TRANSLATING EVIDENCE INTO POLICY DURING THE COVID-19 PANDEMIC: BRIDGING SCIENCE AND POLICY (AND POLITICS)

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Summary: Effective responses to public health emergencies should rely on translating rapidly emerging research into timely, evidence-informed policy and practice. The case of COVID-19 demonstrates that doing so in practice is far from straightforward. Evidence uncertainty; the “infodemic”; the blurring of boundaries between science, policy and politics; and the competition between health and economic objectives, all make policy making for COVID-19 immensely complex. This article reviews these challenges and some of the tools countries have used to translate evidence into public health policy, not least multidisciplinary scientific advisory groups, which have often proved pivotal in informing government decision-making. Despite their emphasis on science and objectivity, however, they have posed questions about independence and transparency. This article explores what this means for the way decision-makers use evidence now and in the long-term, and for the role of neutral “knowledge brokers”.

Keywords: Evidence Translation, Evidence-informed Policies, Policy Makers, Knowledge Brokering, COVID-19

Introduction: The pandemic flags up the wider challenges of evidence-informed policy

Governments across Europe have become increasingly aware of and committed to using evidence to inform public policy over recent decades. The COVID-19 pandemic is, in some ways, an ‘ideal opportunity’ to build on this and mobilise scientific knowledge to inform decision-making. Almost all governments have looked to the science to shape prevention and treatment actions and their wider responses beyond the health sector. However, getting evidence into practice has proved to be challenging, with questions raised both about the evidence and how it is used. These questions touch on longstanding issues: around the quality and independence of evidence; of how decision-makers access and understand it; around public understanding and...
acceptance of expert opinion; and of how society manages the contradictions and trade-offs between different objectives. COVID-19 has not created these issues, but it has thrown them into sharp relief. The pandemic also creates an opportunity to assess the kinds of intermediaries that can help translate evidence into practice and to review how independent “knowledge brokers” can support evidence-informed policy in the future.

The sheer volume of evidence emerging during COVID-19 and the speed at which it evolves poses a challenge for policy makers

Little was known about COVID-19 at the beginning of the pandemic, with evidence on how it was transmitted, disease severity, mortality rates, populations at-risk and potentially effective preventative (and treatment) measures all unclear. A proliferation of global research from different disciplines has rapidly emerged to try and address these questions. Just a few months after the first SARS-CoV-2 case, hundreds of systematic reviews and meta-analysis are available and epidemiologists, economists, social scientists and data analysts from other fields are providing up-to-date analysis in a myriad of open data web pages and applications. This has huge potential benefits, but can equally be overwhelming for decision-makers.

What is more, early evidence on the virus has been surrounded by uncertainty and new and emerging evidence has not always been definitive. There has been little time to replicate research, and in some cases findings published in high profile journals were later retracted due to concerns over data veracity. Uncertain, conflicting and ‘shifting’ evidence has been a considerable challenge for policy makers. It has generated significant debate and contributed to divergent policy responses being adopted in different countries, and even prompted occasional U-turns. Rules on physical distancing are a case in point, with countries implementing measures ranging from 1, through 1.5 to 2 metres. Facemask use is similarly contested. While evidence in favour of the efficacy of public use in preventing transmission has emerged gradually, scientists hold differing views on their value and policies in countries are still very mixed. Some mandate facemask use even outside (e.g. France, Italy, Serbia, Spain, Turkey), while others are not prescribing their use in any settings (e.g. Belarus, Iceland, Norway and Sweden).

The sheer volume of data and analysis, the uncertainty around the science and the rapid evolution of knowledge mean that policy makers need help both to capture and understand information and to interpret its strength and validity.

Public perceptions also affect policy makers – uncertainty and the “infodemic” make it ever harder for them to convince people to ‘follow’ the evidence

The facemasks example also highlights the importance of public opinion, which is all too often increasingly divided. There are vocal minorities in several countries (e.g. Greece, Ireland, the United Kingdom, the United States) opposing facemask use on the grounds of personal freedom. While concerns about civil liberties are to be expected when governments take measures on the scale of the COVID-19 responses, the issues have been amplified by social media. The pandemic emerged at a time when social media had already been implicated in disseminating inaccurate, sometimes harmful information on health. Misleading advice on COVID-19, has been spread online, often rapidly and widely, and threatens adherence to specific public health measures (including on physical distancing). Beyond this, it triggers a wider mistrust of scientists and experts and can encourage people to ignore or oppose broad public health measures, again undermining COVID-19 responses. Misleading advice may not be intentionally malicious, but can be damaging nonetheless.

