Revisiting the base in evidence-based policy

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ABSTRACT
Evidence-based policy has become widely embraced for its commitment to greater uptake of scientific knowledge in policymaking. But what legitimizes evidence-based policy and in what respect are evidence-based policymaking practices better than other policymaking practices? In this article, we distinguish and refine three potential legitimizers of evidence-based policy. We suggest that evidence-based policymaking practices are better because they "follow the science", because they focus on "what works", or because they "follow the rules". We discuss some consequences, for advocates of evidence-based policy, of consciously adopting one or other of these legitimizers. Finally, we examine whether it is appropriate to switch from advocating for evidence-based policy to advocating for evidence-informed policy.

Keywords: evidence-based policy; evidence-informed policy; science and policy; epistemic justification

1 Introduction

"Evidence-based policy" (EBP) describes a diverse, global, and organic widespread movement focused on bettering policymaking. But what practices are advocates of EBP ultimately advocating for? Existing discussion surrounding EBP is ambiguous on this point. For the most ardent advocates, "if policy is not made on the basis of evidence, then it must be made on the basis of some unedifying motivation: self-interest, power, ideology, ignorance, naked electoralism, co-optation by 'elites', craven submission to 'interests', and so forth" (French 2019, p. 155).[1] However, recognizing that attitudes differ considerably across such a diverse movement as we intend to consider here, we extract a more modest commitment at its core. EBP advocacy represents a commitment to some *normative ideal*: roughly, that better policy is based on evidence, *rather than* individual opinion, whim, or something else.

While the EBP movement has (rightly) been criticized on many fronts, insufficient attention has been paid to what its advocates may responsibly take that normative ideal to amount to. In this paper, we look at both the scholarly and public discourse surrounding EBP and attempt to fill this gap. We interpret the normative ideal as a matter of *epistemic justification* (Nagel 2015; Peels 2017), i.e., a demand that a policy rationally aligns with the evidence, whatever the evidence amounts to in that instance. Whenever this demand is satisfied, an EBP advocate concludes that the relevant policy is what we should rationally prefer over other possible policies.

Much more needs to be said about which practices in policymaking secure such epistemic justification. So far, we have been using something like the following generic gloss to capture what it is that is thought to be so valuable about EBP:

> Policy made through EBP is epistemically justified because evidence played a role in the development of the policy.

This gloss highlights that the practices EBP advocates support are about evidence *uptake* in policymaking: in the face of individual and societal forces responsible for creating conflicts of interest and ideology, policy processes should make space for evidence to play a role. If we can manage to do this adequately, the policy we arrive at will be justified because it is based on learned facts and not solely on more contingent, changeable factors like the personal interests, idiosyncrasies, etc. of the policymaker(s). Note that this gloss is intended to capture the theoretical 'core' of the EBP movement, rather than the 'peripheral elements' as characterized by Simons and Schniedermann (2021). It is therefore supposed to capture the broadly shared, normative commitment at the heart of the movement. We do not claim that the gloss adequately represents or

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[1] For supporting references, see references in (French 2019) that French types as belonging to the "Reinforce" or "Reform" schools within existing EBP scholarship. Note that extended references may be found in a version of the paper posted at
https://sciencessociales.uottawa.ca/affaires-publiques-internationales/sites/sciencessociales.uottawa.ca.affaires-publiques-internationales/files/ebp-4_final_.pdf.

captures the nuances and variety within individual advocates' positions on the appropriate uses of evidence.

Indeed, this gloss is purposefully vague, so that it encapsulates the broad spectrum of practices that the EBP movement (both in the scholarly and public discourse) has identified as good use of evidence in policy-making. For example, how one reads "played a role in" is widely debated: there is disagreement over where in the process evidence should come in and what it should be used to achieve. Likewise, attitudes about how inclusive the notion of "evidence" ought to be — what methods are germane to the production of evidence, whether to include learning from local community and Indigenous Peoples' knowledge systems alongside findings in Western science, for instance — have not always been consistent across the EBP movement. Meanwhile, framing the virtues of EBP as we did at the start is often traced back to the Labour Party's embrace of EBP in the United Kingdom in the 1990s. They expressed their own core ideal as follows: "New Labour is a party of ideas and ideals but not of outdated ideology. What counts is what works" (Labour Party 1997). This has been described as "a conscious retreat from political ideology" (Davies et al. 2000, p. 1). But there is a much longer history to be told about the motivations behind EBP, linked to older politics not just within the United Kingdom. For instance, Clarence (2002) traces technocratic moves internationally to incorporate science into policymaking as far back as the early-mid 1800s; according to Parkhurst, these moves gained particularly strong momentum in the period following WW2 (2017, p. 14). The difference between past and present (and, specifically, the contemporary British context from the 1990s onward), is merely one of "scale of the current interest" (Clarence 2002, p. 2).

Reflecting on the long and diverse history of EBP-like practices cautions against hinging an account of EBP advocacy on politico-historical arguments. Doing so would seem to require first identifying relevant major organizations and actors (navigating their differing degrees of influence in both science and policy spaces) who have approached the subject matter of EBP advocacy over the years, or else who have explicitly engaged in (or in opposition to) the movement.[2] Arguably, it would be more expedient to bracket off such history for as long as possible. This is the approach we adopt, investigating the normative or 'ideational framing' of EBP rather than a 'social framing' of the movement and related institutions (Simons and Schniedermann 2021), or at least until section 4 where we turn to matters of rhetoric. That is, here we ask a revisionary, normative question: what *should* EBP advocates advocate for, moving forward?

