The use of Scientific Advisory Councils in the COVID-19 response, a view from Western European Science Advisers

Introduction

Timely and impartial scientific advice to governments and citizens based on the best available evidence has been an essential part of the collective response to the COVID-19 pandemic. In Western Europe, this advice was to a large extent provided by independent expert groups or councils (hereafter "councils"). This paper provides a consensus view, derived at a meeting in Paris on 10-11th June 2022, of the principles that are important for the establishment and operation of such councils based on our collective experience as participating scientific and medical advisers, as well as observations on the value of international peer-to-peer collaboration.

Science Councils in the COVID-19 response

The councils providing scientific advice in the COVID-19 pandemic varied significantly in different countries in their title, size, composition, longevity, mandate and governance. While there is no single one-size-fits-all approach, a number of principles have emerged from our collective experience which helped groups work effectively during the pandemic and will likely be relevant to other health emergencies.

- **Councils need to include breadth, depth, and diversity of expertise, and to encourage both constructive challenge and collaborative, interdisciplinary ways of working**: Councils confronted an extremely wide range of scientific issues, requiring input from fields as diverse as computational fluid dynamics, evolutionary genetics and behavioural science. Councils therefore need rapid access to a wide range of academic, clinical and public health expertise, including social scientists, engineers, and industry experts. Interdisciplinary work between domains was highly productive. Some councils also included perspectives such as economics and ethics, or representation from civil society. A system of specialist subgroups feeding information into a main council was an effective way of incorporating a range of views from individual disciplines and helps to avoid the pitfalls of relying on a single domain expert view at the main council. In all cases it was important that the participants were selected primarily for their expertise, rather than as representatives of a particular viewpoint or interest group, as well as being selected for their willingness to contribute selflessly to the collective endeavour. Diversity, in all forms – and not simply with respect to field of expertise – is important in order to have broad and challenging discussions and provide robust advice.
- **Councils need to be established quickly and to be able to adapt as the situation develops:** The speed with which groups began operating was critical. This generally meant making use of existing structures and processes where available: either a pre-existing permanent council, or a pre-defined process for creating one. In either case, councils had to adapt to the circumstances of the pandemic, including its duration. In some cases, the composition of the main council changed depending on the topics being discussed. A rapid response was most readily achieved when individuals had worked together before the pandemic, but it was important to bring in new experts to ensure input and insights from the full range of disciplines. International links were very valuable and again, prior experience and previous contacts were helpful.
- **Councils should provide decision-makers with evidence-based scientific advice rather than policy advice:** Policy decisions ultimately must be taken by elected politicians based on advice from all relevant domains. This includes scientific advice but

also evidence on economic, social and other impacts, which is beyond a science council's remit. Science councils were therefore most effective when they provided scientific advice relevant to those making policy choices, but did not recommend or design specific policies. This would mean, for example, advising on the likely impacts on transmission of closing particular settings, based on the available evidence, rather than recommending which settings should close. Keeping councils informed of potential policy options allows them to address the most relevant scientific questions without necessarily limiting their discretion. Once decisions have been taken, it is important that the public can understand how the advice has been considered and how conflicting priorities have been resolved. This is a matter for ministers.

- **When providing advice, councils need to be clear about the quantity and quality of evidence available and the degree of confidence they have in their conclusions:** Acknowledging and explaining uncertainty – and the likely prospects, timelines and processes for reducing it – is an important aspect of evidence-based advice. This is especially important during an emergency when the situation may be changing rapidly and evidence is still limited, such that evidence will often be less robust than would typically be used to inform decisions. It is helpful to set out the likely prospects, timelines and processes for reducing uncertainty and to explain to the public and decision-makers that the conclusions of the evidence may change. The scientific process takes time to build an evidence base from new data and new studies, which allows firmer conclusions to be drawn over time. Advice may therefore need to be modified but this should be taken as a sign of progress rather than reason to doubt the credibility of the advisory process or advisers. The process of self-correction that is inherent to science is sometimes difficult to reconcile with political processes.
- **Scientific advice must be based solely on the evidence and be politically independent. Councils should maintain a degree of autonomy from decision-makers in both their composition and the topics they consider:** The independence of scientific councils is essential if decision-makers and the public are to trust their advice. It was important that policymakers, officials or politicians did not determine the composition of councils; participants should be selected based on their scientific expertise and potential contribution. In many cases, this process was led by an appointed chair, who held overall responsibility and accountability to government for the provision of advice. In some countries, government employees were excluded from advisory councils; in others, specialist scientific and medical experts from within government were included, particularly those from specialist bodies such as public health agencies. At the same time, any perception that the council was "campaigning" undermined trust with policy makers and made giving science advice more difficult.
  The need for councils to be independent need not, however, preclude working with decision-makers to help them understand the scientific questions most pertinent to policy choices. However, our collective experience highlighted that to provide the best advice in the timeliest way, councils should be free to consider other relevant scientific issues or evidence that is not – or not yet – requested.
- **Councils should have clear routes to deliver advice to decision-makers and to receive questions and feedback:** It was important during the pandemic to have defined routes to deliver advice (i.e. a 'docking point' within government) and to ensure decision-makers had not just received the advice but had understood it and its limitations. Given the wide-ranging impacts of the pandemic, which extended beyond the remit of health ministries, some countries found it valuable for this docking point to be a central part of government to allow coordination and direction (e.g. the Prime Minister or President's office). Two-way communication channels needed to be carefully managed to preserve councils' independence but meant that decision-makers could put relevant questions to the council, build understanding of the evidence, and provide feedback on how advice was used. Some groups used workshops and seminars given by council participants to help policymakers and operational teams understand and interrogate the advice and its

