed to ideology or personal judgement. But putting the principle into practice raises a host of complexities. Two key questions are: *how much evidence is enough to make a decision? And what kind of evidence counts as strong and relevant?* Amongst those of us who specialise in methodology there are heated debates on these questions and there exists no universally agreed upon way of reviewing evidence.

We can see that to review the evidence on facemasks, HIQA used a model that is a ‘copy and paste’ from the field of medicine. This might sound logical except mandating face masks is not a medicine. It is a social policy and, for a variety of reasons, there is debate about whether this model is always appropriate for policy decisions.

In the medical model adopted by HIQA the strongest evidence is assumed to come from a particular type of research study called a Randomised Controlled Trial (RCT). In an RCT, essentially, a randomly selected group of people is given the medicine and another randomly selected group is not given the medicine. If the group who were given the medicine, on average do better, we say the medicine works. In this model, observational studies (which are like RCTs except participants aren’t randomly selected) can also be considered but are seen as a lesser quality evidence. According to this framework, without

positive RCTs, a medicine won't be declared effective. The [HIQA protocol](#) shows that their review of face masks adopted this model and so only included evidence from Randomised Controlled Trials, observational studies and systematic reviews, which are reviews of RCTs and observational studies. All other studies are excluded.

There are [no RCTs](#) on the effect of face masks or face coverings worn by the public during the Covid-19 pandemic. A [Royal Society review](#) found only two RCTs on the use of face masks to reduce transmission of the regular flu. These studies had flaws but did suggest that face masks can reduce infection. For policy makers who follow the medical model in which good quality RCTs are the only form of strong evidence, this means they conclude, as the [WHO](#) has that "Currently there is not enough evidence for or against the use of masks (medical or other) for healthy individuals in the wider community" and as [Dr. Tony Holohan](#), the Chief Medical Officer to the HSE, has that "the evidence isn't very strong in relation to the value [of face masks in stopping the spread of Covid-19]".

They are concluding, *not that face masks are ineffective*, but that they don't know and they don't have enough evidence to fully endorse their use.

Yet if we look outside of the RCT focused medical model there is [evidence](#) which could help to inform a decision. This evidence doesn't come from RCTs. It comes from physics, from laboratory studies, natural experimental and mathematical modelling and it can logically be supplemented with broader social science evidence.

To give an example of this type of evidence, the highly prestigious New England Journal of Medicine, recently published the [video](#) for an experiment demonstrating how a cloth cover over the mouth effectively blocks droplets that come out of our mouths when we speak. The point here is to generate evidence that helps us to understand *how* covering the mouth might help to prevent transmission. A [growing body of evidence](#) suggests that face coverings help because [people are contagious without having symptoms](#) and when we speak droplets harbouring the virus can come out of our mouths. The cloth covering acts as a barrier, catching the droplets while they are large and preventing them evaporating to become small particles that linger in the air.

Of course, evidence that face coverings are physically effective is no guarantee that they will be effective in practice. This is because how effective anything is depends on how it is used. It depends on human behaviour. A [key concern in Ireland](#) seems to be that if the government fully endorses face coverings, the public may neglect other important preventative measures like physical distancing and hand hygiene because they will feel an exaggerated sense of security. Again, on this question we simply don't have the evidence for how people will behave in a Covid-19 context.

However, using social science evidence from other policies, we can make a good guess. We have a wealth of evidence from other policies that evoked the same type of concern, from seat belts to helmets. At the population level, these have led to increased safety and even increased safety oriented behaviour. As the highly regarded [Royal Society recently concluded](#), there is simply no evidence that individuals will engage in risky behaviour during the pandemic if face coverings are strongly endorsed.

Similarly, there seems to be an assumption that the public will use face coverings incorrectly. But again, there is no evidence of this. All in all, assuming the public will act irresponsibly or incapably is just that, an assumption, and an unfounded one in terms of evidence.

The stakes are too high to wait for certainty. As we move out of lockdown, many countries and top experts at [home](#) and [abroad](#) are concluding that face coverings are a vital means of protection. The government does not have the luxury of solid, unambiguous evidence, but we can make best use of the evidence we have by drawing on a wider range of quality evidence. In the context of Covid-19 we need decisive action. For now, I'll be wearing my home crafted face-covering to protect others and hoping that the government urgently mandates masks to protect me.

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