One advantage of this approach is that it lets us directly address an issue that has been put forward by various critics of EBP advocacy. In French (2019)'s typology, the literature characterizing the "Reinvent" and "Reject" schools gives a fairly widespread impression that EBP is not succeeding because it aims at an ideal that can never be met.[3] For instance, Cairney (2019) cites several theorists making this complaint,

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[2] A relatively early example of a project along these lines is by Young et. al (2002). For somewhat longer views on the history of EBP, see Boaz et al. (2008), Head (2010) and Botterill (2017).

[3] The substantial difference between the "Reinvent" and "Reject" schools is, for our purposes, that the former amounts to critical scholarship that agitates "within" the movement, whereas the latter does so without. We identify the present article as a contribution within the "Reinvent" school.

including Parkhurst (2017), who we will return to several times throughout this article. Perhaps because of this perceived obstacle to EBP, practitioner-oriented texts like Turnhout et al. (2019) tend to place their emphasis not on how scientists may help policymakers to achieve EBP, but instead on how scientists might more productively engage with policymakers committed to EBP, to ensure responsible uptake of their research.

The mismatch between ideal and practice, we suggest, is to a large extent a result of inadequate conceptualization about the normative ideal of EBP advocacy. To this point, we are interested in aiming for more achievable normative ideals, in place of ideals that can never be met. This is not to suggest that current scholarship within French's "Reinforce" and "Reform" schools (cf. footnote 1) actively advocates an impossible ideal, but rather that an ideal that is both achievable and attractive has yet to be settled upon.

So: in the context of the EBP movement, certain policies get their epistemic justification in virtue of the policymaking practices which brought them about. The EBP movement elevates these policies as good, because the "EBP practice" that brought them about exhibits a desirable feature that other practices lack — it is *legitimate*, whereas other practices are not. Where EBP practice appears, then, that which makes it legitimate is ultimately what confers epistemic justification to the policy (whatever are the practical realities of the policy process at hand). Yet, as it stands, we worry that there is insufficient conceptual clarity or consensus over what precisely is responsible for the legitimacy of EBP practice.[4] In this paper, we reflect on some of the different potential answers that we have identified in EBP advocacy in practice, and also in the theoretical literature on the topic. We try to tease out these different sources of the legitimacy of EBP practice, explain why they epistemically justify policies, and indicate how a preference for one or another of these sources of legitimacy matters for next steps in EBP. Ultimately, our goal is to make clear how further philosophical reflection on the source of legitimacy of EBP practice may enrich the EBP movement and fill out the scope of EBP advocacy.

2. The legitimacy of EBP

In the context of EBP advocacy, we suggested in the Introduction that EBP practice is thought to improve policymaking outcomes by underwriting the epistemic justification of those outcomes. Moreover, we suggested that EBP practice does so by virtue of its being legitimate, whereas other practices lack that legitimacy. This framing calls our attention to the matter of what makes EBP practice legitimate.

Given the common gloss in the Introduction as to what EBP advocates take to be valuable, what makes EBP practice legitimate in the eyes of EBP advocates ought to

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[4] In sections 2 and 3, we discuss various possible ways of securing this *epistemic* legitimacy. There are also various types of political legitimacy one may consider, e.g., input, output, and throughput legitimacy (Schmidt 2013). There are further questions as to how the possible types of epistemic legitimacy we discuss match up or relate to securing different types of political legitimacy.

have something to do with the EBP movement's ambition to reduce contingent factors in the policy process by strengthening the influence of objective findings from scientific research. However, it is clear that the evidence alone can never completely determine the correct course of action (Lindblom and Cohen 1979, Head 2008). For instance, six different badger culling policies have been "built upon largely the same evidence base" in the UK (Cassidy 2015). Evidence does not speak for itself but requires interpretation, and value judgements[5] pervade the process both in determining what the evidence is and what policy it calls for. It is common to say that evidence is not neutral and objective like data or information; instead, evidence is information that is selected for a particular purpose, e.g. to persuade someone of a claim (Lindblom and Cohen 1979, Majone 1989, Botterill 2017, Parkhurst 2017).

Given that it is patently impossible to determine policy decisions by evidence alone, it cannot be the case that what makes EBP practice legitimate is simply that it promotes the removal of other considerations beyond the evidence. And yet, something almost like this is a popular view: that EBP practice places evidence center stage in policymaking. This popular view is perhaps in part explainable on the basis of EBP's connection to evidence-based medicine (EBM), a similarly "evidence-based" approach to health and wellness. EBM began as its own advocacy movement in the late twentieth century (Guyatt et al, 1992), with an appreciation of the distorting role of psychological biases on the reasoning practices of physicians directly involved with patient treatment and care. In the case of the individual physician and patient, there is no mystery as to the stated good of an evidence-based approach: advocates of EBM do not want physicians' own cognitive heuristics, where such things lead to psychological biases (e.g., over- or underestimating the likelihood of certain outcomes), to detract from the narrow practical goal of prescribing adequate treatment. This is not to say there are no problems with EBM, just that it is relatively clear what good is meant to be achieved by promoting in decision-making the removal of other considerations beyond the evidence.

EBP, coming after, might be thought of as substituting "policymaker" for "physician" and "policy process" for "treatment". Yet, the substitution is not perfect (see, e.g. Cairney & Oliver 2017). Whereas concerns about psychological biases play a primary role in the context of a physician's reasoning about patients, concerns about the policymaking process are plausibly more about ideology or personal interests slipping in. While the goal of eliminating psychological biases in the medical context is often clearly desirable, it is unclear in the policymaking context why one should want to cut against the effects of all the various possible biases. For instance, in democratic systems, policymakers are elected with the expectation that they uphold particular views or values of their constituents, so removing the influence of those views or values is undemocratic (Botterill 2017). As Boaz et. al note, "an [evidence-use] architecture designed to serve the needs of the medical model is unsurprisingly poorly suited to most other sectors" (2019 p.9).

