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DID BEHAVIOURAL SCIENCE COST LIVES? SOME THOUGHTS ON UK GOVERNMENT POLICYMAKING DURING THE PANDEMIC[1]

UK Government policymaking during the pandemic approximated more closely to the evidence-based model than it does in normal times. Furthermore, one version of that model – what has been called Behavioural Government – seems to have gained influence, with behavioural scientists included in the membership of scientific advisory committees established to handle the pandemic. Given this closer approximation to the evidence-based model, the pandemic may provide us with a unique opportunity to examine the complexities surrounding the role that scientific evidence can play in government decision-making. I will highlight five of these complexities: the uncertainty, fallibility and revisability of scientific evidence; the multiplicity of evidence sources, and inequalities among types of evidence; the penumbra of inference and judgment around scientific evidence, leading to a blurred line between scientific evidence and advice; the role of non-scientific considerations or interests in policymaking, as well as in the production and presentation of scientific evidence; and the issue of responsibility or accountability.

Keywords: COVID-19 Pandemic; UK public health policy; scientific evidence and public policy; behavioural science

The COVID-19 pandemic has had a profound and wide-ranging effect on life in the UK, as elsewhere; and not just because of the high illness and death rates or the effects of measures taken to deal with it on people's lives. Another key area of change was to the process of governance. For much of the first half of 2020, the pandemic was overwhelmingly the predominant political issue, and it was one where scientific evidence was recognised to be of foremost importance. UK Government ministers frequently insisted that they were 'following the science' and that policies were 'evidence-based' or 'data-driven'. In other words, UK Government policymaking during the pandemic approximated more closely to the evidence-based model (see Hammersley 2013) than it does in normal times. As a result, this case provides us with a unique opportunity to examine the role that scientific evidence can play in policymaking, and some of the complexities associated with this. While at the present time the data available about government decision-making under the pandemic are largely limited to what has been put into the public domain, nevertheless some key points can be identified.[2]

I will discuss the following five points: the uncertainty, fallibility and revisability of scientific evidence; the multiplicity of evidence sources, and inequalities among types of evidence; the penumbra of inference and judgment around scientific evidence, leading to a blurred line between scientific evidence and advice; the role of non-scientific considerations

[1] This paper was written in August 2020.

[2] There has been increasing recognition of the complexities involved at the research/policy interface, see for example Fafard and Hoffman 2020. For a discussion of what can be learned internationally from governments' handling of the pandemic, see Forman et al 2020.

or interests in policymaking, as well as in the production and presentation of scientific evidence; and the issue of responsibility or accountability.

Uncertainty, fallibility and revisability of evidence

It is not uncommon for lay people to overestimate the capacity of science to produce knowledge whose validity is certain. This often arises from the belief that science operates on the basis of a demonstrative method, or through the use of technological devices that guarantee sound results. This is embodied in the common distinction between scientific knowledge and 'mere opinion'.[3] There is some evidence of this view of science not just among members of the public but also on the part of Government ministers, journalists, and other commentators. However, over the course of the pandemic, commentary in some of the news media became more sophisticated, recognising the difficulties facing scientists in gathering data, the margins of error in results, the questionable assumptions necessarily built into theoretical models, and so on. While such recognition is no doubt beneficial, it makes the use of scientific evidence for policy purposes a much more challenging task than if its validity could be assumed to be beyond all doubt; and it also has implications for public perceptions of science and of Government policy.

From early on in the pandemic considerable attention was given by journalists and other commentators to the scientific evidence to which Government ministers appealed in justifying their decisions, and especially that from scientists on the Government's advisory committees.[4] One category of scientists whose work was highlighted in the media were epidemiologists concerned with modelling the spread of epidemics through populations. Their research produced a key statistic – the R rate – which appeared to play a major role in policy decisions, and was central to much public discussion. For the most part, Government ministers did not give much attention to the uncertainties surrounding the findings of this type of research, at least in their public presentations, but these uncertainties were recognised in the advisory scientific committees set up by the Government,[5] and this was also true in some media discussions, especially where relevant scientific experts were involved. One of the effects of the pandemic was that media appearances by epidemiologists and public health experts increased dramatically. And, inevitably, as part of this it became clear that on almost all issues there were a range of judgments among such experts; and Government decision-makers will no doubt also have been aware of this.

