

Brian W. Head

The University of Queensland, Australia

Toward More “Evidence-Informed” Policy Making?

Brian W. Head is professor of policy analysis at The University of Queensland, Australia. He has also held several senior roles in government. He has published widely on public policy, public management, social issues, and environmental policy. He is undertaking projects on research utilization, research impacts, wicked problems, policy innovation, natural resources issues, and social program evaluation.

E-mail: brian.head@uq.edu.au

Abstract: *The quality of public decision making depends significantly on the quality of analysis and advice provided through public organizations. Champions of “evidence-informed” policy making claim that rigorous evaluation practices can significantly improve attainment of cost-effective outcomes. After decades of experience, performance information is more sophisticated, but evaluation practices and capabilities vary enormously. Public agencies gather and process vast amounts of information, but there has been little analysis of how this information is actually utilized for policy and program improvement. This article examines how government agencies use evidence about policy and program effectiveness, with attention to four themes: (1) the prospects for improving “evidence-informed” policy making, (2) the diversity of practices concerning evidence utilization and evaluation across types of public agencies and policy arenas, (3) recent attempts to “institutionalize” evaluation as a core feature of policy development and budget approval, and (4) the relationships between public agencies and nongovernmental sources of expertise.*

Practitioner Points

- Although most practitioners claim to support the use of evidence relevant to their roles, their use of the best available evidence is patchy.
- Commitment to funding and using evidence from evaluations is essential.
- Political and ideological factors often undermine evidence-informed practices.
- Interaction and brokering across organizational boundaries are crucial.

Concerns to make better use of evidence in policy making are closely linked to widespread pressures for improved effectiveness in service delivery and accountability in democratic countries. This focus on better design of policies and programs for improved effectiveness has been most evident within domestic policy issues but has also attracted recent concerns about better design and delivery of overseas aid programs. Evidence-informed decision-making processes, relying on transparent use of sound evidence and appropriate consultation processes, are seen as contributing to balanced policies and legitimate governance. The efficiency and effectiveness goals are complemented by wider concerns to improve the perceived legitimacy of policy-making processes and civic trust in decision makers.

The “evidence-based policy” movement developed early momentum in the 1970s (Aaron 1978; Bulmer 1982, 1987; Rivlin 1971) and enjoyed renewed strength beginning in the late 1990s. It sought to promote rigorous analysis of policy and program options, with the intention of providing useful inputs for policy makers in their ongoing consideration of policy development and program improvement

(Bogenschneider and Corbett 2010; Davies, Nutley, and Smith 2000; Meltsner 1976; Nutley, Walter, and Davies 2007; Radin 2000; Weiss 1980). Within public policy discussions, it is axiomatic that reliable information and expert knowledge are integral to sound processes for formulating and implementing policy (Radaelli 1995); however, the processing of this information and expert knowledge is problematic and highly variable across organizations. The potential for close linkage between good information and “good policy making” is routinely undermined by two important mechanisms: political and organizational.

First, the policy process is inescapably anchored in political values, persuasion, and negotiation (Majone 1989). In this politicized context, some kinds of evidence are inevitably seen as more relevant than others for underpinning policy positions. These political dynamics are expressed through the preferences and agenda setting of political leaders, legislators, lobbyists, and stakeholders, mediated through media communication and public opinion. Policy scholarship has clearly demonstrated that the neutral and objective evidence of scientific

Public Administration Review,
Vol. 76, Iss. 3, pp. 472–484. © 2015
The Authors. *Public Administration Review*
published by Wiley Periodicals, Inc. on
behalf of The American Society for Public
Administration.
DOI: 10.1111/puar.12475.

The copyright line for this article was
changed on April 5, 2016 after original
online publication.

knowledge does not, and cannot, drive policy in a democratic political system. Evidence is harnessed to competing arguments about ends and means, and the political decision-making process is inherently marked by conflicts, trade-offs, and compromises (Lindblom 1979). In light of this political context, the early ambitions of “evidence-based policy” have recently been heavily qualified, with many writers now adopting the more modest phrase “evidence-informed policy.”

Second, in different public organizations, the information needs and practices of senior managers will vary considerably. While access to accurate information is very important in all agencies, the specific administrative practices and procedural rules governing information selection and use in each type of organization are crucial for the way evidence is identified and utilized. Thus, patterns of evidence use and information management vary across *policy domains* (e.g., social policy, economic development, environmental regulation) and across *organizational types* associated with different public sector functions (e.g., service delivery, regulatory oversight, and policy development). In the research literature on public agencies, organizational types have been differentiated in various ways.¹ For the present discussion, it is sufficient to distinguish between the key functional roles of policy development, regulatory oversight, and service delivery and to suggest that public agencies undertaking such functions are likely to have different information requirements.

Scope and Method

This article focuses on evidence utilization by government agencies in their quest for efficient management of programs and regulatory regimes, improvement of program outcomes, and provision of policy-relevant advice. The literature on research utilization has grown rapidly in the OECD (Organisation for Economic Co-operation and Development) group of countries, especially in North America and Western Europe, where the debate on the potentialities of “evidence-informed” policy has been most concentrated. My focus is on the national level of government, while acknowledging that decentralized levels of public authority play very important roles in many countries, especially for the delivery of human services and urban infrastructure. Given the enormous breadth of governmental activities and policy issues, the focus of this article is restricted to human services, including education, social security, public health care, and policing services. (Thus, some areas in which scientific information has been mandated in decision making—such as food safety standards, and environmental pollution standards—are not included in this article.)

Key themes were selected through extensive searches of major journals in public administration, public policy, and organizational studies to identify significant analyses of the evolving interface between science (or, more broadly, expert knowledge relevant to policy) and the policy-making processes of public agencies. Reviews of research utilization, research translation, and policy evaluation practices provided guidance on major findings and themes, including the links between expertise, evaluation practices, and program improvement. Networks of research experts also provided direct advice concerning cutting-edge examples of government utilization of rigorous evidence and assisted the author in identifying significant reports and practitioner analyses.

Four key themes and challenges for evidence use by government agencies emerged from this literature and serve as the structure for the article:

1. The prospects of improving “evidence-informed” policy making
2. The continuing diversity of practices concerning evidence use in different policy arenas and different types of public agencies
3. Recent attempts to “institutionalize” evaluation as a core feature of policy development and budget approval processes
4. The variable relationships between public agencies and external (nongovernment) sources of expertise

These issues are analyzed in the following sections. The purpose of the article is to contribute to a better understanding of how government agencies are involved in generating, considering, and using reliable evidence from various sources and how the commissioning and communication of research is creating new platforms for collaboration in evidence use, as well as to suggest directions for further research, including the need for comparative analysis of trends and outcomes.

Under What Conditions Is Evidence-Informed Policy Making Possible?

The research literature on improving policy making through better use of evidence encompasses a wide range of viewpoints, but two main camps can be identified among those who endorse the importance of good evidence in the policy process. The first camp believes that evidence-based approaches are possible but require a significant commitment to rigorous methodologies for program evaluation (e.g., Banks 2009; Boruch and Rui 2008; Campbell 1969; Coalition for Evidence-Based Policy 2015; Davies 2004; Donaldson, Christie, and Mark 2009; Mosteller and Boruch 2002; Nussle and Orszag 2014; Petrosino et al. 2001; Rivlin 1971). The scholars in this group believe it is both feasible and highly desirable to strengthen the capacity of public institutions to use rigorous methods. They claim that reliable information about “what works” has been inadequate and that improvements depend on public agencies endorsing program evaluations based on randomized controlled trials (RCTs). Maynard (2006) has called for careful identification of well-grounded sources of evidence and research synthesis on which practitioners can rely but notes that personal and political interpretations of evidence continue to play a significant role in policy making.

Among the champions of rigorous evaluation for evidence-informed policy making, Haskins and Margolis (2014) speak for many proponents when they claim that President Barack Obama’s support for promoting social programs validated by rigorous evaluation evidence “has the potential to become the most effective strategy yet for attacking the nation’s social problems” (2014, 238). The ambition of building a more evidence-informed public sector, whether in the United States or any other country, requires institutionalization through government support for long-term investment in data collection and analysis (on key social, economic, and environmental matters), as well as investment in technical and managerial skills for interpreting and utilizing information from multiple sources (Head

2013; Solinis and Baya-Laffite 2011). The process goal is to extend the use of evaluation and review mechanisms (as discussed later in this article), with clear procedures for assessing the impact of various programs, regulations, and interventions and with feedback into the policy development process. These developments would most likely occur in a system in which legislators, and the political culture more generally, are supportive of transparency and knowledge sharing.

By contrast, the second camp believes that although improvements are highly desirable, there is no prospect of constructing a public policy decision-making system shaped mainly by research and evaluation findings. This group argues that good decision making should be informed by a range of relevant “best available” evidence, accepting a broad conception of usable knowledge and recognizing the value of relevant professional expertise (Head 2008; Lindblom and Cohen 1979; Nesta 2011; Pawson 2006; Shillabeer, Buss, and Rousseau 2011). This group also accepts that conflict and bargaining are ongoing features of a democratic political system and acknowledges the intrinsic role of values, ideologies, and economic interests in shaping policy making (e.g., Lindblom 1979; Majone 1989; Radin 2006; Shulock 1999; Weiss 1979, 1999). In particular, for addressing complex policy and program areas, these scholars accept that collaborative approaches to knowledge sharing and adaptive management in light of experience will be necessary (Head and Alford 2015; Schorr and Auspos 2003; Schorr and Farrow 2011, 2014; Weber and Khademian 2008).

The early hopes of the evidence-based policy movement for large and rapid improvements in policies and programs through better use of rigorous research were not rapidly fulfilled (Aaron 1978; Bulmer 1987; U.K. Cabinet Office 1999; U.K. Treasury 2007). The reasons given for this lack of progress reveal some underlying differences in perspective about the relationship between science, policy, and politics. For the advocates of scientific evaluations and the use of RCTs, increasing the supply of high-quality evaluations is critical. This supply-side solution depends, in turn, on increased investment in program evaluation and analytical skills and a willingness to learn from pilot programs (Sanderson 2002). However, the demand-side issues are also important: who will pay to underwrite these investments, and who will actually use the high-quality information in their decision making? Political and legislative leaders are sometimes seen as unreliable allies in supporting social research in an era deeply affected by partisan ideology, pressure group politics, and issue-based media campaigns (Moynihan and Roberts 2010). For example, it has been shown that the analytical resources utilized by the U.S. executive and legislative branches of government since the 1960s have fluctuated substantially over time and seem to have been undermined by periodic waves of partisan politics (Baumgartner and Jones 2015, chap. 4; Joyce 2011; Williams 1998).

The puzzles about how to strengthen evidence-informed processes and how to improve the outcomes of social programs have also attracted other lines of explanation in the research literature. One strong argument is that perhaps the problems are tougher to understand and more intractable to resolve than initially thought.

Thus, problem-solving capacity might not proceed apace with the expansion of knowledge. As new knowledge becomes available, science experts become aware of related knowledge gaps and limitations (Lindblom and Cohen 1979), raising new uncertainties and complexities about causal linkages. Hence there will be continued uncertainties about the relationships between research findings, policy options, and implementation pathways. Second, there has been concern that policy problems have been loosely defined, making appropriate solutions harder to ascertain. Close attention to clearly defining the underlying policy problems is widely recommended (Dery 1984; Rochefort and Cobb 1994). The assumption is that tighter definition and rigorous evaluation will allow relevant knowledge and experience to be assembled to address issues and improve outcomes (Glennerster 2012; Orszag 2009). Clear definition of the problem is easier said than done, however, especially in relation to complex or “wicked” social problems in which conflicting perspectives are deeply embedded.

Leaders who might wish to create more systematic linkages between the realm of rigorous research-based analysis and the politicized realm of policy design and deliberation face some serious obstacles. The advocates of science-based and technocratic policy making face difficult challenges inherent in the democratic political process (Head 2013; Tseng and Nutley 2014). Even if sound evidence that is useful for policy analysis continues to expand, the political nature of policy debate and decision making is generally unfavorable to science-driven perspectives. Government officials and political leaders are often motivated by sociopolitical factors other than research evidence (Boswell 2008; Head 2010; Howlett 2009; Shillabeer, Buss, and Rousseau 2011). Political leaders in a democracy may be more focused on political argumentation, maintaining stakeholder support, engaging with media-framed debates, and managing risks. Evidence can inform and enrich these political debates in a democracy but does not drive the outcome (Majone 1989; Shulock 1999). Given the multiple interests, perspectives, and problem frames mobilized by policy actors, the linkages between evidence and policy are deeply mediated by diverse evolving contexts, interpretations, negotiations, and organizational practices (Fischer and Gottweis 2012; Hajer and Wagenaar 2003; Hammersley 2013).

There are millions of policy and program documents produced annually by government officials. But there has been surprisingly little research concerning how policy bureaucrats actually make decisions informed by available evidence and what sources of evidence are actually deployed in this process (Halligan 1995; Mandell and Sauter 1984). While there is a large literature on program implementation and program evaluation, relatively little attention has been given to how evidence is used within public bureaucracies in the policy development work of public employees. In some agencies, there are dedicated units concerned with policy analysis, research, and review. However, relatively little research has been undertaken to explore the practices, skills, and capacities of these policy workers: how they undertake their policy design and review roles, how they perceive their tasks, how they use information, what sources they

Even if sound evidence that is useful for policy analysis continues to expand, the political nature of policy debate and decision making is generally unfavorable to science-driven perspectives.

trust, and how they process the feedback from political leaders and key stakeholders (Hall and Jennings 2008, 2010; Head et al. 2014; Jennings and Hall 2012; Wagenaar 2004).

Moreover, the literature on the policy process distinguishes between phases such as “problem definition,” “data analysis,” “policy design,” “policy implementation,” and “program review” (Sabatier and Weible 2014). This differentiation suggests some intriguing consequences that are deserving of further exploration. First, it is possible that these roles are performed by very different sets of professionals who work in their own “silos” (Howlett and Wellstead 2011). In this scenario, perhaps only a very small minority of senior staff are well positioned to understand and influence the “big picture,” including interorganizational relationships and the changing information requirements across various elements of the policy process. Second, it is possible that different groups of disciplinary knowledge are deployed in some of these roles. For example, it is likely that economic cost–benefit analysis will be vital in the policy design and program evaluation phases, but legal reasoning may be central for governance processes, and social analysis may be central for conceptualizing needs and social outcomes. For all of these reasons, and others discussed later, the search for evidence-informed policy and practice will be a long and arduous journey.

Diversity in Policy Arenas

The research literature on public organizations distinguishes among the key functional roles in policy development, regulatory oversight, and service delivery across a range of policy and administrative responsibilities. Agencies undertaking policy, regulatory, and service functions have specific and divergent information requirements. The frameworks and practices for managing policy, regulation, and service issues across diverse policy arenas are correspondingly diverse. Governments occasionally seek to impose generic or standardized requirements on all agencies—most notably, in relation to financial systems, reporting systems, personnel management systems, and obligations under public law (such as access to information, administrative appeal rights, and so on). But in regard to how knowledge is mobilized and how policy and program decisions are actually made, diversity is to be expected. It is also likely that agencies at different levels of government (federal, state, local) will reflect distinctive patterns of stakeholder engagement, use of expert evidence, and capacity to deploy policy resources.

One of the most difficult challenges is how to make better use of sound research within controversial or conflictual policy areas, which are characterized by highly publicized value differences. In complex, value-laden areas—such as biotechnology applications in health care (e.g., Mintrom and Bollard 2009), sociolegal policy responses to gun violence (e.g., Edwards and Sheptycki 2009), juvenile offending (e.g., Petrosino, Turpin-Petrosino, and Buehler 2002), or refugees and illicit immigration (e.g., Boswell 2009, 2012)—rational and reasonable deliberative processes can become sidetracked by media-driven controversy. To the extent that research findings are widely used as ammunition within strongly emotive debates, it may be only a short step to accusations that research on these matters is inherently biased and lacks objectivity. In such

One of the most difficult challenges is how to make better use of sound research within controversial or conflictual policy areas, which are characterized by highly publicized value differences.

situations, partisans are likely to “cherry-pick” evidence that seems to support their existing positions (Weiss 1979) rather than take a balanced view of the available evidence. The partisan use of evidence (“policy-driven” evidence) is an inevitable part of democratic debate. Handling these value-based conflicts is the responsibility of political leaders, usually through stakeholder dialogue, rather than the domain of science itself. The production of “more” research is unlikely to settle the underlying issues. The findings of social research are focused on the analysis of social phenomena rather than the illumination of the policy and governance frameworks within which the debate is conducted.

It has been claimed that evidence-informed processes are more likely to develop in policy areas in which a policy approach or paradigm has become relatively “settled” and in which ideological disputation has diminished (Head 2010; Mulgan 2009). This stability and continuity allow for an iterative process of refinement, evaluation, and continuous improvement over a number of years. However, in some policy areas in which extant approaches are no longer seen to be delivering expected results, support for innovation and policy change may emerge. The source of influential alternative policy ideas may well be located outside the government sector, requiring a more pluralist approach to developing new solutions and new ways to work with nongovernmental organizations (NGOs) (Mulgan 2006; Osborne and Brown 2013). Disruptions in policy direction also regularly occur as a result of political change (for example, when a new conservative government has different commitments and goals from its social-democratic predecessor or vice versa). Calls for evidence-based approaches in the United Kingdom after 1997, following the election of the “New Labour” government, had some of these characteristics. The performance and evaluation database built around previous programs may become less germane in the search for new directions.

In policy areas that are widely seen as amenable to the findings of objective analysis, such as public health programs, the quality, accessibility, and transparency of information is generally seen to promote a public perception of fair and legitimate decision making (Niessen et al. 2011). Studies in public health indicate rich information and processes for assessing and implementing evidence-informed systems and practices (e.g., Commission on Social Determinants of Health 2008; Lavis et al. 2003; Lavis et al. 2008; Lemay and Sá 2014; National Research Council 2009). Assessing the cost-effectiveness of pharmaceutical products and other health therapies has been a major focus of health regulators and program managers (Fox 2010). For example, the Drug Effectiveness Review Project is a collaborative venture in which state Medicaid officials from 13 U.S. states pool information about the benefits of specific drugs used in health programs (Hall and Jennings 2012). More generally, the systematic reviews of health interventions commissioned by the Cochrane Collaboration now constitute a major library of knowledge about evidence-based health care (see <http://community.cochrane.org/cochrane-reviews>).

However, there are also policy areas in which systematic research is hard to find or professional experience and intuition are preferred

to academic research as the basis for decision making. According to Jennings and Hall (2012), in a wide-ranging study of information use in U.S. state agencies, many agencies paid only symbolic lip service to rigorous use of evidence. Jennings and Hall suggest a simple 2 × 2 typology of government agencies, based on two sets of key variables: (1) the degree of conflict concerning the core issues of the agency and (2) the level of scientific capacity at the disposal of the agency (availability, relevance, and credibility of evidence). This heuristic suggests four types of government agency, as outlined in table 1.

Evidence-based initiatives are more advanced in particular policy sectors. In social policy, these sectors include health care services, child and youth development, education and vocational skills, crime control and corrections, family services, social care for vulnerable groups, and technology-assisted innovations in service delivery. Systematic reviews have been conducted in many of these areas under the auspices of the Campbell Collaboration (<http://www.campbellcollaboration.org/lib>). Several research centers have also been active in providing estimates of return on investment in crime prevention programs, emphasizing the avoided costs of incarceration and court processes (e.g., Clear 2010; France and Homel 2007; Jones et al. 2008; Tilley 2010). Prevention-based orientations to social policy design have been fruitful in recent years (Puttick 2012). For example, in youth offending policy, the concept of “justice reinvestment” envisages a redirection of resources currently spent on incarceration (policing, prisons) toward tackling the upstream causes of criminal behavior—“family breakdown, poverty, mental illness, drug and alcohol dependence” (IPPR 2011, 4). However, while the principles of prevention-based approaches have achieved widespread rhetorical support, in practice, they have been vulnerable to populist “law and order” campaigns by political leaders. In other areas such as school education, the implementation of standardized skills testing has become a core mechanism for assessing school performance, and controlled trials have been conducted to assess the effectiveness of various learning regimes and school governance arrangements (Mosteller and Boruch 2002). Analysts have also begun to reconsider the distinctive forms of interaction—in education, health, and social care—between the national system and decentralized or local-level systems (Best and Holmes 2010).

The policy literature has been focused mainly on individual case studies (i.e., single issues in single countries, such as Monaghan [2011] on U.K. drug policy; Vifell and Sjögren [2011] on Swedish pharmaceuticals policy; and Boswell [2012] on U.K. immigration policy). Much of this case study literature is more concerned with

the politics of policy debate and the impact of stakeholders than the use of scientific information by public agencies. To overcome the difficulty of learning from discrete or unique cases, analysts have called for more *comparative* studies of how evidence use might vary among agencies across national boundaries and across policy areas. For example, a recent symposium presented case studies from six European countries (Nutley et al. 2010). It was apparent that some countries, and some specific agencies, have become more advanced in championing evidence-informed approaches. While government investment in science-related research is one important dimension, the level of science and evaluation spending did not explain the variations in agency behavior. Nutley et al. developed a broad explanatory framework linking several knowledge factors with institutional context factors that interacted in different ways:

[W]e worked with a similar framework of research supply (knowledge creation), policy and practice demand (knowledge application) and the linkages between supply and demand (knowledge mediation). We also asked participants to comment on how these arrangements are shaped by the cultural, political and administrative context of their country. (2010, 134)

Thus, there is merit in pursuing comparative work to explain variations in evidence use, by understanding the complex dynamics of knowledge supply and demand in a variety of institutional contexts. There has been only limited documentation of comparative experience concerning evidence-informed policy processes, despite recent efforts by the OECD to stress the importance of evidence-based approaches (OECD 2015).

Institutionalizing the Importance of Evidence and Evaluation

The champions of evidence-informed policy and administration have long argued that the key task is to institutionalize rigorous processes for appraisal and evaluation at the heart of public finances (Rist 1990). This would require both *supply-side* capacity, that is, skills and systems for producing good-quality analysis from organizations both inside and outside government, and *demand-side* facilitation, that is, the formal system requirements and inducements for using such analyses (Mayne et al. 1992).

As institutional processes for analysis and evaluation became professionalized and routinized, it was clear there were two important purposes and functions underlying the institutionalization of evidence use. I term these the *program accountability agenda* and the *policy effectiveness and innovation agenda*. The “accountability” agenda is long-standing in public administration and is concerned with the efficient and effective management of publicly funded programs. Here, the pressure is on leaders and managers in public organizations to demonstrate ongoing accountability for expending resources in optimal ways to meet performance targets. These targets are usually linked to a system of key performance indicators and verified through multiple layers of independent auditing and public scrutiny (Frederickson and Frederickson 2006; Heinrich 2007; Radin 2006; Van Dooren, Bouckaert, and Halligan 2010). By contrast, the “effectiveness and innovation” agenda goes beyond

While the principles of prevention-based approaches have achieved widespread rhetorical support, in practice, they have been vulnerable to populist “law and order” campaigns by political leaders.

Table 1 Expected Use of Evidence-Based Processes in Government Agencies, by Degree of Conflict and Level of Scientific Capacity

		Level of Conflict	
		Low	High
Level of Scientific Capacity	High	1. Evidence-based agency	2. “Challenged” evidence-based agency
	Low	3. Experiential agency	4. Symbolic agency

Source: Jennings and Hall (2012, 261, table 5).

issues of operational efficiency, reliability, and fine-tuning. It seeks to reconsider policy options and program design. In doing so, it seeks to identify the most effective methods for achieving positive outcomes, taking into account diverse contexts and collaborative program requirements (Osborne and Brown 2013). As Behn (2003) observes, there are many possible purposes underlying performance evaluation and monitoring systems, and many varieties of review and evaluation have been instituted across both the accountability and effectiveness agendas.

Program evaluations and policy reviews are either undertaken by government agencies themselves or contracted to various research centers, think tanks, and evaluation professionals. Because evaluation requires specific skills, evaluation activity has become a professionalized area of work across the government and nongovernment sectors. The quality and independence of evaluation reports has gradually improved over some decades of experience. Nevertheless, even when public officials have access to good evaluations and expert knowledge, there is no guarantee they will boldly “follow the evidence” rather than conform to the political signals of executive government or the cultural and organizational practices of their own agency. For example, Stevens (2011) found that policy officials in a major criminal justice agency in the United Kingdom tacitly relied on documentation and interpretation that reinforced existing policy stances or narratives. While the availability of evaluation reports is expected to enhance the potential quality of subsequent deliberation, such reports do not determine how government policy makers actually use evidence in their decision making (Sullivan 2011). For example, in Norway, after the government commissioned a series of comprehensive evidence-based reports on major issues, the quality of the research base was found not to have been a prominent factor in the development of policy conclusions (Innvær 2009). A review of research on the uses of evaluation found that “engagement, interaction, and communication between evaluation clients and evaluators is key to maximizing the use of evaluation in the long run” (Johnson et al. 2009, 389). At the same time, some professional evaluators report they have been subjected to direct and indirect pressure concerning the shape of their findings and recommendations (Morris and Clark 2013).

In practice, governments have to deal with information gaps and make decisions under conditions of uncertainty. In many areas of policy making and program development, there are serious uncertainties about “what works for whom” and under what conditions (Boaz et al. 2008). Hence, they will tend to use the “best available” evidence rather than wait for the rigorous findings from RCTs or other experimental assessment designs. Some government agencies have taken a pragmatic view of relevant evidence by accepting the importance of qualitative evidence for program evaluation, such as the professional judgment of practitioners and the experience of program clients (Deaton 2010; Head 2008; Pawson 2006; Woolcock 2009). The U.K. government’s central agencies have indicated that although scientifically rigorous studies are highly desirable, all forms of systematically appraised evidence are potentially valuable (U.K. Cabinet Office 2008; U.K. Treasury 2007). Government leaders might in principle prefer rigor, but in practice,

they might be equally satisfied by a combination of evidence types, including expert consensus processes (e.g., Prato 2007; Schorr and Auspos 2003), to ascertain program efficacy and consider best value options.

Another important field in which public agencies may wish to utilize systematic evidence is the development of “impact statements” for regulatory reform proposals and project assessments (Turnpenney et al. 2009). Many jurisdictions have introduced a requirement to identify and measure likely impacts in two situations: (1) when proposed changes in regulatory regimes may have impacts on business and (2) when proposed major development projects may have environmental impacts. In such cases, it is often mandated that an analysis be undertaken to assess the likely social, economic, and environmental impacts of proposed changes. The OECD (2009) has taken steps to collect experience about “best-practice regulation” and has promoted thorough models for regulatory assessment that aim to protect business while achieving social or other objectives. Evidence for the appraisal of prospective risks and impacts (ex ante analysis) is not seen as “scientific” in exactly the same sense as evidence from RCTs, which assess actual interventions. Nevertheless, some agencies clearly make use of scientific and other expert knowledge in their work of justifying regulatory changes (Desmarais and Hird 2014).

A potential additional source of evidence for the development of policy and program ideas is learning from the experience of other jurisdictions. The adaptation of policy frameworks previously implemented elsewhere has become more common as policy networks expand and communication channels improve. Policy borrowing and diffusion have been widely undertaken across many fields, but many adoption decisions are politically driven rather than evidence based in design and implementation. The inherent problems and pitfalls of policy transfer and diffusion are well documented, and making appropriate choices can be fraught with risks (Benson and Jordan 2011; Shipan and Volden 2012).

Among the most significant types of frameworks and programs that have been diffused across jurisdictions are performance reporting systems. In the United States, for example, federal and state legislatures and public agencies have been involved in major waves of performance management reforms and reviews (e.g., Ellig, McTigue, and Wray 2012; Heinrich 2012; Shillabeer, Buss, and Rousseau 2011). The U.S. Government Accountability Office has long advocated the use of program evaluations and has issued guidance on their conduct (GAO 2009). The U.S. Office of Management and Budget has repeatedly stated its commitment to make “rigorous, independent program evaluations” a key tool for program effectiveness and value for money (OMB 2010). Haskins and Margolis (2014) have demonstrated how several key social programs have been the subject of significant evaluation scrutiny as a result of this commitment to independent and rigorous review. The Congressional Research Service has a history of providing studies of federal programs on behalf of elected officials seeking policy-related performance information (Joyce 2011; Williams 1998).

Policy borrowing and diffusion have been widely undertaken across many fields, but many adoption decisions are politically driven rather than evidence based in design and implementation.

In a recent survey of state legislation and accountability initiatives, the Pew-MacArthur Results First Initiative (Pew 2015a) found that several U.S. state legislatures have created specialized offices to oversee research studies and evaluations of state-level policies and programs. These evaluation studies and performance audits consider whether agencies are properly managing public programs and identify ways to improve outcomes and control costs (National Conference of State Legislatures 2012). For example, the Washington State legislature has taken a serious interest in the quality and cost-effectiveness of publicly funded social programs, establishing evaluation regimes on special topics such as crime prevention and family support. Since the late 1990s, the Washington State Institute for Public Policy (WSIPP), an independent body based at the state university, has been asked to supply evidence-based policy reports on many topics, including juvenile and adult crime and corrections, school education, early childhood education, mental health, substance abuse, child welfare, and public health issues. WSIPP has developed a cost-benefit model that uses the results of a meta-analysis of high-quality evaluations to generate comparative rankings of the effectiveness of programs in these policy areas (Lee et al. 2012). The Pew-MacArthur Results First Initiative is working with 19 U.S. states and four counties to replicate and customize the approach used in Washington State and incorporate the results into these jurisdictions' policy and budget processes (Pew 2015b). This particular linkage between state decision makers and academia is unusually robust and could provide one model for forging closer relationships (Vanlandingham and Drake 2012) in jurisdictions that have committed to pursuing evidence-informed policy making in key policy domains. It is too early to assess the impact of these models and their capacity to be widely adopted.

Relationships, Communication, and Brokering

Public agencies have a variety of relationships with external (non-governmental) sources of expertise. Relevant external entities include private corporations, university research centers, think tanks, not-for-profit organizations, and professional associations. While these linkages reflect the different needs of public organizations (as noted earlier), there are some widely shared concerns about how to improve the exchange of expert knowledge between governmental and other organizations. Increased attention is now being directed toward methods to overcome the wide institutional "gaps" between the government sector and other sectors (including universities, business, and community organizations) in order to enhance knowledge sharing and translate research findings for policy and practice audiences (Head 2010; Newman 2011; Nutley, Walter, and Davies 2007). For example, some government agencies have contributed funds for "rapid review" consultancy services to identify evidence about "what works" in specific situations. While the models vary, the essential feature is that research experts who are familiar with specific topics are contracted to provide evidence-based summaries at the request of government departments (e.g., Lavis et al. 2009; Redman, Jorm, and Haines 2008; Sax Institute 2013).

Public agencies are often skeptical about relying on external sources of expertise and may prefer to utilize analysis generated internally by the agencies themselves, although studies have shown some differences in preferred sources among social, economic, regulatory, and technology agencies (Hall and Jennings 2010; Lester 1993; Webber 1984). The British Academy (2008) reported reasons given by U.K.

policy makers as to why they avoided or ignored academic external research. These practitioners indicated that their own agencies did not always place a high value on research or its communication. It was generally found that

- Internally conducted research or specifically commissioned consultancy research was more likely to be regarded as relevant than academic research
- External academic research was seen as not timely or as not closely relevant to users' current needs
- Research was less likely to be used when findings were controversial (British Academy, 2008, 27)

These perceptions by U.K. policy staff suggest a number of implications concerning how research is identified, assessed, and utilized; how research findings are filtered for compatibility with established policy assumptions; and how relationships with external sources of expertise are managed.

Even when reliable evidence has been documented, there is often a poor "fit" between how specialized information has been assembled by researchers (e.g., scientific reports) and the practical needs of policy and program managers (Bochel and Duncan 2007; Commission on Social Sciences 2003; Fazekas 2012). Researchers may not be adept at packaging and communicating their findings for policy and media audiences (Mead 2015; Vaughan and Buss 1998). On the other hand, better communication by researchers might not close the gap, as the potential users of research are highly diverse, and their receptivity to evidence-based policy ideas is beyond the control of the researchers. Science communication scholars now claim that the attention of decision makers cannot be gained simply through the distribution or transmission of scientific reports (Bielak et al. 2008). The emphasis has switched toward various forms of interactive relations between the research sector and potential end users in the policy and practice arenas. Several research teams internationally have been working to understand more clearly how the traditional views of science communication and the flow of knowledge (e.g., from science producers to science consumers) are seriously flawed (e.g., Cherney and Head 2011; Davies, Nutley, and Walter 2008; Harvey et al. 2010; Meagher, Lyall, and Nutley 2008; Ouimet et al. 2009). Lomas (2000) proposed a number of interactive methods for fostering linkage and exchange in public health, and this approach has been adopted and broadened in many spheres of research/policy interaction (e.g., Bowen and Zwi 2005; Lavis et al. 2003; Lomas 2007).

One of the key issues is whether purpose-built networks and communication channels need to be created to bridge the gap between the so-called three cultures of research, policy, and practice (Shonkoff 2000). Current thinking is that a wide range of such arrangements would need to be institutionalized (Walter, Nutley, and Davies 2005). A review of studies concerned with "knowledge transfer and exchange" identified eight main methods:

- Face-to-face exchange (consultation, regular meetings) between decision makers and researchers
- Education sessions for decision makers
- Networks and communities of practice
- Facilitated meetings between decision makers and researchers

- Interactive, multidisciplinary workshops
- Capacity building within health services and health delivery organizations
- Web-based information, electronic communications
- Steering committees (to integrate views of local experts into the design, conduct, and interpretation of research) (Mitton et al. 2007, 744)

One promising idea is knowledge brokering, a concept that describes a wide range of possible methods to promote knowledge sharing and mutual understanding across the boundaries of disciplines, professional occupations, and organizations (Van Kammen, de Savigny, and Sewankambo 2006; Ward, House, and Hamer 2009; Williams 2012). The approaches selected should be adapted for the scale of the issue, the organizational contexts, and stakeholder needs (Michaels 2009). The knowledge-brokering concept goes beyond simply “telling” others about research (e.g., publicity about newly available summaries of scientific findings); rather, knowledge brokering seeks to add value for end users of knowledge through various types of dialogue and coproduction of insights in new contexts (Bammer, Michaux, and Sanson 2010; Landry et al. 2006; Meagher, Lyall, and Nutley 2008).

Strong arguments have been made for building high-level support networks and specialized bodies to foster research translation (e.g., Kitagawa and Lightowler 2013). For example, in the United Kingdom since the 1990s, new organizations and partnership networks have been established to address the problems of poor communication, lack of mutual awareness, inconsistent advice, and the need to embed new knowledge in organizational processes and procedures (Mulgan and Puttick 2013). Examples include the National Institute for Clinical Excellence, which focuses on guidelines, standards, and cost-effectiveness evaluation (Walshe and Davies 2010). It was given a broader role as the National Institute for Health and Social Care in 2013, with a mission to contribute to social care innovation with Nesta and other entities dedicated to research translation (Alliance for Useful Evidence 2014). A further stream of research has canvassed how working across the boundaries of professional groups and organizations is crucial for good program outcomes, whether in social care (e.g., Gray et al. 2013; Palinkas and Soydan 2012; Sullivan and Skelcher 2002) or in emergency management (McGuire and Silvia 2010).

Conclusions and Implications for Future Research

The research literature demonstrates that specific contextual relationships matter as much as scientific findings in processes of evidence use and knowledge translation. Diversity in institutional practices helps explain why the use of evidence within policy making and professional-managerial practice has been patchy (Landry, Amara, and Lamari 2001) and is likely to remain quite challenging. Institutional studies have established a range of problems and hindrances. In the sphere of evidence supply or production, issues include adequacy of research funding, clarity of priorities and targets, availability of analytical skills, and so on. In the sphere of research use or demand, issues include low trust in external sources

of information, poor management of available information, weak senior commitment to analytical skills, and low ability to partner with external groups. The expectations of the research community also need to be realistic. Weiss has demonstrated that although social science expertise can make useful contributions to policy analysis and debate over an extended period of time, the findings of a specific report or article seldom align with the immediate needs of policy makers, and so the impacts of research are indirect (Weiss 1979, 1980, 1999).

It is clear that professional standards in analysis and evaluation have improved substantially, with greater attention to clear program goals and performance indicators and greater investment in data collection and analytical skills.

Despite these challenges, it is clear that professional standards in analysis and evaluation have improved substantially, with greater attention to clear program goals and performance indicators and greater investment in data collection and analytical skills. Central government leaders have encouraged the rigorous use of evidence for policy and program improvement, although in many cases the rhetoric is more impressive than the practical implementation. Controlled trials to assess policy innovations have also become more widespread, and a large

number of program evaluations are now publicly available through open source research centers. In social policy, strategic investment in key sets of social and economic data, ongoing performance monitoring, and longitudinal information on key client groups are making a substantial difference to the capacity of social science analysts to provide well-informed assessments of trends, issues, and interventions (Graffy 2008; National Research Council 2012).

Some government agencies are making good use of this material, and there is some indication they are learning from each other and from external partners. Public agencies gather and process vast amounts of information, from both internal and external sources, but we have found surprisingly little analysis of how such information is actually utilized (Hemsley-Brown 2004). Public professionals generally agree that evidence-based improvements to policy and administrative systems are desirable and possible. They are not always clear about standards of evidence and what they want or need from external sources (Avey and Desch 2014; Cherney et al. 2015; Head et al. 2014; Talbot and Talbot 2014). The institutionalization of evidence-informed practices has made some progress, but political leaders and legislators necessarily pay as much attention to stakeholders and public opinion as data about program performance and policy options.

This article has shown that there are major gaps in knowledge about what happens inside government agencies in relation to producing, assessing, and incorporating research-based evidence into their policy advice, service delivery, regulatory, and program evaluation activities. It also suggests that progress toward a more evidence-informed policy and administrative system would require sustained investment and commitment across several focus levels—individual leaders and managers, organizational units, and cross-organizational relationships. Haskins and Margolis (2014) claim that rigorous program evaluation can enhance cost-effective policy development and therefore should be more widely adopted by public agencies and legislatures. Taking up this challenge would entail the adoption and incorporation of evaluation processes within the standard operating

procedures of policy units, regulatory bodies, and service delivery organizations. However, the debate about the reliability of various forms of evidence remains very much alive in policy and program circles. As Heinrich observes,

[D]espite advances in our analytical tools and capacity for assembling performance information and scientific evidence, it has become increasingly clear that we are still far from a consensus—intellectually or politically—regarding what should count as evidence, how it should be produced and validated, and how it should be used to influence policy making. (2007, 259)

Given the institutional differences in organizational roles and resources of public agencies and differences across policy areas, the future research agenda will need to be wide ranging. Among the priority areas for research attention, it would be helpful to encourage more nuanced and comparative studies on the following:

- Sources of variation in the capacity of public agencies to access and use expert evidence and research-based studies
- Exemplary practices wherein public officials and leaders appreciate the contribution of rigorous research and work closely with researchers in setting research agendas
- The capacity of researchers to give priority to key issues of interest to policy makers and better communicate the implications of their research through improved linkages to policy communities
- The mechanisms through which the political and governmental systems provide support for open circulation of ideas/ information and public investment in rigorous research programs.

Acknowledgments

The author gratefully acknowledges research support from the Swedish National Board of Health and Welfare, ARC grant LP100100380 on research utilization, and ARC grant DP140101532 on complex policy problems. Sincere thanks also go to the expert reviewers for *PAR* and to numerous colleagues who shaped and assisted this analysis over many years, including Sandra Nutley, Michael Howlett, Adrian Cherney, Haluk Soydan, Annette Boaz, Ross Homel, James Perry, Beryl Radin, Paul Boreham, and Kieran Walshe.

Note

1. For example, differentiation in terms of underlying incentives for action (e.g., the role of material, solidary, or purposive incentives; see Wilson 1973, chap. 4); in terms of the outputs and outcomes of agency activities (e.g., Wilson's distinction between production agencies, procedural agencies, craft agencies and coping agencies; see Wilson 1989, chap. 9); in terms of their legal-structural features (Wettenhall 2003); or in terms of the areas, clients, processes, and public purposes they serve (e.g., Peters 2010, chap. 4).

References

- Aaron, Henry J. 1978. *Politics and the Professors: The Great Society in Perspective*. Washington, DC: Brookings Institution.
- Alliance for Useful Evidence. 2014. The NICE Way: Lessons for Social Policy and Practice. <http://www.alliance4usefulevidence.org/publication/the-nice-way-lessons-for-social-policy-and-practices-from-the-national-institute-for-health-and-care-excellence/> [accessed October 7, 2015].
- Avey, Paul C., and Michael C. Desch. 2014. What Do Policymakers Want from Us? Results of a Survey of Current and Former Senior National Security Decision Makers. *International Studies Quarterly* 58(2): 227–46.
- Bammer, Gabriele, Annette Michaux, and Ann Sanson, eds. 2010. *Bridging the Know-Do Gap: Knowledge Brokering to Improve Child Wellbeing*. Canberra: Australian National University e-Press.
- Banks, Gary. 2009. Evidence-Based Policy-Making: What Is It? How Do We Get It? Speech delivered at the Australian and New Zealand School of Government/ Australian National University Lecture Series, February 4. <http://www.pc.gov.au/news-media/speeches/cs20090204> [accessed October 7, 2015].
- Baumgartner, Frank R., and Bryan D. Jones. 2015. *The Politics of Information: Problem Definition and the Course of Public Policy in America*. Chicago: University of Chicago Press.
- Behn, Robert D. 2003. Why Measure Performance? Different Purposes Require Different Measures. *Public Administration Review* 63(5): 586–606.
- Benson, David, and Andrew Jordan. 2011. What Have We Learned from Policy Transfer Research? Dolowitz and Marsh Revisited. *Political Studies Review* 9(3): 366–78.
- Best, Allan, and Bev Holmes. 2010. Systems Thinking, Knowledge and Action: Towards Better Models and Methods. *Evidence & Policy* 6(2): 145–59.
- Bielak, Alex, Andrew Campbell, Shealagh Pope, Karl Schaefer, and Louise Shaxson. 2008. From Science Communication to Knowledge Brokering. In *Communicating Science in Social Contexts: New Models, New Practices*, edited by Donghong Cheng et al., 201–26. Berlin: Springer.
- Boaz, Annette, Lesley Grayson, Ruth Levitt, and William Solesbury. 2008. Does Evidence-Based Policy Work? Learning from the U.K. Experience. *Evidence & Policy* 4(2): 233–53.
- Bochel, Hugh, and Sue Duncan, eds. 2007. *Making Policy in Theory and Practice*. Bristol, UK: Policy Press.
- Bogenschneider, Karen, and Thomas J. Corbett. 2010. *Evidence-Based Policymaking: Insights from Policy-Minded Researchers and Research-Minded Policymakers*. London: Routledge.
- Boruch, Robert, and Ning Rui. 2008. From Randomized Controlled Trials to Evidence Grading Schemes: Current State of Evidence-Based Practice in Social Sciences. *Journal of Evidence-Based Medicine* 1(1): 41–49.
- Boswell, Christina. 2008. The Political Functions of Expert Knowledge: Knowledge and Legitimation in European Union Immigration Policy. *Journal of European Public Policy* 15(4): 471–88.
- . 2009. Knowledge, Legitimation and the Politics of Risk: The Functions of Research in Public Debates on Migration. *Political Studies* 57(1): 165–86.
- . 2012. How Information Scarcity Influences the Policy Agenda: Evidence from U.K. Immigration Policy. *Governance* 25(3): 367–89.
- Bowen, Shelley, and Anthony B. Zwi. 2005. Pathways to “Evidence-Informed” Policy and Practice: A Framework for Action. *PLoS Medicine* 2(7)e166: 100–105.
- British Academy. 2008. *Punching Our Weight: The Humanities and Social Sciences in Public Policy Making*. London: British Academy.
- Bulmer, Martin. 1982. *The Uses of Social Research: Social Investigation in Public Policy-Making*. London: Allen and Unwin.
- , ed. 1987. *Social Science Research and Government: Comparative Essays on Britain and the United States*. Cambridge, UK: Cambridge University Press.
- Campbell, Donald T. 1969. Reforms as Experiments. *American Psychologist* 24(4): 409–29.
- Cherney, Adrian, and Brian W. Head. 2011. Supporting the Knowledge to Action Process: A Systems-Thinking Approach. *Evidence & Policy* 7(4): 471–88.
- Cherney, Adrian, Brian W. Head, Jenny Povey, Michele Ferguson, and Paul Boreham. 2015. Use of Academic Social Research by Public Officials: Exploring Preferences and Constraints that Impact on Research Use. *Evidence & Policy* 11(2): 169–88.
- Clear, Todd R. 2010. Policy and Evidence: The Challenge to the American Society of Criminology. *Criminology* 48(1): 1–25.

- Coalition for Evidence-Based Policy. 2015. What Works in Social Policy? Findings from Well-Conducted Randomized Controlled Trials. <http://www.evidence-basedprograms.org/> [accessed October 7, 2015].
- Commission on the Social Determinants of Health. 2008. *Closing the Gap in a Generation: Health Equity through Action on the Social Determinants of Health*. Geneva: World Health Organization.
- Commission on the Social Sciences. 2003. *Great Expectations: The Social Sciences in Britain*. London: Academy of Learned Societies for the Social Sciences.
- Davies, Huw, Susan Nutley, and Peter Smith, eds. 2000. *What Works? Evidence-Based Policy and Practice in Public Services*. Bristol, UK: Policy Press.
- Davies, Huw, Sandra Nutley, and Isabel Walter. 2008. Why “Knowledge Transfer” Is Misconceived for Applied Social Research. *Journal of Health Services Research and Policy* 13(3): 188–90.
- Davies, Philip. 2004. Is Evidence-Based Policy Possible? Jerry Lee Lecture, Campbell Collaboration Colloquium, Washington, DC, February 19.
- Deaton, Angus. 2010. Instruments, Randomization, and Learning about Development. *Journal of Economic Literature* 48(2): 424–55.
- Dery, David. 1984. *Problem Definition in Policy Analysis*. Lawrence: University Press of Kansas.
- Desmarais, Bruce A., and John A. Hird. 2014. Public Policy’s Bibliography: The Use of Research in U.S. Regulatory Impact Analyses. *Regulation and Governance* 8(4): 497–510.
- Donaldson, Stewart I., Christina A. Christie, and Melvin M. Mark, eds. 2009. *What Counts as Credible Evidence in Applied Research and Evaluation Practice?* Thousand Oaks, CA: Sage Publications.
- Edwards, Adam, and James Sheptycki. 2009. Third Wave Criminology: Guns, Crime and Social Order. *Criminology and Criminal Justice* 9(3): 379–97.
- Ellig, Jerry, Maurice McTigue, and Henry Wray. 2012. *Government Performance and Results: An Evaluation of GPRAs’ First Decade*. Boca Raton, FL: CRC Press.
- Fazekas, Mihaly. 2012. Exploring the Complex Interaction between Governance and Knowledge: Synthesis of the Literature. Working Paper no. 67, Organisation for Economic Co-operation and Development. http://www.oecd-ilibrary.org/education/exploring-the-complex-interaction-between-governance-and-knowledge-in-education_5k9flcx2l340-en [accessed October 7, 2015].
- Fischer, Frank, and Herbert Gottweis, eds. 2012. *The Argumentative Turn Revisited: Public Policy as Communicative Practice*. Durham, NC: Duke University Press.
- Fox, Daniel M. 2010. *The Convergence of Science and Governance*. Berkeley: University of California Press.
- France, Alan, and Ross Homel, eds. 2007. *Pathways and Crime Prevention*. Abingdon, UK: Willan Publishing.
- Frederickson, David G., and H. George Frederickson. 2006. *Measuring the Performance of the Hollow State*. Washington, DC: Georgetown University Press.
- Glennerster, Rachel. 2012. The Power of Evidence: Improving the Effectiveness of Government by Investing in More Rigorous Evaluation. *National Institute Economic Review* 219(1): R4–14.
- Graffy, Elisabeth A. 2008. Meeting the Challenges of Policy-Relevant Science: Bridging Theory and Practice. *Public Administration Review* 68(6): 1087–1100.
- Gray, Mel, Elyssa Joy, Debbie Plath, and Stephen Webb. 2013. Implementing Evidence-Based Practice: A Review of the Empirical Research Literature. *Research on Social Work Practice* 23(2): 157–66.
- Hajer, Maarten A., and Hendrik Wagenaar, eds. 2003. *Deliberative Policy Analysis: Understanding Governance in the Network Society*. Cambridge, UK: Cambridge University Press.
- Hall, Jeremy L., and Edward T. Jennings. 2008. Taking Chances: Evaluating Risk as a Guide to Better Use of Best Practices. *Public Administration Review* 68(4): 695–708.
- . 2010. Assessing the Use and Weight of Information and Evidence in U.S. State Policy Decisions. *Policy & Society* 29(2): 137–47.
- . 2012. Administrators’ Perspectives on Successful Interstate Collaboration: The Drug Effectiveness Review Project. *State and Local Government Review* 44(2): 127–36.
- Halligan, John. 1995. Policy Advice and the Public Service. In *Governance in a Changing Environment*, edited by B. Guy Peters and Donald J. Savoie, 138–72. Montreal: McGill University Press.
- Hammersley, Martin. 2013. *The Myth of Research-Based Policy and Practice*. London: Sage Publications.
- Harvey, Gill, Pauline Jas, Kieran Walshe, and Chris Skelcher. 2010. Absorptive Capacity: How Organizations Assimilate and Apply Knowledge to Improve Performance. In *Connecting Knowledge and Performance in Public Services: From Knowing to Doing*, edited by Kieran Walshe, Gill Harvey, and Pauline Jas, 226–50. Cambridge, UK: Cambridge University Press.
- Haskins, Ron, and Greg Margolis. 2014. *Show Me the Evidence: Obama’s Fight for Rigor and Results in Social Policy*. Washington, DC: Brookings Institution Press.
- Head, Brian W. 2008. Three Lenses of Evidence-Based Policy. *Australian Journal of Public Administration* 67(1): 1–11.
- . 2010. Reconsidering Evidence-Based Policy: Key Issues and Challenges. *Policy & Society* 29(2): 77–94.
- . 2013. *How Do Government Agencies Use Evidence?* Research report for the Swedish National Board of Health and Welfare. <http://www.socialstyrelsen.se/Lists/Artikelkatalog/Attachments/19163/2013-6-38.pdf> [accessed October 7, 2015].
- Head, Brian W., and John Alford. 2015. Wicked Problems: Implications for Public Policy and Management. *Administration & Society* 47(6): 711–39.
- Head, Brian W., Michele Ferguson, Adrian Cherney, and Paul Boreham. 2014. Are Policy-Makers Interested in Social Research? Exploring the Sources and Uses of Valued Information among Public Servants in Australia. *Policy & Society* 33(2): 89–101.
- Heinrich, Carolyn J. 2007. Evidence-Based Policy and Performance Management: Challenges and Prospects in Two Parallel Movements. *American Review of Public Administration* 37(3): 255–77.
- . 2012. How Credible Is the Evidence, and Does It Matter? An Analysis of the Program Assessment Rating Tool. *Public Administration Review* 72(1): 123–34.
- Hemsley-Brown, Jane. 2004. Facilitating Research Utilisation: A Cross-Sector Review of Research Evidence. *International Journal of Public Sector Management* 17(6): 534–52.
- Howlett, Michael. 2009. Policy Analytical Capacity and Evidence-Based Policy-Making: Lessons from Canada. *Canadian Public Administration* 52(2): 153–75.
- Howlett, Michael, and Adam Wellstead. 2011. Policy Analysts in the Bureaucracy Revisited: The Nature of Professional Policy Work in Contemporary Government. *Politics & Policy* 39(4): 613–33.
- Innvær, Simon. 2009. The Use of Evidence in Public Governmental Reports on Health Policy: An Analysis of 17 Norwegian Official Reports (NOU). *BMC Health Services Research* 9: 177.
- Institute for Public Policy Research (IPPR). 2011. *Redesigning Justice: Reducing Crime through Justice Reinvestment*. London: IPPR.
- Jennings, Edward T., and Jeremy L. Hall. 2012. Evidence-Based Practice and the Use of Information in State Agency Decision Making. *Journal of Public Administration Research and Theory* 22(2): 245–66.
- Johnson, Kelli, Lija Greenseid, Stacie Toal, Jean King, Frances Lawrenz, and Boris Volkov. 2009. Research on Evaluation Use: A Review of the Empirical Literature from 1986 to 2005. *American Journal of Evaluation* 30(3): 377–410.
- Jones, Damon, Brian K. Bumbarger, Mark T. Greenberg, Peter Greenwood, and Sandee Kyler. 2008. The Economic Return on PCCD’s Investment in Research-Based Programs: A Cost–Benefit Assessment of Delinquency Prevention in Pennsylvania. Report, Prevention Research Center, Pennsylvania State University. http://prevention.psu.edu/pubs/docs/PCCD_Report2.pdf [accessed October 7, 2015].

- Joyce, Philip G. 2011. *The Congressional Budget Office: Honest Numbers, Power, and Policymaking*. Washington, DC: Georgetown University Press.
- Kitagawa, Fumi, and Claire Lightowler. 2013. Knowledge Exchange: A Comparison of Policies, Strategies, and Funding Incentives in English and Scottish Higher Education. *Research Evaluation* 22(1): 1–14.
- Landry, Réjean, Nabil Amara, and Mokhtar Lamari. 2001. Utilization of Social Science Research Knowledge in Canada. *Research Policy* 30(2): 333–49.
- Landry, Réjean, Nabil Amara, Ariel Pablos-Mendes, Ramesh Shademani, and Irving Gold. 2006. The Knowledge-Value Chain: A Conceptual Framework for Knowledge Translation in Health. *Bulletin of the World Health Organization* 84(8): 597–602.
- Lavis, John N., Elizabeth Paulsen, Andrew Oxman, and Ray Moynihan. 2008. Evidence-Informed Health Policy 2: Survey of Organizations That Support the Use of Research Evidence. *Implementation Science* 3: 54.
- Lavis, John N., Govin Permanand, Andrew Oxman, Simon Lewin, and Atle Fretheim. 2009. SUPPORT Tools for Evidence-Informed Health Policymaking STP 13. Supplement, *Health Research Policy and Systems* 7: S13.
- Lavis, John N., Dave Robertson, Jennifer Woodside, Christopher McLeod, and Julia Abelson. 2003. How Can Research Organizations More Effectively Transfer Research Knowledge to Decision Makers? *Milbank Quarterly* 81(2): 221–48.
- Lee, Stephanie, Steve Aos, Elizabeth Drake, Annie Pennucci, Marna Miller, and Laurie Anderson. 2012. *Return on Investment: Evidence-Based Options to Improve Statewide Outcomes, April 2012 Update*. Olympia: Washington State Institute for Public Policy. http://www.wsipp.wa.gov/ReportFile/1102/Wsipp_Return-on-Investment-Evidence-Based-Options-to-Improve-Statewide-Outcomes-April-2012-Update_Full-Report.pdf [accessed October 7, 2015].
- Lemay, Margaret, and Cresco Sá. 2014. The Use of Academic Research in Public Health Policy and Practice. *Research Evaluation* 23(1): 79–88.
- Lester, James P. 1993. The Utilization of Policy Analysis by State Agency Officials. *Knowledge: Creating, Diffusion, Utilization* 14(3): 267–90.
- Lindblom, Charles E. 1979. Still Muddling, Not Yet Through. *Public Administration Review* 39(6): 517–26.
- Lindblom, Charles E., and David K. Cohen. 1979. *Usable Knowledge: Social Science and Social Problem Solving*. New Haven, CT: Yale University Press.
- Lomas, Jonathan. 2000. Using “Linkage and Exchange” to Move Research into Policy at a Canadian Foundation. *Health Affairs* 19(3): 236–40.
- . 2007. The In-Between World of Knowledge Brokering. *British Medical Journal* 334: 129–32.
- Majone, Giandomenico. 1989. *Evidence, Argument, and Persuasion in the Policy Process*. New Haven, CT: Yale University Press.
- Mandell, Marvin, and Vicki Sauter. 1984. Approaches to the Study of Information Utilization in Public Agencies: Problems and Pitfalls. *Science Communication* 6(2): 145–64.
- Maynard, Rebecca A. 2006. Presidential Address: Evidence-Based Decision Making: What Will It Take for the Decision Makers to Care? *Journal of Policy Analysis and Management* 25(2): 249–66.
- Mayne, John, Marie-Louise Bemelmans-Videc, Joe Hudson, and Ross Conner, eds. 1992. *Advancing Public Policy Evaluation: Learning from International Experiences*. Amsterdam: North-Holland.
- McGuire, Michael, and Chris Silvia. 2010. The Effect of Problem Severity, Managerial and Organizational Capacity, and Agency Structure on Intergovernmental Collaboration: Evidence from Local Emergency Management. *Public Administration Review* 70(2): 279–88.
- Mead, Lawrence M. 2015. Only Connect: Why Government Often Ignores Research. *Policy Sciences* 48(2): 257–72.
- Meagher, Laura, Catherine Lyall, and Sandra Nutley. 2008. Flows of Knowledge, Expertise and Influence: A Method for Assessing Policy and Practice Impacts from Social Science Research. *Research Evaluation* 17(3): 163–73.
- Meltsner, Arnold J. 1976. *Policy Analysts in the Bureaucracy*. Berkeley: University of California Press.
- Michaels, Sarah. 2009. Matching Knowledge Brokering Strategies to Environmental Policy Problems and Settings. *Environmental Science and Policy* 12(7): 994–1011.
- Mintrom, Michael, and Rebecca Bollard. 2009. Governing Controversial Science: Lessons from Stem Cell Research. *Policy & Society* 28(4): 301–14.
- Mitton, Craig, Carol Adair, Emily McKenzie, Scott Patten, and Brenda Perry. 2007. Knowledge Transfer and Exchange: Review and Synthesis of the Literature. *Milbank Quarterly* 85(4): 729–68.
- Monaghan, Mark. 2011. *Evidence versus Politics: Exploiting Research in U.K. Drug Policy Making?* Bristol, UK: Policy Press.
- Morris, Michael, and Brittany Clark. 2013. You Want Me to Do What? Evaluators and the Pressure to Misrepresent Findings. *American Journal of Evaluation* 34(1): 57–70.
- Mosteller, Frederick, and Robert Boruch, eds. 2002. *Evidence Matters: Randomized Trials in Education Research*. Washington, DC: Brookings Institution Press.
- Moynihan, Donald P., and Alasdair S. Roberts. 2010. The Triumph of Loyalty over Competence: The Bush Administration and the Exhaustion of the Politicized Presidency. *Public Administration Review* 70(4): 572–81.
- Mulgan, Geoff. 2006. The Process of Social Innovation. *Innovations* 1(2): 145–62.
- . 2009. *The Art of Public Strategy: Mobilizing Power and Knowledge for the Common Good*. Oxford, UK: Oxford University Press.
- Mulgan, Geoff, and Ruth Puttick. 2013. *Making Evidence Useful*. London: Nesta. <http://www.nesta.org.uk/library/documents/MakingEvidenceUseful.pdf> [accessed October 7, 2015].
- National Conference of State Legislatures. 2012. Ensuring the Public Trust 2012: Program Policy Evaluation’s Role in Serving State Legislatures. <http://www.ncsl.org/documents/nlps/EPT2012.pdf> [accessed October 7, 2015].
- National Research Council. 2009. *Preventing Mental, Emotional and Behavioral Disorders among Young People: Progress and Possibilities*. Washington, DC: National Academies Press.
- . 2012. *Using Science as Evidence in Public Policy*. Washington, DC: National Academies Press.
- Nesta. 2011. *Evidence for Social Policy and Practice*. London: Nesta.
- Newman, Janet. 2011. Boundary Troubles: Working the Academic–Policy Interface. *Policy and Politics* 39(4): 473–84.
- Niessen, Louis W., John Bridges, Brandyn Lau, Renee Wilson, Ritu Sharma, Damian Walker, Kevin Frick, and Eric Bass. 2011. *Assessing the Impact of Economic Evidence on Policymakers in Health Care—A Systematic Review*. Rockville, MD: Agency for Healthcare Research and Quality.
- Nussle, Jim, and Peter Orszag, eds. 2014. *Moneyball for Government*. New York: Disruption Books.
- Nutley, Sandra M., Sarah Morton, Tobias Jung, and Annette Boaz. 2010. Evidence and Policy in Six European Countries: Diverse Approaches and Common Challenges. *Evidence & Policy* 6(2): 131–44.
- Nutley, Sandra M., Isabel Walter, and Huw Davies. 2007. *Using Evidence: How Research Can Inform Public Services*. Bristol, UK: Policy Press.
- Organisation for Economic Co-operation and Development (OECD). 2009. Improving the Quality of Regulations: Policy Brief. <http://www.oecd.org/gov/regulatory-policy/Policy%20Brief%20-%20Improving%20the%20Quality%20of%20Regulations.pdf> [accessed October 7, 2015].
- . 2015. Government at a Glance 2015. http://www.oecd-ilibrary.org/governance/government-at-a-glance-2015_gov_glance-2015-en [accessed October 7, 2015].
- Orszag, Peter. 2009. Building Rigorous Evidence to Drive Policy. June 8. <http://www.whitehouse.gov/omb/blog/09/06/08/BuildingRigorousEvidencetoDrivePolicy/> [accessed October 7, 2015].
- Osborne, Stephen P., and Louise Brown, eds. 2013. *Handbook of Innovation in Public Services*. Cheltenham, UK: Edward Elgar.

- Ouimet, Mathieu, Réjean Landry, Saliha Ziam, and Pierre-Olivier Bédard. 2009. The Absorption of Research Knowledge by Public Civil Servants. *Evidence and Policy* 5(4): 331–50.
- Palinkas, Lawrence, and Haluk Soydan. 2012. *Translation and Implementation of Evidence-Based Practice*. Oxford, UK: Oxford University Press.
- Pawson, Ray. 2006. *Evidence-Based Policy: A Realist Perspective*. London: Sage Publications.
- Peters, B. Guy. 2010. *The Politics of Bureaucracy*. 6th ed. New York: Routledge.
- Petrosino, Anthony, Robert Boruch, Haluk Soydan, Lorna Duggan, and Julio Sanchez-Meca. 2001. Meeting the Challenges of Evidence-Based Policy: The Campbell Collaboration. *Annals of the American Academy of Political and Social Science* 578: 14–34.
- Petrosino, Anthony, Carolyn Turpin-Petrosino, and John Buehler. 2002. “Scared Straight” and Other Juvenile Awareness Programs for Preventing Juvenile Delinquency. *Cochrane Database of Systematic Reviews*, no. 2: article no. CD002796.
- Pew Charitable Trusts. 2015a. Legislating Evidence-Based Policymaking: A Look at State Laws that Support Data-Driven Decision-Making. Issue brief, Pew-MacArthur Results First Initiative. <http://www.pewtrusts.org/en/research-and-analysis/issue-briefs/2015/03/legislating-evidence-based-policymaking> [accessed October 7, 2015].
- . 2015b. Pew-MacArthur Results First Initiative. <http://www.pewtrusts.org/en/projects/pew-macarthur-results-first-initiative> [accessed October 7, 2015].
- Prato, Tony. 2007. Evaluating Land Use Plans under Uncertainty. *Land Use Policy* 24(1): 165–74.
- Puttick, Ruth. 2012. *Innovations in Prevention*. London: Nesta.
- Radaelli, Claudio M. 1995. The Role of Knowledge in the Policy Process. *Journal of European Public Policy* 2(2): 159–83.
- Radin, Beryl A. 2000. *Beyond Machiavelli: Policy Analysis Comes of Age*. