

Lessons from the Evidence on Evidence-based Policy

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Introduction

What can we learn from the evidence on evidence-based policy (EBP)? We cannot do a randomized controlled test, as dear to the hearts of many proponents of EBP as that method may be. Much of the “evidence” in question will not meet the standards of rigour demanded in the central doctrine of EBP, but we are nevertheless interested in knowing, after a number of years as an idea in good currency, what we have gathered from the pursuit of EBP.

In one of the most important surveys of research use, Sandra Nutley, Isabel Walter and Huw Davies (Nutley et al 2007, 271) note that:

As anyone working in the field of research use knows, a central irony is the only limited extent to which evidence advocates can themselves draw on a robust evidence base to support their convictions that greater evidence use will ultimately be beneficial to public services. Our conclusions...are that we are unlikely any time soon to see such comprehensive evidence neatly linking research, research use, and research impacts, and that we should instead be more modest about what we can attain through studies that look for these.

If then, we want to pursue our interest in the experience of EBP, we need to be open-minded about the sources we use. A search for “evidence-based policy” on the PAIS database produced 132 references in English. These references, combined with the author’s personal collection developed over the past several years, plus manual searches of the bibliographies of the books, book chapters and articles from these two original sources, produced around 400 works on EBP. These include a variety of kinds of research, from systematic surveys (Contandriopoulos et al 2010; Oliver et al 2014a,

2014b) participant-observation (Stevens 2011), ethnographies of policy-making (Rhodes 2005), theory of policy-making (Paris 1988), analyses from think tanks and foundations (Hallsworth, 2011; Pew-MacArthur 2014), to a profusion of incidental comment. This is not a complete survey of the literature but it meets the point of data saturation (Booth 2001) where new arguments are no longer emerging.

A conceptual review (Petticrew and Roberts 2006, 39) of this literature led to several conclusions. First, the minority of the EBP literature which focuses on the practice of EBP (as opposed to literature which advocates or treats EBP in the abstract from first principles) consists largely of the confirmation of phenomena already identified by students of “science and public policy” and “knowledge utilization” from the late fifties into the nineties. Second, there is substantial convergence in this literature (apart from the abstract/advocacy tradition) about the basic experience with the practice of EBP. Third, the abstract/advocacy literature is largely innocent of the conclusions of those who have observed the practice of EBP. The EBP movement is therefore a combination of a large number of supporters who make intuitive but superficial assumptions about both the making of policy in the real world and the applicability of scientific and social scientific research to that policy-making, and a smaller number of scholars whose grasp of the policy-making process is deeper because their views are based on research of the subject itself.

In this article we summarize and synthesize the themes which converge from the observations of the latter group. The limits of space preclude the full referencing of our conclusions, but they are based on multiple authorities among the roughly 400 references reviewed. We define *evidence* as the product of research: organized knowledge produced in accord with the standards of the relevant academic disciplines. *Policy* is defined as the position or approach adopted by public authorities – governments, agencies, school boards, the military, the police – toward problems or opportunities which are perceived to affect public welfare.

An important literature moves from the often contested status of evidence to alleged technical and political bias in the production and use of organized knowledge in policy-making. It is clear that “science” and “evidence” can be used more or less benignly to shield policy processes from the pressure of interest group politics, as well as, sometimes cynically, to attempt to legitimize a decision arrived at on other grounds. This paper focuses primarily on studies of good faith attempts to operationalize the EBP idea; we therefore do not pursue the exploitation of evidence in *realpolitik* any further.

The viability of the EBP idea depends upon two types of factors: the context and pressures of policy-making and the specific question of the nature and utility of organized knowledge to policy-makers. Because the majority of proponents of EBP do not grasp the realities of policy-making, but make simplistic rationalist assumptions about it, the next section examines the task environment of policy-making in democracies. The following section addresses the latter issue: what have we learned from the evidence on evidence-based policy? In the conclusion, we attempt to sketch an overview of the variety of views on EBP.

