Public justification and expert disagreement over non-pharmaceutical interventions for the COVID-19 pandemic

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ABSTRACT

A wide range of non-pharmaceutical interventions (NPIs) have been introduced to stop or slow down the COVID-19 pandemic. Examples include school closures, environmental cleaning and disinfection, mask mandates, restrictions on freedom of assembly and lockdowns. These NPIs depend on coercion for their effectiveness, either directly or indirectly. A widely held view is that coercive policies need to be publicly justified—justified to each citizen—to be legitimate. Standardly, this is thought to entail that there is a scientific consensus on the factual propositions that are used to support the policies. In this paper, we argue that such a consensus has been lacking on the factual propositions justifying most NPIs. Consequently, they would on the standard view be illegitimate. This is regrettable since there are good reasons for granting the state the legitimate authority to enact NPIs under conditions of uncertainty. The upshot of our argument is that it is impossible to have both the standard interpretation of the permissibility of empirical claims in public justification and an effective pandemic response. We provide an alternative view that allows the state sufficient room for action while precluding the possibility of it acting without empirical support.

INTRODUCTION

Governments responded swiftly to the COVID-19 pandemic, primarily with non-pharmaceutical interventions (NPIs). These included school closures, environmental cleaning and disinfection, mask mandates, restrictions on freedom of assembly and lockdowns—introduced with the explicit aim of protecting public health by stopping or slowing down the spread of the virus.[1]

Most NPIs depend on coercion for their effectiveness. Some because they force citizens to act, or not to act, in certain ways. Others are not coercive in themselves, but they rely on the coercive state apparatus for their financing and implementation. Since they are coercive, at least in a weak sense, the policies must be justified by the governments that implement them. Public health ethicists typically understand justification in terms of *interests*, about balancing the interests of the community and the interests of the individuals making up the community. The central question concerns 'the tradeoff between discharging as well as possible the state's duty to protect and promote its citizens' health on the one hand and the state's duty to respect its citizens' right to lead their lives as unencumbered by state interference as possible on the other'[2] (p 1)[3] [4].

This is fundamentally important. However, among political philosophers it is widely accepted that laws and policies that depend on coercion also need to have the right sort of *public* justification to be legitimate and permissible to enforce. The idea is that every person who is subjected to state action needs to have sufficient reason to accept it. This is often understood as being conditional on laws and policies being justified with *public reasons*, reasons that every reasonable citizen could endorse or share. Examples of public reasons are appeals to freedom, fairness, equality, security and public health. These are *normative* reasons that make implicit or explicit value judgements. Normative reasons that some reasonable citizens do not accept, reasons based on things such as the truth of a certain religion, are non-public and consequently cannot be a permissible justification for laws and policies.[5] [6]

The question of how disagreement over normative reasons should be accommodated has been the primary concern in debates over public justification. However, there is a further question, equally important but often neglected: is it permissible to implement policies justified with *empirical* claims that some reasonable citizens disagree with? In real-world debates over COVID-19 NPIs, disagreements over empirical claims play a prominent role. Citizens dispute that the virus spread in certain settings, that face masks are effective at preventing infections, and that internal movement restrictions can reduce the number of COVID-19-related deaths.
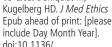
Many political philosophers believe that it is acceptable to implement policies that some citizens dispute the empirical soundness of if and when there is a 'clear scientific consensus' on the issue[7] (p 206). In what follows, we will refer to this as the *scientific consensus view*. There are many formulations. In Anderson's words, empirical claims are permissible 'provided citizens can make reliable second-order assessments of the consensus of trustworthy scientific experts'[8] (p 144). Or, as Rawls puts the same idea, public officials can justify policy with 'the methods and conclusions of science where these are not controversial'[6] (p 224). Bellolio Badiola argues that 'in order to qualify as public reasons, the conclusions of science must be uncontroversial from an intra-scientific perspective alone'[9] (p 429). Torcello says that 'it is important that we take care to limit our public arguments to those consistent with scientific consensus when arguing in the public sphere'[10] (p 204). Reid[11] and Kappel[12] hold similar views.