It is worth briefly examining some of the sources of this uncertainty and disagreement. In the case of predictions based on modelling the epidemic, one of these is the margin of error necessarily involved in this scientific activity, as in others. Clearly, this can

[3] This is, of course, a contrast that has been challenged by some writers in the field of Scientific and Technology Studies. A classic study is that of Wynne 1996.
[4] The main committee was the Scientific Advisory Group for Emergencies (SAGE), but there are other committees that feed information into its discussions. See https://www.gov.uk/government/organisations/scientific-advisory-group-for-emergencies.
[5] This is evident in the minutes of SAGE, see https://www.gov.uk/search/transparency-and-freedom-of-information-releases?parent=scientific-advisory-group-for-emergencies&organisations%5B%5D=scientific-advisory-group-for-emergencies&order=updated-newest.

cause considerable difficulties in determining the scale of the problem to be addressed and how it is likely to develop in the future. A related problem is that slight changes in the information that is fed into a model can produce quite divergent findings, and the differences could be highly significant in policy terms. Third, there are multiple groups of modellers who use somewhat different approaches, these varying in the assumptions involved, and therefore producing somewhat different results. One problematic area here concerns the nature of people's social contacts; often the assumptions about this are necessarily rather crude and at best would only approximate to aggregate patterns, fitting some sections of the population better than others (Taylor 2020). For all these reasons there is considerable uncertainty surrounding scientific evidence, and conflicts even among sources of the same type of evidence.

Another problem is that the scientific evidence changes over time, sometimes in ways that are crucial for policy decisions. One obvious reason for this is that the information available to feed into the model changes. Initially, understanding of COVID-19 was quite limited, and was recognised to be of uncertain validity, so that reliance had to be placed on information about earlier pandemics, such as influenza. Over time, more accurate and additional kinds of data became available. Another potential source of change is developments in modelling techniques. While these are to be expected, they can lead to quite dramatic alterations in the implications for policy. And changes in policy, even based on appeals to scientific evidence, can have political consequences: they can give the impression that the Government is dithering, and can also affect public confidence in scientific evidence itself.

Of course, it is a truism within science that findings should not be accepted at face value, their reliability (in the common sense meaning of that term) must be evaluated. However, the capacity for doing this is not widely distributed within the population or even within governments. Thus, there is a dependence on scientists not just to produce scientific evidence but also to assess its likely validity. Furthermore, these assessments are themselves uncertain and fallible to some degree. At the same time, lay people – including politicians and journalists – are not, of course, barred from making assessments of the evidence, in light of their own background knowledge and experience. All of this can lead to doubts about the evidence, and especially about what it means in policy terms.

It is important to note, however, that the presentation and assessment of evidence about the pandemic, and wider discussion of this, generally took place within the framework of a common concern to find the best way of dealing with a threat that almost everyone recognised to be the main political priority. This shared focus was present not just amongst scientists on advisory committees and among government ministers but also in the public sphere. While there were one or two dissenting voices, for the most part the consensus was that this was a severe public health crisis and that strategies must be found for resolving it, or at least for controlling its damaging effects (there is a sharp contrast here with the situation in some other countries, such as the United States and Brazil). It is worth stressing that this consensus on focus and priority is very different from the sort of context in which scientific evidence is usually dealt with in the public sphere, where responses to it are frequently

shaped by divergent interests; so that it may even be selectively accepted and rejected in order to support predetermined conclusions, rather than used to solve a generally recognised problem. An example would be climate change debates, where public discussions have been affected by a variety of ideological and material interests, whether it is oil companies who stand to lose money from changes in energy use to ecological pressure groups who wish to build public support for radical change to current priorities and policies (Hulme 2009). Such interests can lead to major differences in response to particular pieces of scientific evidence, from uncritical acceptance to excessive methodological critique, as well as differences in overall assessment and inferences about policy requirements. While what is involved here is a dimension, rather than a dichotomy, it is clear that the use of scientific evidence in UK policymaking during the pandemic was distinctive – as suggested earlier it approximated to what is assumed in the evidence-based policymaking model.

However, the uncertainties surrounding scientific evidence, along with conflicts and changes in it over time, generated considerable difficulties at the interface with policymaking. What was reported as the most significant early change in Government policy – resisting calls for lockdown but then subsequently opting for it – was explained in the media as resulting from new modelling evidence (though the Government frequently insisted that there had been no change in policy, that they had followed the same plan from the beginning).

Multiplicity and inequality in types of evidence

Another complexity highlighted during the pandemic is that policymaking draws simultaneously on a variety of sources and types of scientific evidence. While some of these are likely to be viewed as more reliable, or as of higher status, than others, there will be varying views about this even among scientists themselves. This is of considerable significance for the role of evidence in policymaking since it leads to questions about which evidence should be given the greatest weight in decisions, or how different types of evidence can be combined. There is also the possibility of competition amongst representatives of different specialities in presenting evidence, this having at least a couple of aspects. The most obvious concerns competition over relative influence within advisory committees and for the ears of politicians and their advisers, not least because this could have implications for future funding of the relevant speciality. Equally important, though, there is often a tendency for different specialities to view the world in significantly different ways, so that there can be clashes at this ideational level too. While these may not be as sharp as those between different political ideologies, they can nevertheless cause difficulties in determining how different types of evidence relate to one another.[6]

I have already mentioned one kind of evidence employed within the decision-making process during the pandemic: that from scientists concerned with modelling epidemics. The character of this contrasts sharply with the nature of the evidence coming from what has come to be labelled ‘behavioural science’. From early on in the pandemic, references to this field were also frequent on the part of government spokespersons, and by the media. There

[6] For a discussion of the implications of different experiential worlds, see Hammersley 2002.

was a separate UK Government advisory group devoted to 'behaviour', on which many behavioural scientists sat. This was the Scientific Pandemic Influenza Group on Behaviours (SPI-B), tasked with assessing whether people would adhere to various proposed Government measures and providing advice aimed at getting people to comply with them. SPI-B, like the other the advisory groups, fed its deliberations into the main advisory committee (SAGE).

Behavioural science is a relatively new figure on the health policy scene. In previous infection crises in the UK – such as those involving BSE and foot and mouth disease – the term 'behavioural science' did not occur, and there were few if any social scientists involved in advising the Government then. Of course, the role of behavioural science in UK policymaking did not begin during the pandemic, but several years earlier. Discussion of its role usually focuses on the formation and functioning of the Behavioural Insights Team (BIT) in the UK Cabinet Office, which was set up at the start of the 2010-2015 Conservative-Liberal Democrat coalition government.[7]

There seem to be two key strands in the knowledge base which this speciality claims.[8] First, there is behavioural economics, and in particular 'nudge theory' (Thaler and Sunstein 2008): BIT is often informally referred to as the 'nudge unit'. By contrast with conventional economics, behavioural economics assumes that people do not act rationally, but that it is nevertheless possible to understand why they act in the way that they do, as a basis for changing their behaviour. There are also links with cognitive psychology, particularly its concern to understand errors in human decision-making, this treated as a basis for developing and evaluating behaviour-change interventions. A second central strand in BIT's approach was the idea of evidence-based policymaking, modelled on evidence-based medicine. Indeed, the establishment of the unit occurred at a time when the idea of evidence-based practice had been taken up by influential politicians, and there was a considerable use of the phrase in public justifications for policies. Evidence-based medicine had emerged in the 1980s and 90s, and it had come to influence not only policymaking in health but also in other areas such as education, social work, and crime prevention. A key feature of evidence-based medicine was the idea that randomised controlled trials (RCTs) provide the most reliable source of evidence about treatments, whether these involve drugs, surgical procedures, or other sorts of intervention, such as those in the mental health field. This methodological assumption was particularly significant for BIT, and it carried out RCTs in relation to a variety of issues, and encouraged the use of these as a basis for policymaking more widely. Subsequently, the unit developed the idea of 'behavioural government'. The subtitle of the report promoting this

[7] It has provided the following description of itself as 'created in 10 Downing Street in 2010 as the world's first government institution dedicated to the application of behavioural sciences to policy. It subsequently became a social purpose company that is jointly owned by the UK Government, Nesta (the innovation charity) and its employees'. See https://www.bi.team/wp-content/uploads/2018/08/BIT-Behavioural-Government-Report-2018.pdf.