There is here no intention to deny the value of organized knowledge in the making of policy. Such knowledge should be employed as and when it is available and relevant. On the other hand, nor are we claiming – as many in the evidence-based policy movement implicitly or explicitly do - that governments have been negligently ignoring the results of research. We are simply attempting to take EBP at its word – that is, to examine the evidence about EBP.

The task environment of policy-making

The great cognitive scientist and Nobel laureate Herbert Simon (Bendor 2010, 2) argued that for any analytical task, one had to consider “a scissor of two blades,” to wit, “the structure of the task environment” and “the computational capacities of the actor.”

Let us begin by noting that just as scientific papers do not provide an account of the *process* of research, with its false starts and failures, but rather an account of its *results*, so too do accounts of policy fail to provide any sense of the *process* of arriving at that policy, with its many reversals, irrationalities, and contingencies. Political rationales accompanying policy announcements should never be mistaken for accurate accounts of underlying processes or motivations. The point is that whatever the educated layperson may choose to assume about the making of public policy, there is no substitute for reading the empirically-based literature on the subject. That literature consistently demonstrates the partiality or infeasibility of the rationalist model cherished by many proponents of EBP.

In a democracy, constitutional, juridical and political factors place major constraints on decision-making. First, decisions iterate through a series of institutional and personal gateways, that is, they are virtually never the product of the judgment and discretion of a single mind or a single agency. The three branches of government – executive, legislative and judicial – witness titanic struggles for influence, even as similar, less public, struggles occur continuously within these branches. Second, decision-makers operate in a noisy environment, under the unremitting scrutiny of the media and the public, and under severe limits of time. Few of us, apart from professional athletes, can appreciate the sustained pressures involved. Third, this environment is characterized by intense and continuous competition and criticism; any significant public decision-maker plays her role in the face of others who seek that role. Fourth, political life coevolves with public opinion, an unpredictable phenomenon subject to nonlinear dynamics, tipping points, and moral panics. Fifth, public policies almost inevitably involve multiple conflicting goals, which must be traded off against one another. Finally, all of these factors combine to create pervasive uncertainty for decision-makers. This uncertainty is not the product of ignorance or fecklessness; it is the standard condition of democratic public life.

In this task environment, the criteria for success are ruthlessly pragmatic. Adaptability, insight into others, stamina, persuasiveness, and self-mastery matter far more than

analytical capacity. Democratic public life cannot be reconstructed as a search for the truth, for it holds many truths; it is a search for the collective sustenance of basic civic values such as tolerance, solidarity, justice, equality, loyalty, liberty, welfare, and human rights. If scientific research successfully addresses questions which serve these ends directly or indirectly, it is of great potential use.

The general and abstract nature of these basic democratic values, however, sheds light on one of the most overlooked features of policy-making: the protean quality of policy objectives. It is too easy to imagine that policy-makers start with objectives and search for means to achieve them. In fact, policy-makers start with problems and enter into a dialectic with the means available to address them until some feasible match of problem, means, and plausible ends is achieved. Objectives evolve along with means; they do not necessarily precede them. And often the need to build a coalition of support for a policy requires the expansion or distortion of means and ends such that ambiguity reigns.

The important point is that we should not confound the task environment of policy-makers with (an idealization of) that of academics or researchers, nor should we take it for granted, assuming its salient features without reflection and, well, research. As Simon pointed out, our rationality is inevitably bounded and the cognitive limits at work in any decision situation are not only those of the individual, but also those enforced by the demands of the problem and its context. Successful decision makers develop their own brand of rationality, their own type of expertise, to cope with their task environment, which it is self-defeating to ignore. Paul Cairney (2016, 30) concludes that:

The picture is far removed from the idea that 'the evidence' has a direct input to a small number of comprehensively rational policymakers in a clearly defined policy process... Policymakers have to make decisions in the face of uncertainty. No amount of available information or evidence can settle the matter for them. Rather, they decide who and what information to trust.