In this paper, we argue that a scientific consensus has for the most part, and especially in the early

stages of the pandemic, been lacking around the empirical claims that justify using NPIs to stop the spread of COVID-19. The conclusions of science are, in this case, controversial. The NPIs would therefore on the scientific consensus view not be publicly justified and impermissible to enforce.

We argue that this is regrettable since there are good reasons for granting the state the power to enact NPIs under conditions of uncertainty. The upshot of our argument is that it is impossible to have both the standard, scientific consensus interpretation of the permissibility of empirical claims in public justification and an effective pandemic response. Moreover, and as we will show, the argument generalises to many areas of policy making. We provide an alternative, the *negative consensus view* that allows the state sufficient room for action while precluding the possibility of it acting without any empirical support.

EMPIRICAL CLAIMS IN PUBLIC JUSTIFICATION

We take as a fixed starting point that the following three conditions need to be met for a policy to be justified:

a. The balancing of harms, rights and interests must be proportional.[3 4]
b. The normative reasons that justify the policy must be public.
c. The empirical reasons that justify the policy must be public.

It is important to emphasise that the conditions are meant to set the boundaries for what constitutes a *permissible* policy response. They are not meant to evaluate what the ideal policy response to COVID-19 is or the (in)justice of specific NPIs.[13 14] Moreover, governments must find an acceptable trade-off between conditions (a), (b) and (c). In a choice situation where one option has stronger empirical support, while the best balance of normative public reasons points in favour of another, a democratic decision must ultimately be made to determine which dimension should be prioritised.[i] The choice is political.

Within the present context, we leave the issue of proportionality aside. As per the conclusions of the important work of public health ethicists, we hold that disproportionally harsh policies and policies that impose disproportionate burdens on some citizens but not others cannot be justified regardless of whether conditions (b) and (c) are met[3 4 15] (pp 121–182).

Our focus is instead on the reasons that are used to justify laws and policies. This is reflected in conditions (b) and (c). Both conditions entail that the reasons justifying legislation in some sense must be shared or accessible to those to whom it applies.

These are two distinct conditions since public officials typically must offer a combination of normative and empirical reasons when they justify policies. For instance, they might say that state-funded healthcare is fair (normative claim) because it provides everyone with high-quality medical treatments (empirical claim). The empirical claim is central: if it would turn out that state-funded healthcare could not provide everyone with high-quality medical treatments, citizens are left without an adequate justification for a publicly funded healthcare system.

For present purposes, we leave condition (b) unspecified by not engaging in the substantive debate over how the set of

normative public reasons is to be delineated. We simply assume that the normative reasons typically appealed to when justifying policies responding to the COVID-19 pandemic are public regardless of how the requirement is understood. Governments say that they want to protect *public health* with *fair*, *predictable* and *equitable* policies. We stipulate that any reasonable citizen would accept that there is value in protecting public health, and in the importance of fairness, equality and predictability.

This paper instead aims to clarify what condition (c) entails and whether the evidence justifying NPIs responding to COVID-19 meets the standard. This is of crucial importance because it is impossible to justify a pandemic policy without appealing to empirical claims. A mask mandate, for instance, is only justifiable if it could be said to contribute to the goal of protecting public health. If forcing people to wear masks did nothing to further this goal, the normative reason—protecting public health—cannot by itself justify the policy.

We suggest that a factual proposition that provides grounding for an empirical reason is public in the sense required for public justification if:

1. It is supported by research carried out within a scientific framework that broadly adheres to reasonable methodological criteria.[15 16]

In the best-case scenario, the support would be direct by way of a clear consensus on the truth of the proposition. However, it will often be necessary to act on more limited knowledge. Thus, we take it that it is sufficient that research can provide some support, or form the basis of a reasonable hypothesis. The key, then, is striking a balance between scientific consensus and a *laissez-faire*, anything goes, attitude. We do so by introducing:

2. A proposition cannot be public if there is a consensus among the relevant scholarly community that the proposition is false.