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[5]The term "values" can be used differently by different parties who study interactions between science and society, including science and policy --- for instance, philosophers of science, normative ethicists, and political theorists. Here and throughout, we have in mind the use familiar in philosophy of science: values are anything on which one might form an evaluative judgment.

The question of what makes EBP practice legitimate thus requires some care. Let us define a new term to help us proceed:

> A *legitimizer* of EBP is that which epistemically justifies policy practice where it is conducted in accordance with EBP, and which is ill defined or lacking in the case of policy practice conducted otherwise.

The legitimizer is then whatever provides the desirable epistemic feature found in EBP practice, which would not be provided by other policy practices. It is what establishes that certain real, messy policy practices result in particular policy outcomes that meet the high bar of being "based on evidence".

Note that this question of what it is about the use of evidence that epistemically legitimizes resulting policies is orthogonal to the question of what practices might constitute "evidence use" (or, sometimes, "evidence utilization").[6] The latter question is a focus of a corresponding literature that spans several decades and disciplines, and which investigates the different ways in which information might influence decision-making (seminal work on this topic includes Weiss (1979) and Caplan (1979); Blum & Pattyn (2022) provide a systematic review of recent work). In this literature, a valuable project is to study how information is actually used by policymakers in specific contexts. On the basis of such studies, researchers may then inquire as to what can be done to improve the decision-making processes (see, e.g. discussions about knowledge brokerage (Mackillop, et al, 2020; Oliver, et al, 2022)). It is at this point in conversation that orthogonal concerns about what it is about the use of evidence that epistemically legitimizes may be relevant, (only) if epistemic legitimacy is claimed to be a feature of the normative criteria against which "improvement" is assessed. (We understand the position of the EBP advocate to include such a claim.)

For clarity of purpose, in the following, we set aside the research that has been pursued on evidence use. That is, we set aside the matter of what practices amount to evidence use, in order to dedicate full attention to the matter of what is the supposed underlying good of evidence use: epistemic legitimacy. Indeed, we also set aside a literature within philosophy of science that has explored whether such practices that could amount to evidence use can even be serviced by our existing evidence-production mechanisms, i.e. science.[7]

Epistemic legitimacy (secured by legitimizers, as we are considering here) might also relate to or entail other kinds of legitimacy (cf. footnote 4), e.g., it might lead to greater

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[6]We thank an anonymous reviewer for prompting us to emphasize this distinction.

[7] In the philosophy of science literature, it has been suggested that reflections on the nature and use of evidence by society indicate a need for new infrastructure in the social organization of science itself, for instance so as to better convert existing research into evidence fit for policymaking (e.g., Kitcher 2001, Cartwright 2006; Cartwright and Stegenga 2011; Marchionni and Reijula 2019). To support such claims, better understanding the responsible repurposing --- and new manufacture --- of empirical constraints from old data (Boyd 2018) and how generally to handle "old evidence" without double counting it (Glymour 1980; Howson 1991), as well as developing reasonable procedures for amalgamation or compression of data across disparate lines of evidence (Vieland and Chang 2019), is crucial. But these are topics concerning the epistemological foundations of empirical sciences, far beyond our scope here.

political legitimacy of the policy as there are better reasons to exercise power on the people to enforce the policy. The appeal of EBP is, perhaps, then not (only) that the resulting policies typically have better consequences, but that such a policy is justly carried out, politically speaking. While we will not elaborate on this proposal, we bring it up to further specify the scope of our discussion – dealing with epistemic, not political or other kinds of justification or legitimacy – and also to flag that further considerations beyond the scope of our project may be needed to fully explain the activist energy behind EBP advocacy.

Legitimizers need not have anything directly to do with our evaluations of the actual effects of a policy once it has been enacted. What legitimizes EBP, and what justifies its adoption over other policymaking practices, is not necessarily that it produces better outcomes in every single case or in any one case we might happen to care about. Policies are implemented in complex and uncertain situations, so even making the best possible choices, and instituting the best possible policy that gives us the best chance of success, can lead to poor outcomes just based on chance events. By contrast, a policymaking process that is not based on evidence in the right way might just so happen to coincidentally lead to a policy with really excellent outcomes. We are focused on how EBP practice, by virtue of its legitimizer, legitimates policies it produces, however they turn out. In other words, this project is solely concerned with what is that high bar that is supposedly met, when EBP advocates, or any other stakeholders in the policy process, happily conclude "the policy is based on evidence". We will return to these issues in the conclusion.

It is increasingly common to find calls instead for "evidence-*informed* policy". We discuss this shift in more detail in section 4, but for now we note that even if we want to advocate for evidence-informed policy instead, we still must specify exactly what we take that to mean and why it is that policies resulting from evidence-informed practice are better than those not resulting from evidence-informed practice. The challenge is to spell out possible ways to argue that evidence-based (or evidence-informed) practice produces good, epistemically justified, policies, more so than do other policymaking practices.

3 Three possible legitimizers

We discuss three possible legitimizers, which we name according to three slogan forms of EBP. First, we discuss EBP as "following the science", where scientific evidence sets the agenda for policymaking. Second, we discuss EBP as "doing what works", enacting policies that achieve their stated ends. Third, we discuss EBP as "following the rules", where policymaking incorporates evidence in the appropriate way and at the appropriate points in the process. These legitimizers are all different ways to spell out what it is about being "based on evidence" that confers epistemic legitimacy, which we think have been implicitly defended, to varying extents, in the EBP movement (whether in scholarly or public contexts). For each of these legitimizers, we also explain *why* they could be thought to justify the policies arising out of EBP.

For each possible legitimizer, we will present two versions. The first is a gloss that captures what EBP advocates could or have been understood to be (superficially) defending, in slogan form. We will argue that these glosses do not succeed as legitimizers as they fail to take into account the practicalities of policymaking. We then nonetheless use these superficial glosses, and the subsequent discussion of their obvious, even self-evident, problems, to develop second, strengthened glosses that are suitable for capturing legitimizing features of real, messy, time-constrained policymaking, while still capturing the spirit behind the superficial first glosses.

The three legitimizers that follow strike us as natural in the context of existing EBP advocacy, yet are distinct from each other, even characterized very broadly. However, we do not claim them to exhaust the possibility space — there may be other tenable legitimizers. Further, embracing one of these legitimizers does not necessarily mean doing away with the others. EBP advocates may ultimately want to search for one legitimizer capturing all the aims of EBP, or they may instead want to defend multiple legitimizers that complement each other.

3.1 A "Follow the Science" legitimizer

One might think that what makes a policy evidence-based is that it has been developed in response to, and is informed by, scientific evidence. On this view, we can rely on the reliability, rigor, and objectivity of scientific knowledge and the resulting expertise of the relevant scientists to indicate which policies should be enacted (noting that many scientists reject explicitly taking on this role). This picture of what justifies EBP is reminiscent of the "follow the science" approach that many governments professed to adopt in their responses to the outbreak of the COVID-19 pandemic (Devlin & Boseley 2020; Colman et al. 2021).

As a first gloss, we can formulate the "Follow the Science" legitimizer as follows:

> Follow the Science: The policy is enacted because it is recommended by the science.

On this understanding of EBP, the policy is justified because we have relied purely on the systems of science — our best resources for learning about the world — to decide on it. The thought is that, since science has developed effective systems for generating and using information about the world, we should transfer policy decision-making responsibilities to it, letting scientific research set the agenda for which policies are under consideration and which decisions are made. Policymaking, after all, usually involves handling many complex factual considerations, and so by deferring to scientists on policy matters, we can ensure that all resulting policy decisions are well-informed ones.

As noted, this view of EBP was assumed by governments during the COVID-19 pandemic, who repeatedly used claims like "we are following the science" to justify the

unprecedented policies they implemented. Moreover, scientific advisory bodies and scientists were placed at the forefront of communications of policy decision-making to the public (e.g., the Scientific Advisory Group for Emergencies (SAGE) in the UK and Anthony Fauci in the US).[8]

This superficial "Follow the Science legitimizer" view of what legitimizes evidence-based policies carries some worries. First, we might worry that it puts the integrity of, and therefore public trust in, science at risk; given the inherently political nature of policy, if science is responsible for making policy, will internal aspects of scientific inquiry be more vulnerable to misuse and will public trust in science be more liable to erosion? Second, we might worry that it compromises democratic acceptability of policy decisions; is it politically acceptable if decision-making power is essentially transferred to unelected scientists, and typically only a recognized "elite" among them? As we have noted, suggesting that some policy intervention is the most appropriate one involves a number of complex social, ethical and political judgments; we might worry (as do many scientists) that scientists are not best placed to make these judgments. Third, the "Follow the Science legitimizer" view gives us inadequate guidance about what we should do in the event that scientists disagree over the best policy or the science indicates several possible policy responses; how should we adjudicate between them? Worries like these are sometimes raised in discussions about whether science advisors are better off directly recommending some policy or whether they should instead just weigh in on narrower empirical questions to do with a policy (see Birch (2021) for a discussion of this kind in the COVID-19 context).

Despite these worries, perhaps we can use the ideas underlying this initial "Follow the Science legitimizer" view as the foundation for a more substantial and convincing picture. We can capture some of the main principles with the following formulation:

> Follow the Science: The decision-making practices underlying a policy are sufficiently responsive to the products of and developments in science and to the insights of scientists.

On this second, strengthened gloss of the Follow the Science legitimizer, it is not that the policy itself must have been recommended by members of the scientific community, but rather that the decision to implement the policy arose as a result of consistent and constructive communication with the scientific community. So, on this view, EBP is legitimized because it has been developed in a way that is responsive to the insights of the scientific community.

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[8] Our claim here is not that governments can be accurately described as "following the science" in their responses to COVID-19 – in fact, many are skeptical of governments' claims to be following the science, arguing that they were blame avoidance tactics (MacAuley et al. 2023) and exploited to justify largely political decisions (Piper et al. 2022). In general, any attempt to enshrine research in political processes carries the risk of politicization and the mischaracterisation of political values as scientific facts (Hartley 2016; Hartley et al. 2017). Instead, our point is that governments endorsed a view similar to this legitimizer insofar as they viewed being seen to "follow the science" as being seen to provide justification for their policies.

Although it is more defensible than the superficial version, the strengthened version of this legitimizer, as we have just formulated it, still invites questions. To start, it is quite vague on two fronts. First, the phrase "sufficiently responsive" demands further clarification. Requiring policy makers to be aware of all minor scientific findings on policy-relevant topics seems unreasonable, but the phrase should be strict enough to carry some weight. Advocates attempting to clarify the legitimizer on this front might draw on methods and terminology employed in legal settings to tackle similar sources of vagueness in drafting legislation. Second, the phrases "scientific community" and "science" do not refer to a clearly defined, pre-existing system or group — we face questions about who and what should fall under this description. Should we, for example, take this phrase to mean conventional Western science, or should we extend it to include other forms of knowledge production, such as Indigenous Peoples' or situated knowledge? Recall that the scope of what counts as "evidence" in EBP is itself a locus of persistent controversy within the EBP movement. Meanwhile, how are contributions from "pseudosciences" to be responsibly left out (Pigliucci and Boudry 2019)? In both cases of vagueness, clarification of these concepts is needed for those advocates of EBP who favor, specifically, the Follow the Science legitimizer. Moreover, just how they should be clarified seems likely to depend on the policy topic and context, and will ultimately have a bearing on how defensible the legitimizer is.