However, in some cases “fake news” can be spread intentionally by organisations or individuals, often to promote their political, economic or ideological agendas. Populist politicians, in particular, have sought to politicise COVID-19 and have seized on the crisis as an opportunity to mobilise their voting base.

Putting aside the validity of the views shared or the motivation behind sharing them, there are very significant challenges that derive simply from the volume of information available. Members of the public (like policy makers) have access to an “overabundance” of competing information, what has been termed an “infodemic”. The volume of this and its heterogeneity makes it difficult for people to identify which information and guidance on COVID-19 is trustworthy and evidence-based. It also complicates their responses to the inevitable changes and uncertainties in ‘official’ sources of evidence. This in turn makes it more difficult for policy makers trying to secure public cooperation and for the scientists trying to bring evidence into practice.

Evidence alone cannot resolve the complex trade-offs between policy areas or the complexity of implementing policy choices

Translating evidence into timely policy action has been further complicated by the fact that while COVID-19 is a public health challenge, the policies that address it have enormous impacts on society and the economy. Public health objectives may conflict with other government commitments. Implementing a strict lockdown for example, may prevent transmission, but is at odds with the need to keep workplaces and schools open to protect people’s livelihoods and children’s education. Policy makers are therefore having to make judgements on policy measures that balance different objectives, in areas where evidence cannot provide a straightforward answer and where the differing priorities of different stakeholders are often legitimate.

In these judgements, decisions are informed not only by the evidence, but also the prevailing values and ethics of ruling parties and of the societies they govern. Right-wing governments may be more inclined to protect the free-market economy than to impose stringent lockdowns, which may well reflect the views of their electorate. Similarly, the political right may have a different take on the trades-offs between protecting health and respecting individual freedoms than the left. Some parts of European societies
may also have a liberal aversion to an expanded role of the state and these beliefs may make it more difficult to implement policies that interfere with personal choice. They may also affect the extent to which the population adheres to the measures that are implemented.

Cultural values, traditions of solidarity and the societal context influence decision-making and will influence the way evidence is understood, believed and acted on. Furthermore, policy makers have – as we all do – a set of cognitive biases that make it more likely that they will act on the evidence that reinforces their own pre-existing (political and ideological) views.

Even in cases where robust and abundant evidence is communicated effectively, there are still roadblocks to overcome before it is actually transformed into political decisions. The probability of success in the real-world, the extent to which a given measure will undermine competing initiatives, the scale of unintended social or economic consequences are all part of the review of trade-offs and will often modulate political decisions. The feasibility of a recommended measure in a given context will also have real impact. If the legislative base, the infrastructure or the funding to implement a policy are not available, the decision to do so becomes meaningless.

Countries have called on re-purposed and ‘new’ expert groups to help them translate evidence for policy

Clearly, the route from scientific evidence to policy is not straightforward but different governments have accepted that the pandemic is a reason to build on the progress towards evidence-based policy making and not an excuse to jettison it. The Health System Response Monitor (HSRM) throws up some useful examples of how countries are facilitating the translation of evidence into policy. Here, the focus is solely on public health policy measures and not the use of clinical evidence for treatments or protocols. While exact models are culturally and contextually determined, a common approach has seen countries activate pre-existing expert scientific advisory groups. There have also been new advisory groups established to guide health responses and in some cases task forces have been set up specifically to advise on economic responses both during the crisis and the recession that is expected to follow. Examples of these groups and their key characteristics are shown in Table 1.

Examples of established scientific and expert advisory groups that have informed policy decisions during previous public health crises include the Risk Assessment Group (RAG) in Belgium, comprised of epidemiologists, scientists and representatives of health authorities and the Scientific Advisory Committee in Cyprus consisting of independent academics and members of the Unit of Surveillance and Control of

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**Table 1: Approaches to bringing evidence into policy responses to COVID-19**