This stands in stark contrast with what we call the scientific consensus view of the permissibility of empirical claims in public justification. On this view, it is only permissible to appeal to empirical claims when they are based on a 'body of knowledge that is the subject of an overwhelming and on-going consensus amongst scientists'[11](pp 493-4).[7–10 12] Hence, even if there are people in the general public who believe that vaccines cause autism, the fact that this has been thoroughly disproven by the relevant academic community over-rides this complaint. In such cases, the thought is that we can be 'dogmatic' and appeal to the authority of the sciences. While there are nuanced variations among the different versions of the scientific consensus view, the idea is perhaps most succinctly put by Kappel who says that 'some policy-relevant factual proposition P is part of public reason if and only if there is consensus about P among scientific experts in the relevant well-functioning scientific institutions'[12] (p 2).

The problem with the scientific consensus view, or so we will argue, is that this condition is too demanding since it precludes the possibility of the state acting when a consensus has not been reached. NPIs responding to COVID-19 are a case in point. If it is true that scientific consensus is necessary for political legitimacy, then having a measured, timely and adequate response to both present and future pandemics will be impossible.

THE SCOPE FOR PERMISSIBLE PANDEMIC POLICY

NPIs responding to COVID-19 varied in their effectiveness. As we will show, the negative consensus view gives the right

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[i]To reiterate, trade-offs are necessary, but policies that violate one of the conditions are illegitimate. For instance, a disproportionately burdensome policy might be justified by appealing to public reasons such as public health or safety. But the fact that it is disproportionately burdensome would make the policy impermissible to enforce, even if it is justified with public reasons. We are grateful to an anonymous reviewer for pushing us to clarify this point.

answer regarding the NPIs that seem to have worked—it ensures that they are permissible to enforce—but it will also permit those that did not work. We will show why this, in fact, is the right conclusion.

To illustrate the differences between the scientific consensus view and our own, we will begin by turning to large-scale environmental cleaning and disinfection of public spaces, an NPI implemented throughout the world as an early response to the pandemic. The NPI is very costly. In the New York City subway alone, the cost for 2020 is reported to have been hundreds of millions of dollars.[17] A growing literature suggests that these large-scale sanitisation operations have been a largely ineffective way of responding to COVID-19. The cost and the inefficiency indicate that with hindsight, and given all the facts of the situation, it was probably undesirable that governments implemented this particular NPI. Still, on the negative consensus view, it was permissible to do so since the NPI was publicly justified. It met all conditions: the normative reasons were public, and the policy weighted different interests proportionally. And the difference between the scientific consensus view and our own is that we diagnose the empirical reasons justifying the policy as public as well.

Let us explain. The coronavirus SARS-CoV-2 is known to be transmitted through direct modes, droplets of saliva or aerosols, and indirect modes through contaminated surfaces or medical instruments.[18] These factual propositions are shared among the relevant scientific community, and so they would be permissible on both the negative consensus view and the scientific consensus view when justifying policies. However, these facts alone cannot justify a policy. We also must know how important the different modes are for spreading SARS-CoV-2. On the scientific consensus view, we would need to establish that there is a consensus that contaminated surfaces in public spaces contribute in a meaningful way to the spread of the virus. This has not happened.[17 19] Consequently, large-scale disinfection would on the scientific consensus view be illegitimate.

In contrast to this, the negative consensus view would diagnose these measures as justified and legitimate. On this view, the burden of proof is not set at the level of a consensus about the importance of contaminated surfaces in public spaces for the spread of the virus. Rather, research adhering to reasonable methodological criteria must provide some support or form the basis of a reasonable hypothesis that this could be true. There also cannot be a consensus that contaminated surfaces in public spaces are unimportant for the spread of the virus. In the early stages of the pandemic, these conditions were met. Studies published before March 2020 showed that coronavirus could be detected on inanimate objects for up to 1 week after a large experimental deposition of virus.[20]

Recent studies have overturned these findings by being unable to detect viable virus in situations that better represent real-life scenarios.[1 17 21] If a scientific consensus is reached that contaminated surfaces in public spaces are insignificant for spreading the virus, it would, on the negative consensus view, make environment cleaning illegitimate on the grounds that the NPI is not backed by public empirical reasons.