[8] Interestingly, at least within the UK context, the notion of behavioural science is a rebirth. Some 50 years ago a 'behavioral revolution' was announced in several social science disciplines, and the notion of 'behavioural sciences' became widely influential, particularly in the United States. See, for example, Miller 1955. While there are parallels between the two, the earlier version had a rather different ethos.

indicates that it involves 'using behavioural science to improve how governments make decisions'.[9]

If we compare epidemic modelling with behavioural science, there is relatively little potential overlap. For the most part, the two specialities focus on quite distinct aspects of the problem of dealing with the pandemic. Of course, this would not prevent competition and clashes between the two sorts of expert. Behavioural science can be seen as colonising what previously had been regarded as outside any specific scientific field included in Government health advisory committees: the issue of the likely public reaction to different potential policies, how well those policies would or would not work, and so on. This is a set of issues about which both medical scientists and policymakers could claim some informal expertise. But obviously this was challenged when a group of researchers arrived claiming this previously common land as their own. It is not clear what status was given to this new discipline by representatives of other specialities. In some quarters there were reactions against its claim to expertise, for example on the grounds that behavioural science simply reformulates common sense in purportedly scientific terms.[10] Before going on to offer a defence of behavioural economics, one commentator suggested that there was an at least perceived conflict with epidemiologists: 'The lay person would be forgiven for believing that the two disciplines [epidemiology (how the virus is transmitted) and behavioural science (how people behave under different policy interventions)] are in conflict with one another […]. The UK media is certainly giving the impression of an almighty battle raging over whether behavioural science (of which behavioural economics forms a part) should have any say in COVID-19 policymaking'.[11] However, it also soon became clear that there were serious disagreements *amongst* behavioural scientists, with a large number writing an open letter to challenge a policy (delay in instituting a lockdown) purportedly based on it.[12]

In fact, however, behavioural science seems more likely to come into conflict with another scientific discipline that is well-represented on the advisory committees: public health.[13] There are two aspects to this potential conflict. First, expertise in public health would certainly cover which policies are likely to be successful. Second, while this is a scientific speciality, it is also a form of professional practice, and some of its claim to expertise derives from this. So, while much of the evidence being presented in advisory

[9] See https://www.instituteforgovernment.org.uk/sites/default/files/publications/BIT%20Behavioural%20Government%20Report.pdf.

[10] A House of Lords report in 2011 was critical of the role of behavioural science in government policymaking: https://publications.parliament.uk/pa/ld201012/ldselect/ldsctech/179/179.pdf.

[11] See: https://www.oxera.com/agenda/covid19-behavioural-economics-spotlight/

[12] See https://behavioralscientist.org/why-a-group-of-behavioural-scientists-penned-an-open-letter-to-the-uk-government-questioning-its-coronavirus-response-covid-19-social-distancing/ See also: https://www.theguardian.com/commentisfree/2020/mar/13/why-is-the-government-relying-on-nudge-theory-to-tackle-coronavirus.

[13] Public health is often treated as a multi-disciplinary field, one that includes epidemiology, but I am using the term in a narrower sense here to refer to those practitioners engaged directly in securing or improving the health of some population. Focus on the population level is what distinguishes this speciality from most forms of medicine, though General Practitioners have some responsibility for public health as well as for that of individual patients.

committees will be the results of empirical research, public health specialists will also offer evidence from past experience, albeit with a scientific gloss because of the character of their discipline. Yet a central pitch for behavioural science has been the argument that expertise based on practical experience is unreliable; this was inherited from evidence-based medicine, where it was claimed that the effectiveness of many medical treatments is unknown, and that some commonly used ones that were tested have been shown to be ineffective or even damaging to the health of patients. Behavioural scientists could make similar claims about public health 'expertise' as regards what measures are likely to be most effective; though it is not clear that the advice they offered was based on the results of RCTs. So, there is the potential for sharp differences in view between public health representatives and behavioural scientists, although no doubt also scope for alliances.

Given the different specialities involved in advisory committees, and the considerable number of scientists taking part, we can reasonably expect that there will have been some disagreements that stemmed from the differences between the specialities, and perhaps even competitive relations among them to influence government decision-making. Of course, this would not be the only source of potential disagreement, nor the only source of competing or conflicting interests – these could also derive from issues of individual reputation and career, for instance.