This second pass at the Follow the Science legitimizer does, however, seem to address our worry about the political legitimacy of EBP – since we are not wholly deferring to scientists on policy decisions, we leave plenty of space for the input of political figures. In the context of democratic governments characterized by elected officials, this resolution seems essential: separating EBP from technocracy. This also means that the fact that scientists disagree is not in itself a problem. We are, however, still left with questions about how we can make sure that we avoid the erosion of trust in science, given that, on this strengthened version of the Follow the Science legitimizer, EBP still requires a close connection between science and policy.

A Follow the Science legitimizer invites a number of calls for change that are important to consider. Ensuring that policymakers are well-placed to achieve this kind of justification for their policies in practice could involve steps like opening up avenues for persistent scientific criticism during policy decision-making, building structures for more efficient seeking of scientific insights for a wider range of activities to do with the policy process (e.g. agenda setting, measurement of policy desirability, identification of problems, etc.), and requiring a greater degree of systematic involvement of science and scientists in policy evaluation. Importantly, it should also involve taking care that existing – potentially problematic – prestige hierarchies in science are not blindly baked into the system through changes to practice. Our point is not that steps in this direction have never been taken; rather, the claim is that endorsing a Follow the Science legitimizer should involve an explicit commitment to taking further steps along the same lines. A Follow the Science legitimizer would appear to favor greater institutional design to support or augment the social structures that surround and constrain those engaged in the policy process.

3.2 A "What Works" legitimizer

Another account of what makes a policy an evidence-based one is that policies are based on what the relevant evidence says will be effective. On this view, values, ideology, etc. are not allowed to sneak in because we are doing what the evidence tells us will work. That is, the substance of the policy is, ultimately, whatever the evidence says will produce the best outcome. This seems to be what people have in mind when they claim that EBP focuses on "what works", e.g. the British Labour government in the late 1990s or the What Works Centres in the UK.

As a first gloss, we might say that the "What Works" legitimizer is:

> <u>What Works</u>: The policy is enacted because the sum of our available evidence indicates it will be the most effective.

On this view, the policy is legitimized because we are using all and only our current best evidence in reaching a decision. However, as we have previously noted, it is impossible to base a policy decision solely on evidence; evaluative judgements about what constitutes the "best" outcome must be made. One cannot know what policy will be most effective until one has specified what their goal is (and evidence cannot speak to that). As Parkhurst (2017, p. 18-20) points out, evidence of there being a positive effect does not mean that effect is socially desirable. There are also difficulties determining what "the sum of available evidence" says. There is no standard or one right way to combine disparate types of evidence into a single indication of effectiveness (see, e.g., Bradford Hill 1965, Ward 2009, Vieland and Chang 2019). Similarly, if we have multiple aims, or if the policy impacts different people or groups in different ways, there is no one right way to weigh them against each other to make a policy decision (Narens and Skryms 2020). The policy may be expected to be effective along some measures but not others.

Nonetheless, this does seem to be the view of EBP and its justification that some advocates and critics have in mind. For instance, the creation of the network of What Works Centres in the UK was "underpinned by an assumption that it is possible to identify those interventions that are most effective and provide the best 'value for money'..." (Bristow et al. 2016). In a similar vein, Botterill (2017) describes "what works" EBP as a (purportedly) value free agenda (p. 4) aimed at assessing effectiveness of policies (p. 2).

Despite problems with this first gloss of the What Works legitimizer, we do not need to dispense with the idea altogether. We can formulate a strengthened version of this view which avoids the objections raised above. A more defensible What Works legitimizer can be stated as follows:

> <u>What Works</u>: The policy states its desired effect(s) and asserts, backed by evidence, that it offers the most effective way to achieve the effect(s).

On this formulation, the policy is legitimized because our claims about what will happen after implementation are as isolated as possible from values, ideology, etc. This includes things like statements of the magnitude of the problem (related to scope of the purported effect), etc. The purported effects cannot be illusory or manufactured based on a non-empirical, unjustified, or ideology-based worldview. This minimizes the occurrence of ineffective policy as much as possible.

Of course, policy decisions will not be totally isolated from value judgments and the like. Which data is gathered, and which effects are considered important, for instance, will require judgment calls (Botterill 2017, Parkhurst 2017). This is arguably desirable because, again, policymaking ought to reflect the values of the people in some way (Botterill 2017). The key difference between the strengthened Follow the Science legitimizer and the strengthened What Works legitimizer is that the latter hones in on just science's place in helping policymakers predict the effects of intended policies, whilst the former advocates for a more holistic incorporation of science into the policy process.

This strengthening of the What Works legitimizer also fits with EBP's relation to EBM. In medical decision-making, there are always value judgments to be made: Are the side-effects so bad as to not make the treatment worth it? Does a condition affect quality of life to such an extent that a risky treatment is an acceptable course of action? And so on. EBM does not remove the importance of these value judgements, but rather aims at correcting false estimates of rates of occurrence and effects of interventions (side-effects, recovery, etc.) that are not based on evidence in the appropriate way, particularly estimates which are based on psychological heuristics known to bias beliefs. Similarly, the goal of EBP is not to remove value judgements completely, but to ensure that they play appropriate roles in the process and don't endanger the accuracy of important empirical considerations.