<table>
<thead>
<tr>
<th>Model</th>
<th>Country examples</th>
<th>Roles</th>
<th>Characteristics</th>
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<tbody>
<tr>
<td>Pre-existing expert advisory groups</td>
<td>Belgium, Cyprus, Slovenia, UK</td>
<td>Review the available evidence and provide directions and communicate advice on appropriate health system measures to policy makers and the public</td>
<td>Contains scientific experts from multiple disciplines; Convened by governments and embedded in the political process; Chaired either by Chief Scientific or Medical Officers, public health experts or government actors; Comprised of independent experts</td>
</tr>
<tr>
<td>Pre-existing institutions advising governments</td>
<td>Slovenia</td>
<td>Review evidence and communicate advice on public health measures to policy makers and the public</td>
<td>Usually universities or national institutes of public health</td>
</tr>
<tr>
<td>Newly established expert advisory groups</td>
<td>Belgium, Bosnia and Herzegovina, Canada, Estonia, France, Ireland, Italy, Luxembourg, the Netherlands, Spain</td>
<td>Review the available evidence and provide directions and communicate advice on appropriate health system measures to policy makers and the public</td>
<td>Contains scientific experts from multiple disciplines; Convened by governments; Chaired either by Chief Scientific or Medical Officers, public health experts or government actors; Comprised of independent experts</td>
</tr>
<tr>
<td>Task forces to advise on economic recovery</td>
<td>Estonia, Finland, Ireland</td>
<td>To advise governments on social and economic impacts of COVID-19 and to aid an inclusive recovery</td>
<td>Contains scientific experts from multiple disciplines; Convened by governments</td>
</tr>
<tr>
<td>Experts acting independently of official government channels</td>
<td>UK</td>
<td>Working independently of government to develop policy recommendations based on available evidence that are communicated directly and transparently to the public</td>
<td>Contains scientific experts from multiple disciplines; Acting independently of government; Release minutes and data behind decisions publicly for transparency</td>
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Note: this is not an exhaustive list of institutions advising governments during COVID-19, but are illustrative examples taken from the HSRM.

Source: [1]
Communicable Diseases. In the UK, the scientific advisory group for emergencies (SAGE) was activated to provide consensus advice on key issues (use of facemasks, school closures, lockdown measures), based on available scientific evidence and includes a wide-range of experts from public health, medicine, mathematics and the social sciences.

Newly established, multidisciplinary special advisory committees or working groups, have also been central to government policy making during the crisis in many countries (see Table 1). Spain, for instance, established a Scientific Advisory Committee for COVID-19 composed of six prestigious researchers to advise the government in relation to the response. A specific group of experts was also set up to advise on the de-escalation of confinement, in the economic, social and international spheres. Sectoral groups have also been formed, such as the Multidisciplinary Working Group that supports the Ministry of Science and Innovation in scientific matters related to COVID-19 and its future consequences. Belgium meanwhile has established a multidisciplinary Group of Experts in charge of the Exit Strategy (GEES) to advise the National Security Council on relaxing lockdown measures.

Some countries have also established an economic task force to guide the economic response during the crisis and through the expected economic downturn (see Table 1). Ireland has formed a Stakeholder Forum chaired by the Department of the Taoiseach (Prime Minister), comprised of 20 organisations across multiple sectors to support public health measures and inform the government on emerging downstream social and economic impacts of COVID-19. In Finland, the government has set-up a working group of independent economic experts and academics to develop an economic strategy for dealing with the impact of coronavirus crisis.

The exact remit of these advisory committees varies between countries and has evolved as the pandemic has progressed. Nevertheless, they are primarily tasked with monitoring and reviewing national and international research and developments in relation to COVID-19, evidence on (in)effective actions from past pandemics and international guidelines and using this to provide scientific and technical guidance to policy makers on public health measures, re-organising health systems and potential treatment options for COVID-19 patients.

**Scientific advisory groups have been multidisciplinary and “embedded” in the policy process**

The scientific advisory groups and tasks forces highlighted have a number of common features. First, they have been made up of established experts, allowing governments to tap into existing expertise and to derive some credibility from the skills and experience of the personnel assembled. The downside of this is that the choice of experts can be questioned and the independence of those involved may be compromised by the very act of their accepting an advisory role.

Secondly, the experts mobilised have come from multiple disciplines. This wide-ranging expertise is fundamental to delivering an effective response. Insights from a mix of disciplines beyond public health, such as behavioural sciences, economics, sociology and anthropology help improve the effectiveness of public health interventions. Additionally, measures to prevent the spread of the virus are impacting on whole societies and making it important that the full consequences of any policy measures are understood. There is though, a potential downside of multidisciplinary advisory groups, in that there can be difficulty in ensuring public health advice is heard and favoured over other expertise. In the UK for instance, concerns have been raised that SAGE contains too many clinical experts and not enough epidemiologists, immunologists, public health experts or social scientists, thus potentially overlooking perspectives that could be critical in developing effective public health responses.

Thirdly, most advisory groups have taken steps to increase transparency and to effectively communicate evidence both to policy makers and the public. For example, some advisory groups (e.g. NPHET in Ireland, SAGE UK) have publicly released minutes of all meetings to allow the public to understand why certain advice was given. In the Netherlands, the National Institute for Public Health and the Environment (RIVM) has published all codes, data and assumptions informing models and shown how results inform conclusions. National institutes of public health in Albania, Croatia and Serbia, and experts in Belgium, Cyprus, Germany and the UK from various advisory and working groups have also participated in public briefings alongside government officials or appeared on various news or current affairs programmes to explain the latest developments to the general public. By sharing the evidence behind policy decisions and being transparent and open about uncertainty, these experts can help build trust and compliance with public health measures. Moreover, openness can help generate discussion of decisions among the wider scientific community, potentially resulting in new insights and solutions to outstanding concerns. It is difficult to argue that transparency is not a good thing, but it can be challenging for governments and the fact that changes in advice are debated publicly may cause confusion amongst a lay audience.