implications. Some found it helpful to allow policy officials to observe science council meetings to hear the discussion first-hand (though not to contribute to the formulation of scientific advice). Others did not allow this in order to avoid any perceived reduction of independence. In other cases, a representative of the committee would communicate the advice.

- **Transparency and effective communication of scientific advice are essential. Councils should have control over the publication of their outputs:** Public trust in independent science advice is essential if the government guidance that follows from it is to be effective. Transparency is essential to build this trust. It also allows expert challenge and input from across the scientific community that ultimately strengthens the evidence base. Effective transparency requires both publication of advice in an accessible location and format, and its communication. It also requires public declaration by advisers of all potential conflict of interests. Publication of science advice should be owned by the council, whilst allowing policymakers sufficient time to consider the advice and their response to it before publication. We found communication of the scientific evidence was most effective when it was timely, reliable (i.e. based on good data across multiple disciplines), addressed uncertainty, and was open about changes in evidence. Our experience was that the output of science councils was best communicated by scientists with the support of communications professionals. Communication of the evidence from scientists should be clearly demarcated from public health and policy communications by public officials, nevertheless scientific advisers found it was important to work with officials to ensure science was accurately represented in communications. Involving the wider scientific community beyond the council membership to explain the scientific evidence broadened the range of trusted sources. This also served to highlight to the public where there was broad scientific consensus (e.g. vaccine effectiveness) and where there was more uncertainty (e.g. precise properties of a new variant, the magnitude of effect of face coverings of different types, or the impacts of closing schools). This was also important in addressing misinformation. After communicating their work, many scientific advisers found themselves exposed to harassment or threats. It is important that council members receive appropriate protection from such incidents, in order to allow them to do their jobs safely and effectively, and so as not to discourage others from contributing.

Informal working across countries

Throughout the pandemic, international scientific collaboration was vitally important. For the small group of Western European countries which we represent, some similarities in demographics, health systems, governance and risk factors, and our interconnectedness, often meant we were addressing similar questions and drawing on similar evidence bases at a similar time. This led us to set up regular informal group calls of lead science/health advisers to exchange information and share experiences informally and confidentially, which proved to be a valuable adjunct to existing intergovernmental structures. The main benefits we found from this were:

- **Sharing data, evidence, and expertise:** Sharing information from countries where more data was available at any given time (e.g. because they were further ahead in the pandemic, more affected by a specific variant, or collected data differently) was useful. Informal sharing was a faster supplement to formal structures and provided context from local experts. Though there was considerable expertise in all the countries represented, at times some had access to particular research or in-depth expertise not available to all, and it was helpful to be able to access this quickly. In future emergencies it may be useful to pool expertise, particularly if that expertise is limited or concentrated in few

places. More standardised data collection and platforms across countries would enable more effective sharing.

- **Policy information sharing:** It was very useful to science advisers not only to share data and evidence but also to understand the policy responses in different countries, rationale for those decisions. Evidence on policy impacts and effectiveness was particularly valuable. Even when there is a shared evidence base across countries, countries differ socially, culturally and demographically, and therefore their policies do too. Differences in approaches between countries can lead to confusion, distrust and communication challenges, which may mean there is value in joint communications from scientists across neighbouring countries to explain the extent to which the situation is similar or not.
- **Research coordination:** In this pandemic most countries had enough COVID-19 cases to be able to run large studies themselves, although in practice few did this at a large enough scale. In different circumstances, rapid multi-country research programmes and trials could be very important. It was, however, challenging to put such studies in place during the pandemic given the different regulatory and operational frameworks and systems. Future pandemic preparedness plans are already exploring how to improve this.
- **Sharing experiences:** Sharing experiences with trusted counterparts in other countries facing similar challenges was undoubtedly helpful. Advisers were able to be more open about these challenges in a small, informal, and confidential peer group. Many appreciated the support provided by colleagues in similar roles who could understand the pressures and challenges they faced.

Future emergencies

Even with strong efforts on prevention, which are critically important, there will always be a need to be able to respond to health emergencies. Our view is that the principles outlined above would be valuable for future scientific advisory councils to consider. We would also support establishment of informal groups early in any future response, consisting of pre-identified lead advisers for each country who report at the highest levels of their respective governments (e.g. chief advisers for medicine, science, and veterinary science).