The penumbra of inference and judgment: evidence and advice

The data employed in scientific studies rarely relate directly to the particular situation with which policymakers are dealing, and this means that inferences have to be made from those findings to the new situation about which decisions must be made. As already noted, at the start of the COVID-19 pandemic, and even in the midst of it, there was relatively little research data that related specifically to this virus. In assessing the likely effects of various policies, reliance often had to be placed on research concerning previous pandemics, with adjustments made for what was known about the distinctive characteristics of the new virus (see, for example, Viner et al 2020). Sometimes this can be done in a relatively rigorous fashion, but often what is involved is much more like guesswork (such uncertainties are a frequent theme in the minutes of SAGE).

There is also the point that scientific evidence may be available in relation to some aspects of the problems faced in dealing with the pandemic, but not in relation to others. So, while there may be evidence about the effects of lockdowns in previous pandemics, there may not be evidence relating to variations in the scope and character of lockdowns, as to what sort of lockdown would be most effective. Similarly, while there may be evidence about the effectiveness of particular measures, there may be little evidence about how these would operate when used together.

Furthermore, it is important to emphasise the distinction between scientific evidence and scientific advice, though it should already be clear from the earlier discussion of public health as a discipline that this distinction is difficult to draw in any very hard and fast way, in practice at least. If we take the relatively straightforward case of epidemic modelling, its

results are predictions about the scale and perhaps also distribution of the epidemic across a population. In themselves, these predictions do not indicate how serious the problem is or what ought to be done. In fact, despite what we may be inclined to think, they do not – on their own – even tell us that there is a problem that needs tackling. In order to identify a problem, some value-judgments need to be made about the significance of what science reports. While this is often done automatically, effectively assuming that the value-judgments follow automatically from the facts (and this is perhaps especially true in the field of health), it is important to remember that this is not the case – not least because different conclusions could be drawn if we relied upon different value judgments. For example, if we believe that the best way of dealing with an epidemic, in the absence of a vaccine, is to allow it to spread through the population so as to build up herd immunity, then (in extreme terms) the faster it is spreading the better, and nothing should be done to stop it. This was, apparently, a focus for debate within UK Government policy circles at the start of the pandemic, and may have shaped pandemic policymaking in Sweden.

In the case of public health and of behavioural science this gap between evidence and advice can be very hard to see. Here the 'evidence' offered may be closer in character to advice since both disciplines claim to indicate (among other things) what strategies would and would not be effective; and, in the case of public health, perhaps even which is the most appropriate. Given that a policy must 'work' if it is to be worth adopting, it may appear that such evidence does indeed tell policymakers what should be done. But, even here, this is only possible if certain assumptions are made, explicitly or implicitly, for example about what are and are not ethically and politically legitimate strategies. Public health, as a specialism, tends to have some of these assumptions built into it: taken overall, it is a normative discipline. But it is nevertheless worthwhile to make a distinction between the factual evidence on which public health advice relies and the value-judgments it involves. Both may need scrutiny by policymakers, even though this will necessarily take different forms.

It is also important to recognise that in the context of advisory committees it is likely that evidence will be selected and presented to some degree in light of what its implications are taken to be for policy. So, what is involved may not be simply a matter of evidence being introduced into the process of decision-making, but rather of its being selected and 'worked up' in ways designed to suit the context. One of the effects of this may be that what passes for evidence in a relevant speciality more generally may be significantly different from what is presented as deriving from this speciality within advisory committees. An example of this backwash process is to be found historically in a quite different field: the handling of intelligence in the UK before the invasion of Iraq. A dossier was prepared about Iraq's possession of weapons of mass destruction. It was widely claimed that the original intelligence material had been 'sexed up' so as to support the policy of invasion, which had already been decided on by the US President with the UK Prime Minister's support.[14]

[14] See: https://publications.parliament.uk/pa/cm200203/cmselect/cmfaff/813/813.pdf.

The role of non-scientific considerations or interests

I have already noted the role of interests of various kinds in shaping the selection and presentation of scientific evidence. This is likely to be even more significant at the level of policymaking. Weiss (1983) famously distinguished three influences on policy: ideology, interests, and information. And it is important not to be dismissive of the role of ideology and interests: some of what these terms point to are non-scientific factors that politicians must take into account in policymaking, even in the midst of a pandemic. The most fundamental issue where these emerged in this case was the question of weighing public health issues against the likely economic consequences of the lockdown, and against threats to the perceived legitimacy of the Government.

