

# Beyond 'following the science': increased interest in scientific debate is a chance to create better dialogue between scientists and society

*COVID-19 has exposed the uncertainty of scientific debate to a wider audience, but [Graham Martin](#) and [Esmée Hanna](#) argue this is no bad thing—because science is too important to leave to scientists alone.*

Since the start of the COVID-19 pandemic, science has been cast in a leading role in navigating a passage through the crisis. Government ministers claim to have been '[following the science](#)' in their decisions. Scientific models provide us with projections about future infections that guide preventive action. Prescriptions for individual-level behaviour derive from insights from a multitude of disciplines about how the virus seems to spread. As [infections increase once more](#) and new restrictions are put in place around the UK, scientific innovation—in the form of a vaccine—is seen by some as the only feasible way of ending the upheavals introduced during the pandemic.

In practice, of course, 'following the science' isn't quite so simple. For one thing, scientific development doesn't always live up to expectations—there's plenty of uncertainty, for example, about how effective any vaccine will actually prove to be. For another, the idea of 'the science' is itself rather misleading. Science is composed of many disciplines. A solution developed and tested according to the principles and methods of one discipline may not look so effective when judged by the standards of another. What works in a laboratory may not work in the field; what works for one species, setting or human population doesn't necessarily transfer easily to another.

Take the example of face masks. In the early stages of the pandemic, received scientific wisdom was that there was little evidence that using them in non-clinical settings would do much to reduce transmission of the virus. That changed in June, when the World Health Organization issued [new guidance](#) that advised routine use of face masks in community settings, based in part on a new [review](#) of the evidence it had commissioned. This review found associations between mask-wearing and reduced transmission of various coronaviruses, albeit based on evidence from observational studies. Reviews that include randomised studies, which are usually seen as better at identifying cause and effect, have been [more cautious](#) about the evidence base for face masks. Others have suggested that mass uptake of masks in community settings could have [unanticipated negative consequences](#) that have not yet been [properly studied](#).

Certainly, the downsides for some groups have become apparent as mask adoption has been mandated. In the course of our ongoing study into the experiences of face masks and other coverings, we have heard from some people how mandatory mask use has limited their ability to conduct their daily activities. For others it has caused increased anxiety and worries, particularly those who are exempt from wearing one for health or other reasons. Exemption is forcing people to repeatedly disclose details of their medical history (including physical and mental health issues) or other personal information (such as past trauma, or neurodiversity) with others in public settings, or wear badges or lanyards. People have persevered with wearing a face covering despite the communication, mobility or dermatological issues it poses, because they believe it is important to adhere to scientific advice.

As well as uncertainties about the effectiveness of masks, then, there are debates about the downsides and unintended consequences. Like most public health interventions, masks are no panacea: they will have benefits and drawbacks, and both will be unevenly distributed. Debates of this kind—about [efficacy and effectiveness](#), about how to synthesise findings from different fields, about how to weigh up costs and benefits for different groups, and about what standard of evidence is 'good enough'—are very familiar to people working in fields such as epidemiology, health services research, and health economics. The COVID-19 crisis, however, has rendered these debates more visible. The urgency of improving our knowledge of the virus and the public interest in the issues at stake have exposed scientific argument to the wider world, and what we've seen hasn't always been pretty. On key questions about pandemic management, scientists appear as divided as politicians—and sometimes even less polite in their disagreements.

Most recently, this has culminated in [two open letters](#) presenting rather different characterisations of the current state of the pandemic in the UK, and divergent prescriptions for what to do about it. Conspiracy theorists cast [dark aspersions](#) about the hidden interests that might explain these differences, and impugn the quality or even the honesty of each group's science. The real reason for the divergence, however, is perhaps rather simpler, and less shadowy. It's that we're at the limits of what 'the science' can tell us, at least for the time being. Bringing together different insights from diverse disciplines, or modelling a range of scenarios for future infection, morbidity and mortality, can help to reduce our uncertainty, and make the pandemic tractable. But turning that improved knowledge into action requires broader insights from other academic disciplines, such as the social sciences—and most importantly of all, from wider society.

The increasingly public spats we see between scientists, then, less reflect differences in scientific knowledge than differences in judgments about what to prioritise given the limits of that knowledge. While doctors, epidemiologists and others in biomedical research have valid insights on these issues, [we cannot rely on scientists alone](#) to make calls on questions that are affecting us all, profoundly, every day. In a democracy, these are problems for everyone to grapple with, with a view to reaching consensus on action—not least because there are no easy answers.

This isn't to suggest that scientists should stay in their lane, or stick to the ivory towers. The scenes may have been unedifying at times, but increased interest in scientific debate is ultimately a good thing. It is a chance to create better dialogue between scientists and the society they serve, and to dispel any notion that science is a saviour that will serve us up solutions—or, conversely, that science is irredeemably corrupt, beholden to whichever corporate interest is signing the cheques. But this requires honesty and humility from scientists in acknowledging that they don't have all the answers, that the knowledge they provide is imperfect, and that they have no privileged position when it comes to deciding what to do with it.

Decades of social scientific research on public understanding of science has dispelled the myth that distrust and antagonism towards scientists is simply down to ignorance of science. Scientists and other academics must recognise that the wider public is smart and interested. The lay public should be engaged honestly on the uncertainty that's inherent in the scientific enterprise, and be trusted, collectively, to make sense of it. Scientists rely on public confidence—not just for funding, but for participation in the kinds of studies that could provide us with a [better understanding of what face masks and other things can do for public health](#)—in this pandemic and the next.

Science, and what we do with it, is too important to leave to scientists. And in the long run, scientists will be the ones who suffer if they overstep their knowledge or understate their uncertainty.

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Note: the above was first published on the [LSE COVID-19 blog](#). Featured image credit: Boris Johnson leaves No 10. Photo: [Number 10](#) via a [CC-BY-NC-ND 2.0 licence](#)

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