Difficult questions about due care, evidence relevance and amalgamation, qualitative versus quantitative data, and so on, remain. We do not argue that this strengthened version of the What Works legitimizer is beyond challenge. In particular, this legitimizer seems to imply a sharp separation between goals and effects of policies, which strikes us as questionable. Still, we argue that it is a potentially defensible version of the "what works" slogan, which EBP advocates could be taken to mean when they argue that policy made on the basis of EBP is justified because it is "what works".

Importantly, unlike in the case of a Follow the Science legitimizer, a What Works legitimizer would seem to favor calls for changing the science done in the vicinity of policy decisions, through greater institutional support for the creation and integration of policy decision-relevant scientific research into the policy process (just so: this is not entirely unlike the mission statement of the What Works Centres). The main task here is to spell out what counts as suitable and sufficient evidence for any given policy decision at hand, given values in play. Notably, this call reflects attitudes found in so-called mandated sciences, as well as in calls for coproduction of knowledge through user or demand-driven research. How such calls fare, in general, given the semi-self regulating

nature of science (including individual scientists' freedom in research choice) remains an open question and possible challenge.

3.3 A "Follow the Rules" legitimizer

On a third — and, arguably, less prominent — view, EBP is legitimized by adherence to the right kind of procedures regarding evidence use: if we "follow the rules", then we can be sure that evidence feeds into the policymaking process in the right way. The broader thought here, that outcomes of social decision-making processes can be legitimized not substantively – that is, by adhering to certain independently established norms or principles – but procedurally, is commonplace. Political elections are a case in point, where as long as the correct procedure is followed during the electoral process, the winner of an election legitimately assumes political power.

As a first gloss, one might formulate a "Follow the Rules" legitimizer in terms of spelling out procedures for introducing science into an otherwise political policy process:

> Follow the Rules: The evidence used to support policy decisions is gathered at the right stage, e.g., before those decisions are made, not afterwards to justify a decision already made.

This seems to often be what people have in mind when criticizing policy decisions as using "policy-based evidence" rather than evidence-based policy (see, e.g., the discussion in Cairney 2019). On this view, if scientific evidence is conscientiously procured, vetted and adhered to at all relevant stages of the policymaking process then this should lend the outcome a certain level of legitimacy. This might be the result of a "stage-based" understanding of policymaking, as, e.g., adopted by Hogwood and Gunn (1984). For instance, Black (2001, p. 275) notes: "In essence, protagonists assume that the relation between research evidence and policy is linear; a problem is defined and research provides policy options."

However, this view attracts a lot of criticism, not least for its depiction of the policy process (see e.g., Cairney 2019, Adams et al. 2015). Policymaking is regularly dubbed a "messy" undertaking, which has prompted some scholars to suggest that it is misguided to conceive of it as a linear process or to try to turn it into one, including some of the earliest policy theorists (Lindblom 1959). Contemporary scholars (e.g., in Geyer and Cairney, eds. 2015) emphasize how it is a multi-level process involving a wide range of actors where policy outcomes regularly "emerge" out of complexity (see also Cairney and Geyer 2017).

But acknowledging the complexity (i.e., non-linearity) in the policymaking process does not imply that we need to reject the viability of a Follow the Rules legitimizer. A more cautious formulation would bracket the issue of the workings of the policy process:

<u>Follow the Rules</u>: The evidence used to support policy decisions is procured and harnessed in accordance with the relevant procedures.

EBP, on this view, is legitimized by the procedures that generate it, where these procedures include instruction on how to marshal evidence in a particular, clearly circumscribed way. The plausibility of this more sophisticated version of the Follow the Rules legitimizer gains support from arguments by some public policy scholars who are sensitive to the complexities of policy process, such as Hawkins and Parkhurst, who write that "a 'good' use of evidence by policymakers should be judged not in terms of the substantive policy decisions reached, but rather how those policy decisions are taken and the ways in which evidence is identified, interpreted and deployed to inform those decisions." (2016, p. 577). They add:

> "Discourses of EBPM typically take an outcome-based approach to evidence use, equating 'good' evidence use with the adoption of a specific policy indicated by a particular body of evidence. In contrast, we offer a process-based account of evidence use in decision-making, which merges concerns about the quality and appropriateness of the evidence informing policy decisions with an analysis of how evidence is deployed by policy makers." (2016, p. 581)

Observe that epistemically justifying an outcome procedurally, by a Follow the Rules legitimizer, means that disagreement with such an outcome – on substantive grounds – does not undermine the outcome's epistemic justification. Indeed, it is plausible on this legitimizer more than the others considered that, although epistemically justified, a policy outcome ultimately satisfies no stakeholder groups (i.e., who possess their own diverging substantive assessments of that outcome). Returning to the elections comparison: a candidate who no one thinks is best suited for the role may still rightly take the top job.

On this line of reasoning, EBP has greater (epistemic) legitimacy if and because the "right" procedures were followed in the procurement and harnessing of evidence. What these procedures should look like is, of course, up for debate. Insofar as it is epistemic justification we are ultimately after, it would seem necessary that those procedures somehow serve to (reliably) further epistemic goals, or else that they exemplify certain epistemic virtues. We also note that it is possible that an analogous Follow the Rules* legitimizer ought to underpin the *political* legitimacy of some policy practice, so that resulting policy is *politically* justified; whether a prior commitment to such a view in politics entails that a Follow the Rules legitimizer is also necessary, in EBP, to secure epistemic justification as a further good is a topic for future consideration.