Many scientific advisory groups have also been embedded within the political processes, particularly (but not always) when groups have been established by governments seeking evidence-based guidance and recommendations. This closeness to the policy process involves a direct relationship with policy makers and makes it easier to understand the policy process, to build trust with decision-makers, and to learn how to give advice and guidance effectively. However, it also raises questions over independence and objectivity, with a real risk that advisors are, or are seen to be, co-opted or compromised by government. The scientific advisory groups explored in this article have taken some steps to avoid political interference in the evidence provided and to signal their autonomy from government decision-makers. In most groups, the remit explicitly emphasises their independence and objectivity. Membership is primarily of independent academic experts or
firstly, scientific advisors only, with politicians not generally able to attend meetings. In those cases where government advisors have been allowed to attend, concerns have been voiced over the independence of the scientific deliberations. There have also been questions about who chairs these groups. Some are facilitated by public health or other academics, but most are chaired by government Chief Medical or Scientific advisors, who are typically government employees, and some are even chaired by politicians, again raising doubts about autonomy.

Concerns over the transparency of decision-making and the validity of guidance has been such that in some countries, scientists have formed wholly independent advisory groups without government inputs. These review the available evidence and provide advice through public engagements and media appearances.

**Policy implications: The lessons from embedding evidence in policy processes suggest a role for independent knowledge brokering**

Scientists and experts have taken centre stage during the COVID-19 response in many countries. They have played a critical role in keeping the policy makers and the public abreast of the most useful and most relevant emerging research and shared information in a timely and credible way.

This transfer of knowledge has not though been without cost. Using respected scientists and experts has helped identify the ‘right’ evidence and in many cases has contributed to it being translated into appropriate public health policy measures, but it has sometimes pushed researchers into uncomfortable compromises. Expert groups have helped build public trust in government guidance and encouraged adherence to recommendations. Their closeness to policy makers has nevertheless raised questions over the transparency, rigor, objectivity and independence of their analysis.

There is a genuine dilemma. Advisory groups created directly by governments to support decision-making have the best chance of informing policy in practice. Yet being close to government may undermine public perceptions of and confidence in their independence and trustworthiness. Other scientists, the public and opposition politicians may challenge the validity of their recommendations and from there the value of their expertise simply because it is a government advisory group. An advisory group provides guidance, in doing so it is implicated in the politics of the policy process.

Other approaches to the transfer of knowledge to policy makers have placed more emphasis on neutrality and independence. These models depend on fully independent intermediaries or “knowledge brokers” positioned between policy makers and researchers. They aim to facilitate the exchange of evidence and knowledge across the ‘gap’ that then continues to separate both sets of actors protecting the integrity of the evidence. Knowledge brokers are defined as individuals, institutions or structures that “cross boundaries” between academia, policy and practice. Knowledge brokering involves skills in reviewing and integrating evidence from different disciplines; in distilling key messages; in understanding the policy context; and in communicating effectively with policy makers (and practitioners or the public when appropriate). Perhaps most importantly the notion of knowledge brokering is bound up with ideas of neutrality, of presenting evidence-informed options rather than recommendations and of the non-normative.

The COVID-19 pandemic has both lessons and challenges for bringing evidence into policy. It highlights the difficulty of researchers and analysts maintaining distance and independence in the long-term. It also flags their own cognitive biases, their personal stake in ‘their’ interpretation of the evidence, and their vulnerability to becoming politically ‘implicated’. At the same time, it calls into questions whether the idea of a credible, trustworthy and independent ‘knowledge broker’ can be the effective bridge between evidence and policy in times of crisis. Their very ‘neutrality’ keeps them at an arm’s length from both the scientific and the policy making communities and reduces their ability to feed into fast moving decisions. Ultimately, it may be impossible to truly separate scientific advice from politics, but knowledge brokering may be an effective tool for linking the different constituencies. It can ensure that there is appropriate separation and that communications across the science-politics divide are informed by an understanding of: context and bias; the role of different disciplines; and how to communicate effectively with different stakeholders. Above all it may be a way of insisting that the inherent tensions between evidence-informed public health policy and the politics of evidence-informed policy making (and practice) are handled with the transparency needed to create trust.

**References**