Intuitively, the fact that the negative consensus view allows policies that have proven to be largely ineffective might seem to count against it. However, this is essential for making sure that states can respond effectively to pandemics. We discuss this next.

SLOWING DOWN THE SPREAD OF SARS-COV-2 UNDER CONDITIONS OF UNCERTAINTY

Governments did not only perform large-scale environmental cleaning operations to stop or slow down the spread of SARS-CoV-2. By the beginning of April 2020, the majority of the European countries had implemented several NPIs. The specific interventions differed between countries but included: measures to isolate symptomatic individuals and their contacts, restricted use of public transport, encouraged social distancing, personal protection measures (hand hygiene and masks), work from home recommendations, banning of large gatherings, border closures, school closures and large-scale lockdowns of populations with all but essential internal travel banned.

Several large modelling studies show substantial reduction in viral transmission with the implementation of NPIs.[1 22 23] The problem for the scientific consensus view is that at the time of the implementation, there was no scientific consensus that the interventions would be successful. As discussed, large-scale environmental cleaning and disinfection of public places proved to be largely ineffective. But the support for environmental cleaning was equally credible as the support for some of the NPIs that seem to have been more successful. Decisions 'had to be taken under rapidly changing epidemiological situations, despite (at least at the very beginning of the epidemic) a lack of scientific evidence on the individual and combined effectiveness of these measures'.[1]

The uncertainty extends beyond the initial stages of the pandemic. The relative effect size between the different interventions is complicated to entangle because of the overlapping time frames. This makes generating a scientific consensus difficult. Hence, while there is some evidence suggesting that the most effective interventions were individual movement restrictions, including curfews, restricting gatherings, closure of shops and restaurants, mandatory work from home orders and closures of educational institutions, it is still difficult to establish consensus on all the relevant empirical propositions justifying these policies.[1]

Moreover, even if there would have been a consensus that the movement restriction measures contributed to slowing down the spread of the virus, additional factual propositions are needed to publicly justify these NPIs. Before the vaccines were distributed, opponents to far-reaching interventions suggested that proponents 'of "lockdown to flatten the curve" should acknowledge that this gains time for hospital preparedness but that most, if not all, COVID-19 deaths will still happen when measures are relaxed—unless effective treatments and/or vaccines emerge'.[24] If this factual proposition would have been true, it would have made the case for prolonged lockdowns difficult, due to their high costs in other dimensions.

In sum, there has not been a consensus among scientific experts about all the policy-relevant factual propositions that justify NPIs responding to COVID-19. The relevant scientific community still disagrees about the general effectiveness of many interventions designed to stop SARS-CoV-2, about the properties of the virus and about the effectiveness of the interventions given specific virus properties. The consequence of this is that they would on the scientific consensus view be impermissible to enforce.

In the next section, we discuss ways that the scientific consensus view could avoid this conclusion. However, these will make the scientific consensus view indistinguishable from our proposed negative consensus view.

THE URGENCY OF PANDEMIC RESPONSE

Some proponents of the scientific consensus view might maintain that what we have demonstrated—that there is no scientific consensus on the effectiveness of policy responses to COVID-19—simply proves that the policies lack public justification. They might suggest that there is nothing precluding the possibility of a consensus being generated in the future, but if this does not happen, the state should refrain from enacting coercive policies. Call this the *libertarian conclusion*.[25]

We agree that it would in principle be possible to insist on the correctness of the scientific consensus view and accept the libertarian conclusion. However, the cost of doing so is high. There are inherent difficulties in generating a stable consensus around pandemic policy response, and even if it were possible to reach a consensus, the limited time frame for effective action makes it likely that consensually backed NPIs would be enacted too late. The best current evidence suggests that the timing of COVID-19 interventions and control measures has been important for their effectiveness. Tian and colleagues investigated interventions during the first 50 days of the COVID-19 epidemic in China and showed that cities with early adoption of control measures reported fewer cases of COVID-19.[26] Similar associations were observed on a global scale by Haug and colleagues when investigating the timing of implementation of different NPIs towards the transmission of SARS-CoV-2 in 226 countries.[1]

Models predict that from the beginning of the pandemic to the early summer of 2020, NPIs averted 3.1 (2.8–3.5) million deaths across 11 European countries.[22] If the state should have the legitimate authority to avert public health catastrophes of this magnitude, consensus on factual propositions justifying policies consequently cannot be the correct standard for public justification.