Again, we conclude with a point about political upshots of endorsing the strengthened legitimizer on hand. A Follow the Rules legitimizer favors institutional design to support and monitor that appropriate procedures get followed in the production of relevant policy outcomes within EBP practice. How to implement this institutional design effectively will depend significantly on what requisite procedures are taken to be. In terms of practical upshots, this legitimizer also draws our attention to ways of monitoring whether the

process was implemented well, e.g., requiring transparency of reasoning to disclose how evidence was used, requiring auditing, and so on. In the context of democratic societies, one expects policies to encourage monitoring to be obligatory, under a commitment to principles of good governance. Fully analyzing the practical upshots and describing where evidence should fit into policymaking processes is beyond the scope of this discussion, and, indeed, will be peculiar to each political system and local context.

4 On the matter of rhetoric

The previous section isolated possible legitimizers of EBP, drawing in part on existing critiques of the EBP movement, to strengthen what may originally have been too simplistic conceptions or presentations of the policymaking process. We have argued that the second formulation provided for each of these legitimizers is a more defensible source of justification for EBP than the legitimizer's initial, superficial gloss. However, one might worry that these legitimizers, once made defensible, are sufficiently permissive that we no longer want to say the policies legitimized are "based" on evidence. Instead, they are merely appropriately "informed" by evidence, and so what's really legitimized is evidence-*informed* policy (or, sometimes, evidence-*enlightened* policy). In this section, we argue that this reasoning is specious: a shift to the term evidence-informed policy is better thought of as a terminological difference. This clarification ultimately raises a question, which we discuss in this section: is such a shift warranted?

To see an example of the impulse to move from "evidence-based" toward "evidence-informed", consider remarks in the World Health Organization's (WHO) 2021 guidebook "Evidence, policy, impact: WHO guide for *evidence-informed* decision-making" (emphasis added), a title which seems to be in tension with the organization's "evidence-based mandate" (p. v) and identification as an "evidence-based organization" (p. 1). The guidebook explains the choice of language in the title:

> The more recent emphasis on evidence-informed over evidence-based decision- and policy-making takes into account that research evidence is often but one of several factors influencing policy-making processes. As policy-making inherently takes place in a political context, economic interests, institutional constraints, citizen values and stakeholder needs tend to play an important and sometimes conflicting role. (p. 6; references occurring within the quoted text omitted)

Implicit in this statement is an assumption that advocacy of "evidence-based" policymaking leaves inadequate room for various stakeholder interests to factor into the policymaking process. This is similar to what one finds in critiques of EBP. There, EBP advocacy is taken to have a more univocal goal, which the critiques call into question and raise alternatives to: for instance, "evidence-informed policy" (a longstanding suggestion; see Young et al. 2002 for one very early call) or "good governance of

evidence" (a more recent suggestion made by Hawkins and Parkhurst 2016, and developed at length by Parkhurst 2017). This language swap could be viewed as an explicit weakening of rhetoric, at least relative to a highly restrictive (and arguably unrealistic) interpretation of "evidence-based".

However, in light of the variety of possible legitimizers raised in the previous section, it appears that there is a lot of freedom in what EBP advocates could mean by their basic normative claim that "policies should be based on evidence", which leaves room for considerations like stakeholder interests to factor into policymaking. Given this, there is little reason to assume that policy practice that would count as "evidence-informed" constitutes any substantive difference to practice counted as "evidence-based" by the EBP movement. If this is right, there is little reason to engage in a substantive debate over which of "evidence-based" or "evidence-informed" policy is more attractive, since it is not clear that they amount to different things. The same conclusion applies for "good governance of evidence". We can thus view advocates of evidence-informed policy and good governance of evidence as part of the broader movement concerned with the use of evidence in policy.[9] Even where such advocates articulate their position primarily as a criticism of EBP (as Parkhurst and many others do), from the perspective taken in this paper they face the same issue, namely of articulating not just what role they see for evidence in policy, but what legitimizes this role. Disagreement over the name of this movement is a matter of terminological preference, or what philosopher of language Chalmers (2011) calls a "verbal dispute".

Settling this verbal dispute — whilst still important — requires different arguments than one appealing to limitations inherent to the substance of EBP. It would involve giving arguments about why we should favor one of the labels over the other, which could include rhetorical, genealogical, grammatical, historical, and political considerations. Or to phrase it as a question: given meanings and associations that have accrued to those terms in the context of the movement, so far, are there reasons that EBP advocates *should* change the language of "evidence-based" policy?

We ultimately take no view on this matter here (noting that there is disagreement among the authors of this paper), but we present some reasons pointing in different directions, starting with two reasons favoring "evidence-informed".

The first reason is a rhetorical one. The phrase "evidence-based policy" arguably contains an implication that policy can be (solely!) based on evidence, i.e., that it would be possible to let the evidence dictate policy, which is obviously false. In contrast, as highlighted by the quote from the WHO guidebook, the phrase "evidence-informed policy" does not carry such strong implications. It explicitly makes room for other factors than evidence to enter into decision-making. As such, changing from "evidence-based" to "evidence-informed" is rhetorically useful as it more accurately describes advocates'

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[9] Recall from the Introduction that we count those in the "Reinvent" school of EBP scholarship as critical efforts coming from within the EBP movement, broadly considered, which includes, e.g., Parkhurst's work on good governance of evidence.

aims, at least to a somewhat naive audience who interpret the implications of "evidence-based" language in the relatively strong way mentioned above.

The second reason is a historical or genealogical one. In practice, advocating EBP involves aligning oneself with a particular political movement of the 1990s and 2000s, and thereby at least by implication associating oneself with its particular concerns and idiosyncrasies. For instance, hierarchies of evidence (Sackett 1986, Stegenga 2011) were originally developed in the context of evidence-based medicine and are widely adopted by EBP advocates. In practice, this entails a strong preference for RCTs and meta-analyses, which biases our evidence base (Parkhurst and Abeysinghe 2016, pp. 669-670). Relatedly, the EBP movement's focus on "the language of doing 'what works' typically assumes and commonly implies a generalisability of effect that, while common in clinical medicine, is much less common in other policy relevant interventions" (Parkhurst 2017, p. 18, see also pp. 20-22). Those opting to stick to "evidence-based" language risk being seen to take on much more specific commitments about the kinds of evidence that are relevant and how they should be used than would logically follow from adopting one or more of the legitimizers we have proposed.

