Epistemic pluralism

in evidence-based public health policy

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Abstract: This paper uses the example of the Covid-19 pandemic to analyse the danger associated with insufficient pluralism in evidence-based public health policy. Drawing on certain elements in Paul Feyerabend's political philosophy of science, it discusses reasons for implementing more pluralism as well as challenges to be tackled on the way forward.

We live in an age of evidence-based policy. Recent attacks on science in the US, Germany and other countries and greater public scrutiny – sometimes leading to outright denial – of scientific knowledge are no contradiction to this claim. On the contrary, one important factor driving skeptical and anti-science movements is precisely the fact that science has become much more relevant to policy-making and public life than ever before.[1]

The significance of science for policy-making was hardly ever more visible than during the Covid-19 pandemic in 2020. Scientific experts informed and drove governmental crisis management and public health policy strategies in many countries and on many levels. In the US, the UK and the EU, for example, epidemiological models and scientific advice had a direct influence on the implementation of lock-down measures to prevent disease spread and on the development of strategies to deal with the pandemic on a long-term basis (e.g. Adam, 2020).

There have been two main lines of criticism about the way science informed and guided policy during the Covid-19 pandemic. The first type of criticism concerns the fact that government action has been mainly driven by numbers of Covid-19 cases and deaths at the expense of other aspects of the situation. For example, Caduff (2020) claims that many governments failed to take into account the drastic impact of lock-down measures on the economy and the lives of less affluent citizens. The second type of criticism concerns *in silico* modelling and its central role in strategic policy decisions. It has been pointed out that

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[1] This is not meant to deny the importance of other factors that contribute to anti-science tendencies, such as economic interests and manufactured doubt (Oreskes & Conway, 2010).

policy-making relied far too much on epidemiological modelling despite the fact that even the best computer models suffer from severe uncertainty and that they can contain misleading mathematical simplifications (Saltelli et al., 2020). As a consequence, policy-making may have been guided by only apparently exact projections of the effects of certain policy measures while not paying enough attention to alternative information for policy-making.

While both types of criticism address different issues, they share a concern about insufficient epistemic pluralism in the public health measures that were implemented to address the Covid-19 pandemic. In the following, we provide a short analysis of the problems arising from insufficient epistemic pluralism in a public health context that is inspired by certain elements in Paul Feyerabend's political philosophy of science. The goal is to deepen our understanding of potential epistemic shortcomings of evidence-based public health policy and to provide part of a multi-layered answer to a key question in this context: *How should we design future evidence-based policies in the context of public health threats?*

The diagnosis of insufficient epistemic pluralism is rather straightforward in both lines of criticism mentioned above. In both cases, policy-making seems to have been constrained in that it mainly focused on *one* epistemic perspective. According to the first line of criticism, public health policy was developed primarily from a biomedical perspective at the expense of alternative viewpoints, e.g. viewpoints based on local knowledge or non-scientific forms of knowledge. According to the second line, policy making was constrained by epidemiological modelling ignoring relevant perspectives form other biomedical disciplines and the social

sciences. The first type of criticism mainly concerns a lack of pluralism regarding viewpoints that are external to science, while the second type concerns a lack of pluralism within science itself. Both forms of insufficient pluralism – external and internal to science – are problematic from an epistemological point of view.[2]

First, there is a risk of developing a myopic, epidemiology-centric description of reality that can lead to imbalanced policy decisions. For instance, the strong focus on the numbers of Covid-19 cases and deaths may have led to one-sided harm-benefit analyses that only addressed Covid-19-related health threats while disregarding potential and/or latent social issues that have been consequences of pandemic crisis management. Likewise, the overreliance on Susceptible-Infected-Recovered (SRI) models may have structurally excluded potentially useful knowledge from other biological disciplines or the social sciences, knowledge that could have been crucial for more rational policy interventions (Manzo, 2020).

Second, we know little about pandemics and their development in general. But even if this were the case, there are always good reasons to take a fallibilistic stance towards our current best scientific knowledge. Disease statistics can always misrepresent and models can always be wrong. We should thus "keep our options open" (Feyerabend, 1993, p. 12) and promote the development and use of alternative ways to understanding what is going on.

Third, and in line with another key argument by Feyerabend (1999[1968]), it is always rational to develop alternative approaches to any given epistemic problem to better understand the shortcomings of each alternative. It is only when one has an independent perspective on the local side-effects of policy-measures that deal with the Covid-19 pandemic that one can see what (else) might be missing from the picture of a specific public health strategy, and insights and methodological approaches from social scientists can be vital in identifying misguided assumptions in the prediction of epidemiological models.

What follows from the observed lack of epistemic pluralism in the management of the Covid-19 crisis? It seems that the right move would be to strengthen epistemic pluralism in evidence-based public health policy. Many more perspectives should be included in providing the evidence for policy-making and many more stakeholders should get a voice in policy-counselling (instead of criticizing policy-making from the outside). This would include not only epidemiologists, social scientists and scholars from other fields but also experts who could contribute local knowledge of relevant social spheres, such as nurses or education department heads who know which hygiene measures can realistically be implemented in their primary schools.

It is important to note, however, this strategy is fraught with challenges. Among the most pressing are the following three: (a) There are pragmatic constraints on the inclusion of more, diverse perspectives and types of evidence in policy-making, especially in times of acute public health threats. How many perspectives can be included without completely paralyzing the policy process? (b) Exchange between diverse perspectives has to be

facilitated while avoiding the inclusion of what Feyerabend has called "cranks" (see the discussion in Shaw, 2020), i.e. stakeholders who are only interested in defending their own point of view or interests, and not in the open exchange of ideas and in learning from each other (think "conspiracy theorists"). (c) Differences in epistemic standards and authority have to be overcome. Everybody who has ever worked in an inter- or transdisciplinary environment knows how challenging it can be to discuss different methods, findings and other types of knowledge when epistemic standards are divergent. We should also expect differences in authority (and prestige) between policy experts, scientists and experts on local knowledge. Those may lead to imbalanced discussions, instead of genuine dialogue, and need to be alleviated by actively designing deliberative processes in order to facilitate *a productive form* of pluralistic exchange at eye level (Barker & Kitcher, 2014, p. 155ff).

Addressing the issue of insufficient epistemic pluralism as well as the sketched challenges associated with pluralism is essential for improving evidence-based public health policy, in particular in the context of acute public health threats. Both aspects should therefore be on the agenda of scholars who think about evidence-for-use in policy contexts and related issues in social epistemology.

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