It is also worth noting likely difficulties in communication between scientists and policymakers, particularly politicians, arising from differences in interest. There is an important sense in which these groups, even more than scientists in different specialities, live in different experiential worlds as a result of their different primary concerns (Hammersley 2002). One of the key features of science is careful assessment of the reliability of evidence, and a tendency in the face of uncertainty to suspend judgment. By contrast, decision-makers must recognise that not taking, or delaying, a decision can be as consequential as acting on the basis of uncertain evidence.

Furthermore, how policymakers 'receive' messages from scientists will involve a high degree of mediation for other reasons too. There is some evidence of such communicational problems at the start of the pandemic: the (very new) UK government was preoccupied with the Brexit issue, and was therefore not well-prepared to recognise the significance of the threat from COVID-19. Perhaps encouraged by the Brexiters' idea of the UK as exceptional, and therefore as unlikely to succumb to the virus in the way that other countries were doing, in an early speech the PM warned that there was a danger of panic in the face of the virus. He suggested that this would lead to measures being taken that were not 'medically rational', and that there was a need for a country to stand up against this, insisting that the UK was prepared to take on that role.[15] Given this initial stance, it is not hard to imagine that it would have been some time before the seriousness of the situation got through to the UK Government. This could have been complemented by problems on the other side too: given scientists' awareness of the uncertainty and fallibility of their evidence, they may not have been inclined to present this in a sufficiently forceful way to break through the barriers of initial resistance on the part of policymakers.

The issue of responsibility

As noted earlier, a recurring theme on the part of UK Government ministers was 'we are following the science'. This is reminiscent of an old Irish joke: 'Follow me, I'm right behind you' (O'Connor 1995). While, as I have suggested, it is almost certainly the case that scientific evidence played a much greater role in policymaking during the pandemic crisis

[15] See: https://www.gov.uk/government/speeches/pm-speech-in-greenwich-3-february-2020; https://www.youtube.com/watch?v=WsNwfEw-ywA&feature=youtu.be&t=1382

than it normally does, these statements were not intended simply as descriptions. They were used by politicians as a defence against criticism: they were an appeal to the authority of science, relying on the assumption that lay people, including opposition politicians and journalists, would not feel in a strong position to question scientific evidence.

These statements were also, for reasons already outlined, a gross oversimplification of the role that scientific evidence played, and indeed could play. Nevertheless, they point to a feature of evidence-based policymaking that is not always given the attention it deserves: its implications for accountability. While advocates of evidence-based policymaking argue that it *facilitates* accountability, in the sense of making the basis for policies 'transparent' – open to public scrutiny (see, for instance, Oakley 2000) – what they have not usually mentioned is that – to the extent that policy *is* 'based on' science – then responsibility for what come to be seen as policy errors can fall on scientific advisers and researchers. At various points during the pandemic, questions were raised about whether the initial Government response was correct, for example in stopping 'test, trace and contact' or in not going immediately into lockdown. The Government was usually the main target of this criticism, but these were the occasions, especially, when Ministers stressed their reliance on science. And some media commentators started to ask whether, if Government policies had actually been in line with the scientific advice, whether this advice had been wrong.[16]

As an illustration of this, one public account of what happened in the UK at the beginning of the pandemic was that an immediate lockdown was considered, but that the advice from 'behavioural science' was that this would be unwise because the population may not comply until they fully recognised the seriousness of the situation, and that they could become weary of the restrictions before the peak of the pandemic had been reached, so that compliance would decline at the worst possible time.[17] A briefing was apparently given by David Halpern, the head of BIT, along these lines. A newspaper report on this commented: 'it's clear from the briefing he gave journalists that he favoured delaying a lockdown because of the risk of "behavioural fatigue", the idea that people will stick with restrictions for only so long, making it better to save social distancing for when more people are infected'.[18] After a week or so the initial policy was revised and, as noted earlier, this has been put down to a change in the modelling evidence, which began to suggest that the health service would be overwhelmed by the number of cases.

Given that delay in instituting the lockdown is now widely believed to have resulted in a greater number of deaths from COVID-19 than would otherwise have occurred, behavioural scientists may seem to be open to criticism for this. However, it is worth remembering that BIT was originally a part of the UK Government, and this raises an

[16] See, for instance: https://www.telegraph.co.uk/politics/2020/06/11/revealed-sage-minutes-show-advisers-not-calling-early-lockdown/

[17] See: https://www.bloomberg.com/news/articles/2020-03-11/keep-calm-and-wash-your-hands-britain-s-strategy-to-beat-virus.