In contrast, the "evidence-informed" language is quite new and as such relatively pristine. Advocates of evidence-informed policy therefore are able to forge the path of what precisely it amounts to. They could take what they perceive to be good about EBP and discard what is bad. What that means is ultimately up to them, but in light of the above a salient option is to advocate for the involvement of evidence in policy in line with one or more of the legitimizers we have proposed, while distancing oneself from evidence hierarchies and evidence-based medicine.

On the other hand, an EBP advocate might give their own rhetorical and historical/genealogical reasons in favor of EBP. First, it is worth distinguishing the EBP movement from surrounding efforts in political statecraft, which have seized the former for its own ends. For instance, even the EBP slogan "what works" transformed dramatically in the UK between its initial use by New Labor and later use by the Conservative party, given the latter's austerity politics (Wells 2017). Sometimes, the associations (or "baggage") that particular terminologies accrue are simply material evidence of preliminary successes of an advocacy movement: that advocates' claims were heard and co-opted for further political ends (Tilly 1978; McAdam et al. 2001).

An outstanding question is, then, whether the "evidence-based" language is somehow unusually prone to being seized for undesirable ends not directly related to the use of evidence in policy or whether "evidence-informed" might quickly be similarly co-opted. In fact, an EBP advocate might worry that the "evidence-informed" language is rhetorically too weak, such that just about anything could be argued to be evidence-informed. Insofar as "evidence-based" language carries stronger implications, it leaves less room in debate for political actors to facetiously claim that they are appropriately engaging with the relevant evidence on the topic at hand.

Moreover, there is some positive historical or genealogical reason to stick with the "evidence-based" language. As in consumer marketing, where major shifts in branding are known to risk destroying brand equity in the absence of massive advertising campaigns (see Muzellec and Lambkin 2006 and references therein, especially regarding the "corporate rebranding paradox"), so too is there a risk in killing the momentum of the EBP movement by abandoning the "evidence-based" framing.

Again, we do not attempt to resolve this debate here. We merely note that from a historical or rhetorical perspective there are arguments to be made both for and against changing "evidence-based" into "evidence-informed" language. In our view, discussing differences in the types of policies being advocated for under the two terminologies will not settle this question; the legitimizers discussed in section 3 could legitimate either evidence-based or evidence-informed policy.

5 Conclusion

We have argued that the question "what *should* EBP advocates advocate for, moving forward?" is, at least in part, a question about what we take to be a legitimizer of EBP practice and therefore, what provides epistemic justification to policy decisions which are the result of EBP practice. As we briefly saw, the different legitimizers we considered can be taken to naturally motivate different activist efforts in policymaking reform, or else concerning how to structure the science-policy interface. Clearly, which of these three legitimizers — or some other — we think is normatively preferred, whether to the exclusion of the others or not, matters to next steps in EBP advocacy. Regardless of decisions made about switching from "evidence-based" language to "evidence-informed", there is work to be done at the foundations, with consequences for the movement.

To this effect, we conclude now by noting two criteria that worked out legitimizers of EBP ought to satisfy. Hopefully, identification of these criteria will accelerate future research at the foundations of the movement. First, the legitimizer must explain what it means to be "based on" (or else "informed by") evidence. Intuitively, as we have raised, basing policy on evidence seems to endow the policy with some kind of epistemic justification. We might even interpret the EBP paradigm as a commitment to policy that is epistemically justified; that is, as policy that rationally aligns (best) with the evidence. In practice, not all "policy based on evidence" is created equal: even where evidence is the basis of policy design, the results can correspond more or less closely to that evidence and they can do so in different ways. Scientists and others will regularly challenge policy decisions by claiming that they were not based on the best evidence or in some way did not appropriately reflect the evidence base — maybe even with regards to evidence still emerging as the decision-making commenced. This implies that there is a way in which policy *can* appropriately correspond to, or be based on,

evidence. In other words, there would be better and worse ways of doing EBP, where better means "epistemically justified to a greater degree".

Second, recognizing the uncertain, chancy nature of policymaking, the legitimizer must be immune to the problem of luck. (For an analogous discussion of the problem of "epistemic luck" in justifying claims of learned knowledge, see, e.g., Pritchard 2005.) Here is the problem. First, let us distinguish between (a) the reasoning practices that are performed by policymakers over the course of some decision process, (b) the result of that decision process, that is, the choice of some policy option over another, and (c) the actual consequences of implementing that policy option. Note again that the legitimizer directly targets (a), the policymaking practices, but that it is (b) and (c), the resulting choice and consequences of enacting the policy that stand to earn some subsequent degree of epistemic justification. What happens when chance and circumstance spoil the connection between the EBP practice (a) and either the choice made (b) or the consequences (c)? Contingent features of the complex and interconnected policymaking, social, and natural worlds should not suffice to undermine the epistemic justification bestowed on the latter two, for their having come after good EBP practice.

In some contexts more than others, chance is a more prevalent factor in actually producing policy outcomes; one should nonetheless, in those cases, still be able to articulate, tailored to the realities of the case, the good of EBP, including the epistemic justification of the policy that follows EBP practice. This is especially important, insofar as the EBP movement is intended to span over wildly diverging social contexts with significantly varying resource constraints, political infrastructure, and so on, including both the Global North and South, and across cases of local, regional, and global-scale policymaking.

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