Most proponents of the scientific consensus view, we take it, would wish to avoid the libertarian conclusion. One way of doing so might be to suggest that what we have described as a matter of uncertainty is better understood as being about *urgency*. This, the non-libertarian proponents of the scientific consensus view might press, is what is doing the real normative work. Hence, the scientific consensus view could incorporate some urgency or emergency clause which would make it permissible to enforce NPIs even when there is no scientific consensus backing the factual propositions supporting them.

This response, however, forces the proponents of the scientific consensus view to find a less demanding view than the original formulation for assessing the permissibility of justifications for emergency policies. Our proposal can play this role.

Nevertheless, and more importantly, this would only partially solve the problem. Because most political decisions are not like pandemic response. Often, there is no reasonable chance that a scientific consensus can be reached even when there is plenty of time to do so (this will typically hold for political decisions justified with factual propositions from the social sciences).[27] If scientific consensus is the correct standard under conditions of reasonable uncertainty, the libertarian conclusion would generalise to numerous cases well beyond pandemic response. While we are in no position to develop this point fully, we note that it is easy to find many examples of dissensus among the relevant scholarly community in public health policy alone. To take just three examples, experts disagree about many of the factual propositions employed to justify things such as restrictive drug laws, policies to increase vaccine uptake and policies to combat obesity.[28–30]

To avoid the generalised version of the libertarian conclusion, proponents of the scientific consensus view might adopt a final strategy. They could say that the kinds of claims that their requirement is meant to target are not specific claims about the effectiveness of certain policies. Rather, they might suggest, the consensus that they deem to be necessary is on more basic claims like 'SARS-CoV-2 causes the harmful disease COVID-19'. Indeed, consensus on basic claims is widely discussed in their work. Typical examples are that anthropogenic climate change is real, that vaccines do not cause autism and that humans have evolved from other animals. If this is right, then the libertarian conclusion does not arise because it follows from claims at the wrong level of analysis. In line with this, the libertarian conclusion can be avoided if there is a consensus that COVID-19 is harmful, and a consensus that *something* needs to be done about it. This, they might say, is enough of an empirical justification for implementing coercive NPIs.

This route clearly is available, but it faces similar problems as the appeal to urgency. It is impossible to justify policies without more fine-grained factual propositions. The fact that there is a scientific consensus that SARS-CoV-2 causes COVID-19 cannot help policymakers rule out implausible and unsupported NPIs. We need some way of avoiding an anything goes standard for empirical claims in public justification. Consequently, if basic claims and general reasons for action are, ultimately, what proponents of the scientific consensus view are concerned with, there is still an important role for the negative consensus view to play in evaluating the justifiability of factual propositions that are doing justificatory work for real-world policies.

CONCLUSION

The state needs to have the legitimate authority to respond swiftly to situations where there is scientific disagreement and uncertainty over the effectiveness of its proposed policies. Against the scientific consensus view of the permissibility of empirical claims in public justification, we have in this paper outlined conditions that would make this possible.

We also suggested ways that the scientific consensus view might be clarified in response to our argument. However, with these clarifications in place, we argued, the view becomes indistinguishable from our own.

We recognise that work remains if we are to conclusively demonstrate that the justifications that the negative consensus view permits are accessible to every reasonable citizen.[ii] But we hope to have shown that for those who want to grant states the power to respond to pandemics and other public health challenges, it is necessary to take up this task.

[ii]Among other things, the relationship between citizens' understanding of scientific theories and intrascientific disagreement must be clarified. We thank an anonymous reviewer for pushing us on this point.

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