[18] See: https://www.theguardian.com/commentisfree/2020/apr/26/nudge-theory-is-a-poor-substitute-for-science-in-matters-of-life-or-death-coronavirus. An additional consideration was the health effects of the lockdown: see https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(20)30460-8/fulltext

interesting question about who belongs in the category of 'scientists' and who in that of 'Government', a question that could also be asked about the Chief Officers and their deputies. Furthermore, as mentioned previously, a large number of behavioural scientists wrote an open letter questioning the concept of 'behavioural fatigue' and expressing concern about the policy based on it.[19] As one commentator observed: 'It's extraordinary that Halpern was briefing on what essentially looks like his opinion as if it were science'.[20] This relates, of course, to what I referred to earlier as the penumbra between evidence and advice. The same commentator goes on: 'It's less extraordinary, though, when you understand that the Behavioural Insights Team is a multimillion-pound profitable company, which pays Halpern, who owns 7.5% of its shares, a bigger salary than the prime minister. Here lies the potential conflict of interest: someone who contributes to Sage also has a significant financial incentive to sell his wares'. So, the issue of interests may also arise here. Subsequently, Government ministers have usually denied that there was any delay in instituting a lockdown, insisting that everything was 'done to plan', or they have disputed that the timing of the lockdown caused increased loss of life.[21]

An important feature of the crisis, as I said at the beginning, is that most of the time there was one predominant political issue;[22] and it was framed almost entirely in public health terms, even though the economic effects of the lockdown were recognised. It is striking that almost all of the members of the advisory committees were from specialities concerned with the field of health, or in the case of the behavioural scientists were there to advise about how best to ensure that the public followed the health advice. The government did not rely on independent economic advisers within this committee system, though of course economic advice would have been coming from the Treasury. Furthermore, it is not the task of the Chief Officers to balance health issues against economic ones – this was clearly the responsibility of the Government. The advice from SAGE goes to The Civil Contingencies Committee (COBRA) where it is weighed up against other considerations. This adds further complexity to the issue of what 'following the science' could mean.

The issue of responsibility puts great pressure on the boundary between scientific evidence and scientific advice. Of course, scientific evidence can be the result of poor research practice and can be wrong; and it can also be presented in ways that exaggerate or underplay its likely validity. This can be true of that from epidemic modelling as well as that from behavioural science. But equally important is the interpretation and inference involved

[19] See https://behavioralscientist.org/why-a-group-of-behavioural-scientists-penned-an-open-letter-to-the-uk-government-questioning-its-coronavirus-response-covid-19-social-distancing/. This is apparently an area of dispute within behavioural science, see: https://mindhacks.com/2020/03/20/do-we-suffer-behavioural-fatigue-for-pandemic-prevention-measures/.

[20] https://www.theguardian.com/commentisfree/2020/apr/26/nudge-theory-is-a-poor-substitute-for-science-in-matters-of-life-or-death-coronavirus.

[21] There is a further complexity relating to this last point: some of the 'excess deaths' presumed to be caused, directly or indirectly, by the pandemic would effectively have involved 'bringing deaths forward' rather than 'bringing them about', since a significant proportion were of very elderly people and ones with serious underlying health conditions.

[22] In June 2020, the killing of George Floyd by police in the United States led to demonstrations in the UK as well as elsewhere, and this resulted in the issue of racial inequalities challenging the pandemic at the top of the news agenda if not the public policy agenda.

in determining the reliability of the evidence and its policy implications. As I pointed out, such matters are already included within the speciality of public health. Indeed, it is the job of the Chief Medical Officer, as well as of the Chief Government Scientist, and their deputies, not just to draw on and filter scientific evidence but also to turn it into advice. But the pressure to do this is likely to have extended to other scientists on the advisory committees as well. So, the relationship between scientists and Government is likely to be a two-way one, with the former being pressed to offer policy advice on the basis of their evidence rather than just provide the evidence itself; while, simultaneously, politicians will interpret evidence very much in terms of its implications for their policy decisions, and also in terms of their background interests.[23] While the Government's insistence that it simply followed scientific advice must be questioned, since the ultimate responsibility for decisions lies with elected representatives, the more policymaking is presented as based on scientific evidence the more likely it is that there will be some distribution of responsibility to scientists, especially when things go wrong.

