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Increasing the ability of government agencies to undertake evidence-informed policymaking

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Abstract

Numerous studies over several decades have suggested that research evidence does not have the kind of impact on policy decisions that might be expected from the sheer volume and depth of the research base that exists in many policy areas. Ultimately, however, debates about the use of evidence for policy decision-making are over-theorised, and there is no clear picture of the empirical research that demonstrates how policymakers can use evidence in real-life policy decision-making. This systematic review aims to bring together the existing evidence on research use, with a specific focus on studies that investigate how the use of research to inform policy decision-making can be improved. This review finds that interaction and collaboration between researchers and policymakers are a frequently cited method of improving the use of evidence in policymaking, but that more intervention-based research is required to confirm the effectiveness of these strategies.

Keywords
Evidence-informed policy.

Numerous studies over several decades (e.g., Belkhodja et al., 2007; Caplan, 1979; Howlett and Newman, 2010; Lester, 1993) have suggested that research evidence does not have the kind of impact on policy decisions that might be expected from the sheer volume and depth of the research base that exists in many policy areas. Many observers have argued that if policies are not particularly informed by research, they must be founded on less robust information, such as ideology, popular opinion, the will of interest groups or emotional reaction (Banks, 2009). The argument associated with this point is that policy that is based on these factors will produce more negative outcomes for society and will be less sustainable than evidence-based policy (Chalmers, 2003).

An extensive body of literature has accumulated on this subject since the 1970s. The question that has dominated the academic (and practitioner) debate since at least 2000 is: 'Can the use of evidence in policy decision-making be improved?' In other words, can better evidence be obtained for policymaking purposes, and can this evidence be used more frequently and more intelligently in the policy decision-making process?

Several schools of thought have emerged, essentially populating a spectrum of support for the use of evidence in decision-making. At one extreme, scholars question the definition of evidence, or perhaps its very existence. By this account, policy interventions seldom produce desired outcomes in a cause-and-effect manner (Biesta, 2007). Certain forms of knowledge (for instance, quantitative and statistical analyses and randomised controlled trials) are understood as having unfair precedence over others (such as interviews, ethnographies or anecdotal accounts), which creates an artificial hierarchy of knowledge and undermines the value of the information used for policy decision-making (Marston and Watts, 2003).

Further along the spectrum, another group of observers argues that while evidence may exist, it can never be 'used' by policy decision-makers in any kind of rational instrumental sense because of the inherently political nature of public policymaking

(Cairney, 2016). This argument is often coupled with the normative suggestion that political decision-making is a cornerstone of democratic governance, and that true evidence-based policy would result in a kind of technocracy that would eliminate human decision-making from the process of governance, thereby eroding democracy (e.g., Triantafillou, 2015). Duly elected political representatives, from this point of view, have the right to 'ignore evidence' and make the decisions they deem to be appropriate (Monaghan, 2010: 1).

In the centre of the spectrum, a moderate position has developed in which multiple uses for evidence are recognised, including rational-instrumental uses, but also political-symbolic uses and long-term enlightenment functions (Head, 2008; Weiss, 1979). These moderate observers argue that, although the political use of evidence is unavoidable, and is in any case a legitimate component of the policy process, it is possible to improve the instrumental use of evidence to a certain degree—and this improvement to the use of evidence will have a positive effect on policy outcomes (e.g., Nutley and Webb, 2000).

At the other extreme are those who argue that the current state of affairs in policymaking is dire, that policymakers are ill-equipped to make decisions on behalf of the public and that pathological policy outcomes are rampant. From this perspective, policy outcomes can only be improved by ensuring that decisions are based on the best information available—and the 'wrong' decisions are avoided entirely. Adherents to this point of view often appear in research on health care (e.g., Clark et al., 2013), but similar arguments have been made in forestry (Shanley and López, 2009) and criminal justice (Drake et al., 2009), as well as in many other fields of research that are relevant to public policy.

Ultimately, debates surrounding the use of evidence for policy decision-making are over-theorised, with a lot of well-intentioned, and also perhaps very well-developed, theory-based writing lacking sufficient empirical data to support theoretical claims. There is no clear picture of the empirical research that demonstrates how policymakers can improve the use of evidence in real-life policy decision-making or whether this is even possible in the first place. This systematic review aims to bring together the existing evidence on research use, with a specific focus on studies that investigate whether and how the use of research to inform policy decision-making can be improved. This review finds that policy professionals tend to believe that barriers to evidence use exist in the relationship between researchers and policymakers, and that efforts need to be made to overcome these barriers, particularly with respect to communication and collaboration. However, only a very limited number of studies use an experimental intervention as a research method, meaning that beliefs and perceptions dominate the knowledge base, and the effects of various strategies to improve the use of evidence are difficult to estimate. Nonetheless, there were no empirical studies in this review that concluded that improving evidence use was impossible, which suggests that there is a consensus arising among empirical scholars that improvement can be achieved. The conclusion of this review is that more innovative, intervention-based research is required, which will enable a more complete understanding of how public policy decision-making can be better informed by appropriate research evidence.

What's the Problem with Evidence-based Policy?

For the past 40 years, the dominant explanation for why research has had a poor record of influencing public policy has been the 'two-communities' thesis (Caplan, 1979; Dunn, 1980; Edwards, 2005). According to this explanation, research producers and research consumers reside in different communities that are separated by structural, cultural and institutional barriers. Research producers, who are largely university-based academics, are rewarded for generating high-quality peer-reviewed publications, but not for communicating research results to decision-makers or for influencing policymaking. Research consumers, who are loosely characterised as 'policymakers' but not otherwise specifically described in much of the literature, are rewarded for addressing political and administrative problems and are not often encouraged to engage with academics unless it is to commission a report on a specific policy issue. Furthermore, researchers write lengthy, prosaic reports with extensive literature reviews, whereas policymakers work with brief practical summaries and essential bullet points, so there is a language barrier in addition to a gap in functional objectives. Timelines are divergent as well: policymakers deal with urgent problems that need immediate solutions, whereas quality academic studies often take several years to execute. And, fundamentally, the motivations and risks associated with each of the communities are different, as academics aim to create knowledge, not necessarily to use it, and they are at least one step removed from the risk that their knowledge might cause harm to some people. Policymakers, on the other hand, aim to solve policy problems and, when they make mistakes, real people's lives can be materially disrupted. While this narrative has been criticised (e.g., Bogenschneider and Corbett, 2010; Jacobson, 2007), it is noteworthy that the two-communities approach is still popular even if the words 'two communities' are no longer specifically mentioned (e.g., Mead, 2015).

Accordingly, the majority of the research on evidence-based policymaking has concerned itself with bridging the research–policy 'divide'. Studies exploring knowledge brokering (van der Arend, 2014), knowledge translation (Estabrooks et al., 2006) and knowledge transfer (Ozga and Jones, 2006) are abundant. Recommendations on how to bridge the gap include enforced or institutionalised collaboration between researchers and policymakers (Estabrooks et al., 2019), educating researchers on how to communicate with policymakers (Pullin et al., 2009) and improving researchers' knowledge of politics so they can more strategically intervene in the policy process (Cairney, 2016).

It is important to note that there are other explanations for the apparently poor uptake of research in the policymaking process. For example, a separate branch of the literature also exists that questions the validity of the two-communities approach. In every study that purports to demonstrate that policymakers are not using research, there is always a significant minority of respondents who identify as research users (Newman et al., 2016). Subsequently, it might make more sense to investigate who the research users are and what characteristics, such as education or training, might make them more inclined to engage with research in their work on public policy. Studies conducted in this vein tend to look at deficiencies in the policy workforce, such as human resource capacity, education and skill levels and organisational culture, as factors influencing the uptake of research evidence in policymaking (Cherney et al., 2015; Newman et al., 2017). In contrast to the 'two-communities' approach, this alternative perspective perceives the main issue as a problem of policy 'capacity', in effect relocating the burden of improving evidence-based policymaking from researchers to the policymaking system itself (Newman, 2017).

This systematic review covers empirical studies that address strategies for improving the use of research in informing public policy decisions. Studies that explicitly take a two-communities approach as well as studies that rely on other sets of assumptions have been included, with no weighting or preference given to any particular perspective. The objective is to examine the previous empirical research on evidence use so as to draw a picture of the current state of knowledge on how evidence can better inform public policymaking. Nonetheless, it is important to recognise the inherent assumptions of the various approaches to scholarship in this area, to identify profitable directions for future study.

Two previous systematic reviews with similar mission statements have been conducted. Contandriopoulos et al. (2010) reviewed 205 documents across multiple disciplines and concluded that policymakers engage in a form of cost–benefit analysis when deciding whether to use evidence to inform decision-making: if the cost (including time and other resources) of obtaining and processing the information is less than the perceived benefits, efforts will be made to use the information. If the costs are perceived to outweigh the benefits, then other parties (research producers or specialised knowledge brokers) will need to bear those costs of communication; otherwise, the information will not have a material influence on policy. Furthermore, if the policy area is one that exhibits high levels of polarisation, the information will be used in a political or symbolic way, whereas in a low-polarisation area information use can be more instrumental, according to the typology provided by Weiss (1979).

Oliver et al. (2014) reviewed 145 studies—also across multiple disciplines—and found that communication of research results was an important factor in determining whether research was used to influence policymaking. They also concluded from their review that collaboration between research producers and research users was cited more often than any other method as an enabler of evidence use (Oliver et al., 2014: 8).

While useful, these two previous systematic reviews do not entirely fulfil the purpose of the present review. First, both previous reviews mix purely theoretical works (i.e., papers that do not present any data) with empirical research. Second, they both focus on communication and collaboration between research producers and research consumers, which implies a preference for a two-communities approach to the issues surrounding evidence use. Contandriopoulos et al. (2010: 449), for instance, explicitly only reviewed papers that presented 'active, deliberate communication efforts'. Oliver et al. (2014: 1) frame their review in terms of the difficulties of communicating research, declaring from the outset that the essential problem is that 'research often struggles to identify a policy audience'.

A third review, by Oliver and Cairney (2019), covers some of the same territory but aims to achieve a very different objective—seeking advice for academics to improve their influence on public policy. Oliver and Cairney's focus on the role of academics means that scholarship that looks at changes to the policymaking process would not be included.

The present review takes a more targeted approach than the previous reviews discussed above. All policy areas have been considered, but only studies that present empirical research and also relate to strategies to improve evidence use have been included. This could include communication and collaboration but also capacity issues such as organisational culture and skills training, or other methods not covered by previous reviews. Moreover, this is a rapidly expanding area of research; Oliver et al. (2014: 2) found that half of the studies they included for review were published between 2010 and 2012. Therefore, with 10 years since the publication of the Contandriopoulos et al. review and seven years since the end of the inclusion period for Oliver et al.'s review, the present review will have captured a significant number of documents that older reviews could not have considered, while casting a wider net than the Oliver and Cairney review.

Methodology

An iterative review procedure was adopted in which keywords were used as an initial search protocol. In the first step, sequential keyword searches of Google Scholar were conducted. For each search, all previous keywords were subtracted from the search terms to produce entirely new search results. For each search, titles and abstracts were examined until at least 10 pages (100 items) had passed without any relevant studies arising. Keywords included 'evidence based policy', 'evidence based policymaking', 'research utilisation/utilization', 'evidence informed policy', 'evidence informed policymaking', 'knowledge transfer', 'knowledge translation' and 'knowledge broker/brokering'. This step produced some 3,350 items.

As mentioned, the titles and abstracts of the items identified in the first step were examined for relevance and, if found to be relevant, the full text of the item was downloaded for an in-depth review. A total of only 64 items were downloaded and read in full. This small number of relevant items arises from the popularity of evidence-related terminology and also reflects the scarcity of direct empirical research in this area. Among the original 3,350 items identified in the previous step, an overwhelming number were papers that tangentially referred to 'evidence' and 'policy' but did not discuss improvements to evidence-based policymaking.

Finally, downloaded items were compared with inclusion criteria and items that failed to meet the criteria were discarded. As discussed above, the objective of this review was to synthesise existing empirical studies that investigate how to improve the use of evidence for policy decision-making. Ultimately, the goal was to obtain lessons that are applicable across policy domains and that are relevant to governments and other decision-makers with a primary audience in Australia and New Zealand. As such, only original empirical studies were included and studies that only developed theory or that did not present empirical data or research outcomes, that were literature reviews, meta-analyses or systematic reviews themselves or that were editorials or commentary were excluded. For ease of comparison, only fully published peer-reviewed publications (no working papers, blogs or reports) available in English were included. The year 2000 was chosen as a lower boundary for the search because studies conducted before that time would be unlikely to consider the impact of technology on communication and networking. The search was completed in September 2019.

Of the 64 items that were downloaded and reviewed in depth, 13 were found to contain no empirical data and were excluded. Two items could not be included because they related to clinical practice rather than policy decision-making. Eleven items investigated whether or not evidence had been used in decision-making in a particular case study but did not discuss how to improve the use of evidence, and therefore did not have sufficient general applicability to be included in this review. Three items involved a developing-country context that would not be relevant to Australian or New Zealand decision-makers (e.g., the influence of foreign aid organisations on policy decisions). And eight studies reported a method for improving evidence use—in most cases, a highly developed method, often already applied in practice—but did not test the method or report any outcomes. Despite appearing in peer-reviewed journal outlets, these 'method' reports were more like public relations or advertising for the think tanks or research institutes that had created the instruments. They did not demonstrate the value or effectiveness of their particular method or instrument, and so could not be included in this review.

In total, 26 studies were retained for inclusion in the review. This is admittedly a small number compared with similar reviews conducted in the past, but it is an accurate representation of the state of research in this field. There are very few empirical studies that deliver practical, generalisable lessons on evidence use for policy decision-making.

Results

Because of the small pool of existing research, it is not possible to focus on specific methodologies or to use scale or sample size as an inclusion criterion. The studies included in this review represent a range of qualitative and quantitative research methods, including surveys (8), interviews (13), focus groups (5) and primary document research (2), conducted at a wide range of scales (for example, sample sizes for surveys ranged from 21 to 1,379 and samples sizes for interviews ranged from 5 to 152). Some studies used multiple methods. A full breakdown is given in Figure 1.

The most popular research methodology among the included studies was interview-based research. Interviewees included legislators, administrative managers, policy analysts, street-level service providers, clinical practitioners (e.g., doctors and nurses) and academics, among others. Surveys and focus groups were also popular. These instruments were mainly used to gauge respondents' perceptions of barriers to and enablers of evidence use. In other words, these instruments were used to discover what people who work in the public policy arena believe about the use of research evidence to inform policy. Although some studies combined methods (e.g., a broad survey followed by targeted interviews), most of these studies focused on beliefs and perceptions without supporting their findings with other, more objective measures.

Five studies used an intervention technique as their primary research method, by which I mean deliberate actions were designed and applied by the researchers in an attempt to make some change to an existing system or process. Two further studies presented detailed case studies as illustrative examples. Studies using these methods were concerned more with demonstrating an effect than with collecting and summarising beliefs and perceptions.

In three of the intervention studies, researchers produced a report on a specific policy issue (e.g., breast cancer prevention) and then delivered the report to a defined group of policymaker participants, asked them to read it and then, at a later time, either surveyed or interviewed the participants and asked them how the report influenced their policy-related work. The other two intervention studies followed a similar procedure, but, in one case (Campbell et al., 2011), the intervention was a 'rapid review' system in which government agencies can commission an evidence review on a specific policy question and receive a tailored report in a short time (six to eight weeks). In the remaining study (Bogenschneider et al., 2000), researchers conducted an ongoing seminar series that legislators were invited to attend to engage directly with researchers on particular policy issues. The case study articles provided detailed analysis of the effect of an expert task force (O'Brien Pallas and Baumann, 2000) and an independent think tank (White et al., 2018) on policy decision-making.

Policy areas considered in the included pieces were predominantly from health-related fields, with nine studies considering healthcare services and a further 11 studies involving general public health topics. This is consistent with previous reviews (Contandriopoulos et al., 2010; Oliver et al., 2014). Crime, the environment, forest resources and social welfare were the subjects of one article each, and two pieces did not specify a policy area at all. The geographic areas most frequently considered were Canada and the United Kingdom. These results are shown in Figures 2 and 3.

The conclusions and recommendations reached by the studies reviewed here can be grouped into several categories. By far the most frequently reported conclusion was that researchers and policymakers need to collaborate more often, preferably with some kind of institutionalised fixture to sustain and enforce interaction. This conclusion featured in 16

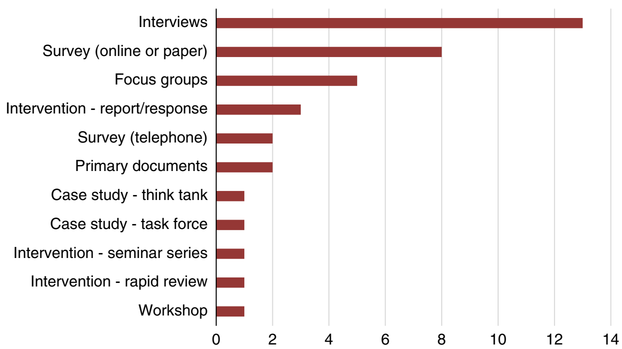

Figure 1: Research Methodologies.

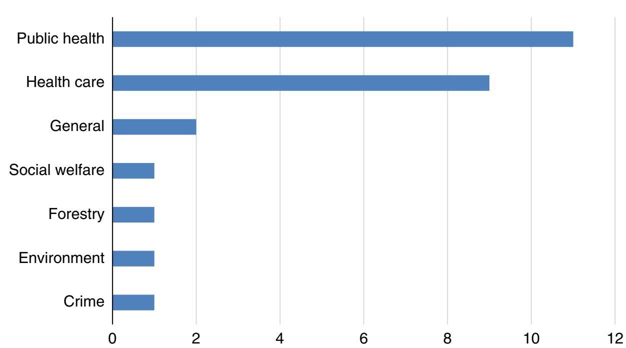

Figure 2: Policy Areas.

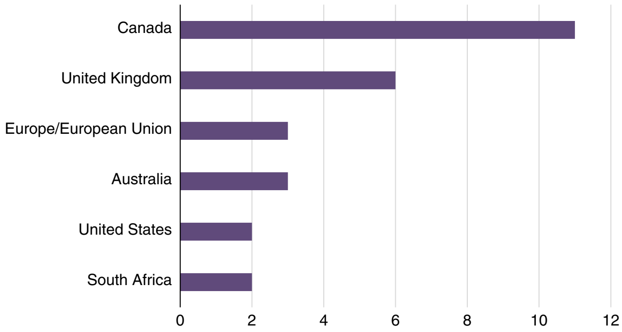

Figure 3: Geographic Areas.

of 26 articles. Another 14 of 26 articles concluded that better-quality communication would improve the use of evidence in policymaking. These studies recommended that researchers tailor their writing to a policy audience by preparing brief summaries of their research, focused on essential bullet points, which busy administrative professionals can digest quickly and easily. In addition, according to these studies, researchers should follow public sector timelines so they can deliver their research results at appropriate points in the decision-making cycle of their policy area, so as to maximise research impact, and they should also focus on policy topics that are relevant to policy decision-makers, analysts and advisers. Eight of 26 studies recommended specialised roles for knowledge brokers to ensure collaboration and communication between researchers and policymakers, and five studies suggested that researchers need to 'get political' if they want their research to influence policy.

In addition to these 'two-communities' solutions, many studies reached other focal points, including the notion that policy capacity issues were the main problems requiring attention. Ten studies concluded that organisational culture was a major predictive factor in whether research evidence is used in policymaking—that is, agencies that prioritise research evidence and foster an environment where evidence is valued are more likely to produce policies that are informed by research. Seven studies concluded that policymakers need to have better access to research, whether or not that involves direct contact with researchers. Six studies reported that better resources—including technology as well as personnel, funding and time—were required to improve evidence-based policymaking. And a further six studies concluded that improving the skills base of existing policy personnel would have a beneficial effect on evidence use.

A number of studies made innovative suggestions that did not fit in either the 'two-communities' or the policy capacity toolboxes. Five studies recommended support for public debate, deliberation and media attention as a strategy for increasing accountability and transparency in policymaking and, ultimately, a greater focus on research evidence to support and legitimise policy decisions. Four studies endorsed neutral expert advisers, in the form of either independent advisory boards or in-house research divisions. Two studies concluded that decentralisation of decision-making to subnational or local governments resulted in a stronger use of research evidence. And one article (Belkhodja et al. 2007) found that organisations that focus on the needs of clients or end users tend to report a greater use of evidence. These results are summarised in Figure 4.

Because this review includes both qualitative and quantitative studies, and because the small pool of studies did not allow for a focus on methodology or scale, it is not possible to reach any conclusions about the relative size of different effects or to assess bias in any meaningful way. Instead, the contribution of this review is to highlight the themes, methods and conclusions that are dominant in the existing literature, with a view towards how the research agenda can be progressed into the future.

Discussion and Conclusions

Previous international research (e.g., Howlett and Newman, 2010; Lester, 1993) has already convincingly suggested that evidence is not used very often or very effectively to inform or influence policy decisions, and a majority of policymakers only rarely report using evidence themselves. This systematic review finds that policymakers also believe that some of the

Figure 4: Conclusions or Recommendations.

best strategies to improve the use of evidence include collaboration between researchers and policymakers, institutionalised knowledge brokering and better communication of research results. Among the studies included in this review, these 'two-communities' strategies were pervasive.

But more to the point, the studies reviewed here mostly relied on research methodologies that collected the personal views of policymaker respondents. In other words, the existing empirical research base in this area demonstrates compellingly that policymakers believe that research and policy are two communities and that evidence use will only improve if a way is found to bridge the divide between them. But how do we know whether this is in fact true? In light of research (e.g., Newman et al., 2016) that, as previously discussed, challenges the two-communities approach, it is reasonable to question whether this perspective is somewhat mythologised and not an accurate reflection of reality, despite its popularity. This challenge is further bolstered by the fact that a number of studies included in this review cited policy capacity issues, as well as other factors such as public attention or a focus on end users, as being important determinants of evidence use. Indeed, three studies (Bowen et al., 2009; Flitcroft et al., 2011; Kothari et al., 2005) explicitly concluded that collaboration and communication were *not* the main barriers to improved evidence use.

In general, the knowledge base in this area lacks sufficient intervention-based research to be able to demonstrate effective approaches to improve the use of evidence in policymaking. The existing research shows what policy actors believe, but it does a poor job of confirming whether these beliefs are accurate. The knowledge base would be improved tremendously with the addition of experimental investigations that test these beliefs. Do improved communication and collaboration between researchers and policy actors result in better use of evidence for the purposes of policymaking in real-life settings? If so, which methods—for example, more proactive researchers, institutionalised knowledge brokers, co-produced research activities—work best and under what circumstances? Or additionally, are there other factors that need to be explored, such as improved processes within the policymaking system or an extended role for the media and external observers that might have even more potent effects on the uptake of research evidence? In general, the reliance of the existing scholarship on some common, untested assumptions demonstrates a shortage of innovative thinking and experimental testing, which if corrected would go a long way towards expanding our understanding of how evidence can be used more effectively to inform public policy. Very few existing empirical studies employ novel techniques or trial changes to the policy process.

Admittedly, in an environment where researchers have demonstrable barriers to engaging with policymakers, it is fundamentally difficult to get policymakers to collaborate on research *about* policymaking; nonetheless, until more intervention-based research is conducted, the notion that policy and research exist in separate realms, and that bridging the divide is the best approach to improving evidence use, will continue to be untested hypotheses.

The results discussed in this review suggest two further conclusions. First, healthcare policy continues to dominate discussions of evidence-informed policymaking. This is reasonable in that just about every aspect of health-related policy decision-making materially affects the lives of the people at whom the policies are aimed. From this point of view, the duty to do 'more good than harm' (Chalmers, 2003) is arguably higher in the health sector than in other policy areas. Nevertheless, there are other areas that have significant impacts on individuals and communities, and effective and sustainable outcomes are required in most, if not all, policy areas. If research on evidence use is to continue to be relevant there must be a broader scope of investigation that includes a wider range of policy sectors.

And finally, it is especially worthy to note that not a single study included in this review concluded that evidence use in policymaking *cannot* be improved. In other words, according to the existing scholarship, it is possible to employ strategies or make changes to the system that will enable a greater use of research evidence to inform policy decision-making. This is a significant challenge to the (also largely untested) literature that argues that evidence-based policymaking is impossible. What is required from this point forward is to expand the research agenda to include more empirical studies on the best strategies to enable improvement and also the appropriate contexts in which this might be possible and also desirable.

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