It is simply wrong to imagine that policy is usually made in set-piece briefings by experts to attentive and intellectually engaged decision-makers. This ignores the effects of time pressures, fatigue, ideological preferences, the history of party and government commitments, an unpredictable and capricious public opinion, personal ambition, resource constraints, institutional culture, and many other features of policy-making as it is embedded in the on-going drama of public life. As Sir Peter Gluckman (2016, 969), Chief Science Adviser to the Prime Minister of New Zealand observes, “Regulatory advice, program development, and cabinet-level decision-making...often occur as informal conversations and brainstorming at opportune moments.”

Lessons from the evidence on evidence-based policy

Those who, mostly starting from the premises of EBP, have looked more closely at the use of scientific knowledge in policy-making, have rediscovered a number of phenomena which are well-known to students of policy-making. It should be emphasized that the great majority of these scholars began their research motivated by an instinctive conviction of the value of scientific research for public policy.

Science and politics are intimately entwined in policy-making and attempts to separate them in practice are doomed to sterility. According to Sheila Jasanoff (1990, 230), one of the leaders in the field, “Although pleas for maintaining a strict separation between science and politics continue to run like a leitmotif through the policy literature, the artificiality of this position can no longer be doubted. Studies of scientific advising leave in tatters the notion that it is possible, in practice, to restrict the advisory process to technical issues or that the subjective values of scientists are irrelevant to decision-making.”

Doctors differ, and scientifically qualified experts may be found on both sides of many issues. Experts in different countries facing the same body of facts and studies may provide different advice (Baekkeskov 2016; Boswell 2014; Newman and Head 2017, 8; Strassheim 2017, 240). Interests with much at stake in policy-making find experts who

understand perfectly in what direction their expertise is to be directed (Bogenschneider and Corbett 2010, 14-5, 242; Hammond et al 1983, 292-3; Jasanoff 2000, 52-3, 2011, 27; Kitcher 2011, 19, 162, 173; Oreskes and Conway 2011; Saltelli and Giampietro 2015, 7; Vaughan and Buss 1998, 110). If academic standards – the idealized demands for validity in science – are taken to their logical conclusions, then there is no end to the technical contestation which concerned stakeholders can foster, and the ability to sustain such contestation may become a matter of resources, not scientific competence (Bogenschneider and Corbett 2010, 36; Collingridge and Reeve 1986, viii-x, 6, 9-11, 16-9, 30-4; Craye 2006, 57-8; Ezrahi 1980, 117; Petticrew and Roberts 2006, 128; Hilgartner 2000, 86-112; Raman 2015, 23 - 25; Salter 1988; van der Sluijs 2006, 72-3; Wagner and Steinzor 2006; Woodhouse and Nieuwma 1997, 24).

Peter Weingart (2003, 57; see also 79; Maasen and Weingart 2005; Rein 1976, 12) concludes:

This scientization of politics [the demand for scientific support for policies], however, has had the surprising result that political decisions cannot - as might have been expected - be made more rationally, more unambiguously, more often consensually and with greater certainty, but, on the contrary, that controversies about these decisions become more intensive and their lack of foundation in science and their risks become obvious.

Academic disciplines and government departments and agencies divide up the world in essentially arbitrary pieces, which conflict with one another, and which provide no guarantee that they cut (policy) nature at the joints. Put another way, policy problems, as they present to policy-makers, respect neither academic fields nor government organization. They place a premium on interdisciplinarity, on the one hand, and cooperation among public bodies, on the other, but the achievement of either is by no means obvious. A recent study by the National Research Council for the National Academies of the United States (Prewitt et al 2012, 49; see also Freiberg and Carson 2010, 153), *Using Science as Evidence in Public Policy*, argued that “Focusing on understanding institutional arrangements - how the agencies, departments, and political

institutions involved in policy making operate and relate to one another - may be what matters most in improving the connection and policy making.” Tim Tenbenschel (2004, 205; see also Jasanoff 2013, 63-04) concluded from his study of New Zealand’s efforts to set health policy priorities that “The task of understanding how policy processes deal with divergent implications of different types of knowledge and evidence is of far more importance than the question of how to make policy processes more evidence-based.”