One of the problems with responsibility is that it is largely a no-win matter in the public sphere. For the most part, the focus is on what are taken to be mistakes, and often these mistakes amount to taking one action rather than another from a range of options none of which was cost-free, or without risk of serious negative consequences. Of course, politicians are aware of this, and it is perhaps not surprising that scientific advisers can therefore serve as useful scapegoats. And the more it can plausibly be claimed that Government policy was 'evidence-based' the more successful such deflections of responsibility are likely to be.

Conclusion

In this paper I have reflected on what can be learned about evidence-based policymaking from what happened in the UK during the first stages of the COVID-19 pandemic. My account of this has necessarily been rather speculative. While I have drawn on what evidence is currently accessible about the role of scientific evidence in the policymaking process during the pandemic, this is limited at the present time. If and when there is a public inquiry on this topic, it may be possible to provide a better account.

I have argued that, during the pandemic, there was a decisive move towards policymaking drawing on scientific evidence, and that a number of complexities in the relationship between science and policymaking became particularly evident as a result: that scientific evidence is fallible; that it can be of different kinds and come from diverse sources which may be in conflict; that considerable inference and interpretation, based on value assumptions, is involved in moving from scientific evidence to scientific advice; that non-scientific considerations and interests play an unavoidable role in policymaking; and that the

[23] One influential critic has argued that scientists on the advisory committees acquiesced to Government demands, accusing SAGE of becoming "the public relations wing of a government that had failed its people": https://www.theguardian.com/world/2020/jun/14/lancet-editor-attacks-uk-government-for-catastrophic-handling-of-covid-19-pandemic. See also: https://www.theguardian.com/politics/2020/jun/14/the-lancets-editor-the-uk-response-to-coronavirus-is-the-greatest-science-policy-failure-for-a-generation

idea of policy as based on scientific evidence carries implications for attributions of blame for policy errors. These are important aspects of the policy process, not only because they challenge Government claims simply to have 'followed the science', but also because they highlight the pressures operating on scientists involved in providing evidence and advice to governments.

References

Fafard, P. and Hoffman, S. (2020) 'Rethinking knowledge translation for public health policy', *Evidence & Policy*, 16, 1, pp. 165-175.

Forman, R., Atun, R., McKee, M. and Mossialos, E. (2020) '12 Lessons learned from the management of the coronavirus pandemic', *Health Policy*, 124, 6, pp 577-580.

Hulme, M. (2009) *Why We Disagree About Climate Change*, Cambridge, Cambridge University Press.

Miller, J. G. (1955). Toward a general theory for the behavioral sciences. *American Psychologist, 10*(9), 513–531.

O'Connor, T. (1995) *Follow Me, I'm Right Behind You: A treasury of Irish humour*, London, Robson Books.

Oakley, A. (2000) *Experiments in Knowing*, Cambridge, Polity Press.

Taylor, P. (2020) 'Susceptible, Infectious, Recovered', *London Review of Books*, Vol. 42 No. 9, 7 May 2020.

Thaler, R. and Sunstein, C. (2008) *Nudge: Improving Decisions About Health, Wealth and Happiness*, New Haven CT, Yale University Press.

Viner, R. M., Russell, S. J., Croker, H., Packer, J., Ward, J., Stansfield, C., Mytton, O., Bonnell, C., and Booy, R. (2020). School closure and management practices during coronavirus outbreaks including COVID-19: A rapid systematic review. *Lancet Child & Adolescent Health*, *4*(5), p. 397–404. https://doi.org/10.1016/S2352-4642(20)30095-X

Weiss, C. (1983) 'Ideology, Interests, and Information: The Basis of Policy Positions', in Callahan, D. and Jennings, B. (eds) *Ethics, The Social Sciences, And Policy Analysis*, New York, Plenum Press.

Wynne, Brian (1996). 'Misunderstood Misunderstandings: Social Identities and the Public Uptake of Science'. In Alan Irwin and Brian Wynne (eds.). *Misunderstanding Science? The Public Reconstruction of Science and Technology*. Cambridge: Cambridge University Press. pp. 19–46.