The issue here goes beyond the incommensurability of the intellectual boundaries of the academic disciplines, on the one hand, with the frontiers of agency mandates in the public sector, on the other. It likewise goes beyond incommensurability of either with the nature of policy problems confronting policy-makers. *Institutions such as disciplines and agencies have their own internal epistemologies and cultures, which reduce or increase the salience of various ways of knowing and doing, and which frame the production and use of scientific research as evidence.*

The proportion of organized knowledge relative to other forms of information in the best policy-making processes is more modest than proponents of EBP imagine. Evidence in the form of research which meets disciplinary standards is mostly framed for the editorial boards of academic journals, whose expectations are radically different from those of policy-makers. Such research does not address policy problems but researchable phenomena (Anton 1984, 210-1; Bogenschneider and Corbett 2010, 11-12, 16-7, 165; Chelimsky 1991, 227-8; McCall 1984, 6-7, 9; Mead 2015, 263, 265, 270; Papanagnou 2011, 10-1). Clinton Andrews (2002, 34) puts it this way, “The scientific enterprise does not naturally produce information useful to lay decision makers; rather, the scientific enterprise produces knowledge for internal consumption.” The policy implications of any given piece of research are far less compelling for policy-makers than researchers assume, in part because researchers have no very accurate picture of the making of policy. As Kathryn Oliver et al (2014, n. p.) argued “It is hard to defend academics from the charge of misunderstanding policy priorities or processes – a charge first made explicit over 20 years ago.”

Research operates on a timetable far removed from the pressures of policy-making (Bogenschneider and Corbett 2010, 124; Chelimsky 1991; Davies 2012, R43; Ezrahi 1980, 116; Heller 1969, 35; Kissinger 1969, 164, 167; Lomas 2000, 14; Mitton et al 2007, 738; Rutter 2012, 17-8; 2013, 44). Social science in particular is not cumulative in the sense that natural science is, and often subject to fads and fashions. As Henry Aaron (1978, 167) concluded in the penultimate line of his study of the War on Poverty and the Great Society programs, “As before and as always we must proceed with inadequate research.”

The linear, or pipeline model of the use of science in policy-making, which is central to the EBP movement’s approach, is a very rare phenomenon. EBP advocates imagine that specific studies or research findings may so resolve or clarify the issues in a policy area that they drive specific policy change. This is known as the “instrumental” or “problem-solving” function of evidence. However, as the late Carol Weiss (Weiss and Bucuvalas 1980, 155), one of the pioneers in the field, concluded “Research is seldom used to affect decisions deliberately. Rather it fills in the background, it supplies the context, from which ideas, concepts, and choices derive.” She called this the “enlightenment” function.

The context of problems and of policy-making is critical to the use or otherwise of organized knowledge as evidence; evidence for policy-making does not have the universal applicability assumed in the scientific ideal (Bocking 2004, 17; Bogenschneider and Corbett 2010, 12, 41-4; Cartwright and Hardie 2012; Davies and Nutley 2002, 87; Mitchell 2009, 105; Mulgan 2005, 224; Munro 2014, 60-4; Wynne 1996, 62-73); *those proponents of EBP who promote randomized controlled trials (RCTs) as the “gold standard” for “what works” in policies and programs create a “hierarchy of evidence” which both oversimplifies the task of providing policy-relevant evidence and fails to account for the complexities of different policy contexts, such that the external validity of many RCT’s is mistakenly assumed.*

In the language of policy studies, policy transfer (from one jurisdiction to another) requires a deeper understanding of contextual variables and the mechanisms underlying programs putatively successful in a specific environment. Nancy Cartwright (Cartwright and Hardie 2012, 45) has thoroughly examined the misconceptions about RCT's which EBP dogma fails to recognize: "The orthodox advice is that external validity can be expected if the target population is 'sufficiently similar' to the study population. For us, the key question is how good a job this advice does in getting you from 'it worked there' to 'it will work here.' The answer is: you are lucky if it gets you anywhere." Another way of making a similar point is offered by Warren Pearce, Anna Wesselink and Hal Colebatch (2014, 164): "Evidence best informs policy when it is attentive to local contexts, lay knowledge and political demands alongside the more abstract, technical data which is often assumed to be the bedrock of EBP."

The gap between the "two communities" of research and policy may best be filled by resources specifically devoted to bridging it, such as the translation of scientific findings into policy-friendly language or the positioning of knowledge brokers at the strategic meeting point of evidence and policy. However, these "knowledge mobilization" strategies have inspired a good deal of comment to the effect that they misconceive and/or underwhelm the problem they purport to begin to resolve (Cairney 2016, 72, 77, 121-2; Caplan 1977, 196; Debeck and Kerr 2010; Fafard, 2012; Gagliardi et al 2016, 7; Greenhalgh and Wieringa 2011; Lindquist 1990; Mitton et al 2007, 737; Newman 2014; Newman and Head 2015; Parkhurst 2016, 71-2; Prewitt et al 2012, 3; Webber 1986; Ward et al 2009, 273-4; Weiss 1982, 633-8).

Direct and sustained relationships between researchers and policymakers are the optimal method for promoting the use of research in policy-making (this is also known as the linkage or interaction or integrated knowledge translation model). Building and maintaining such a relationship requires a high "degree of persistence and stamina" on the part of researchers (Davies et al 2015, 129; see also Gagliardi et al 2016, 2). The way the academy is organized means there are few incentives for university-based researchers to do so.

Conclusion

We conclude that the successful use of research in policy-making is no straight-forward matter. It is fascinating to compare the conclusions as to the requirements for the successful practice of EBP, drawn by various students of the phenomenon.

According to Carol Weiss (1995, 148), “Research does not win victories in the absence of committed policy advocates, savvy political work and happy contingencies of time, place and funds.” Weiss and Bucuvalas (1980, 10) describe these happy contingencies as follows:

The requisite conditions appear to be: research directly relevant to an issue up for decision, available before the time of decision, that addresses the issue within the parameters of feasible action, that comes with clear and unambiguous results, that is known to decision-makers, who understand its concepts and findings and are willing to listen, that does not run athwart of entrenched interests or powerful blocs, that is implementable within existing resources.

The British Academy (2008, 3) summarizes its findings as follows:

Studies have shown that policy makers want research findings that:

- are relevant;
- are timely;
- are robust (and the methodology is relatively uncontested);
- are applicable to the issue of concern;
- are accessible to wider audiences;
- bring together relevant expertise from a number of disciplines;
- have champions and advocates;

- involve the users of research in the research project from the outset - the 'co-production model';
- support existing ideologies and are uncontentious.

For his part, Paul Cairney (2016, 129) takes the ideal case and deduces:

Beginning with the ideal-type of 'comprehensive EBPM', we can identify the conditions required to minimise an evidence–policy gap: it is possible to produce a scientific consensus based on an objective and comprehensive account of the relevant evidence; the policy process is centralised and power is held by a small number of policymakers; scientific evidence is the sole source of knowledge for policymakers; policymakers understand the evidence in the same way as scientists; and they have the motive and opportunity to turn the evidence into a solution that is consistent with, and a proportionate response to, the policy problem.

Likewise, Gerry Stoker and Mark Evans (2016, 265) answer the question, "What would the perfect evidence-based policy system look like when you have got it?" in this fashion: it would be,

- Where policy advisors have the capacity to act and the competences to understand the choices available to them.
- A policy system that works beyond the electoral cycle and focuses on long-term issues of national significance.
- A system that utilises existing capacity.
- A system that is proactive to changes in the field of action.
- Where there is room for experimentation.
- Where innovation is incentivised.
- Where the capacity to speak truth to power exists.
- Where there are clear accountabilities.
- Where policy and evidence are effectively integrated.

- Where information systems allow for the effective flow of information from the front line.
- Where evidence is freely debated and shared.
- Where better practice is shared.
- Where there is access to evidence and, by implication, strong productive working relationships with knowledge institutions.
- Where there is effective use of innovation intermediaries.
- Where there are demand and supply-side incentives to engage in evidence-based policy making.

Finally, according to Gary Banks (2009, 9), in a speech entitled “Evidence-based policy-making: What is it? How do we get it?”

.....all good methodologies have a number of features in common:

- they test a theory or proposition as to why policy action will be effective — ultimately promoting community wellbeing — with the theory also revealing what impacts of the policy should be observed if it is to succeed;
- they have a serious treatment of the ‘counterfactual’; namely, what would happen in the absence of any action?
- they involve, wherever possible, quantification of impacts (including estimates of how effects vary for different policy ‘doses’ and for different groups);
- they look at both direct and indirect effects (often it’s the indirect effects that can be most important);
- they set out the uncertainties and control for other influences that may impact on observed outcomes;
- they are designed to avoid errors that could occur through self-selection or other sources of bias;
- they provide for sensitivity tests and, importantly,

- they have the ability to be tested and, ideally, replicated by third parties.

It is evident that these scholars have attacked their question from somewhat different perspectives, but this alone hardly accounts for the variety and heterogeneity of the requirements advanced. There is convergence on the challenges facing the practice of EBP, but less on the requirements for success which the experience of practice reveals as elusive. Most striking is the depth of the attitudinal and behavioural change required on the part of the agents involved in the practice of EBP.

Carol Weiss was the most experienced twentieth century authority on what was known as 'knowledge utilization' and she drew the conclusions quoted above from many years of studying that phenomenon *in situ*. There is no reason to think she ever changed her mind. Paul Cairney, on the one hand, and Gerry Stoker and Mark Evans, on the other, attempt to show us just how demanding the EBP idea really is, by examining what it would require, were researchers and especially public officials to take it at its word. Each of these, as different at the letter as they may be, appear in fact to show how shallow the central dogma of the EBP movement - that major improvements in policy-making would result if only governments took research seriously – really is. They force us to face some difficult questions. How likely are these requirements or conditions ever to hold? How might they be implemented in any real world policy process?

Gary Banks, an economist, tells what kind of research would convince him. No doubt such guidelines – in themselves no novelty – might aid in economic policy or regulatory decisions. But to attempt to apply them to the complex and multifaceted problems which regularly face governments is to realize how far positivist social research is from day-to-day usefulness in clarifying solutions to the kinds of issues which keep politicians up at night.

All this means that for Carol Weiss (1995, 146; see also Andrews 2002, 109), “Most policy research is probably born to die unseen and waste its sweetness on the desert air.” More recently, a contemporary student of the practice of EBP, Brian Head (2016, 475), sees that “The search for evidence-informed policy and practice will be a long and arduous journey.” Ray Pawson (2006, viii) keeps faith with EBP, notwithstanding: “The problem with the term, and it is quite a big one, is that there is no such thing as evidence-based policy. Evidence is the six stone weakling of the policy world ...Evidence-based policy may be a weakling but he is my weakling and I want to make the best of him.”

It is unlikely that this situation – a wide variety of views on the viability and imminence of EBP – will change anytime soon. Rationalism has deep roots in the policy world. Education, especially graduate education, places an enormous emphasis on logic and rationality. As long as educators are overwhelmingly life members of the genus *academicus*, so long will expectations of institutions external to the university be expected to conform to its most profoundly cherished values, and so long will there be frustration at the failure of those institutions to conform.

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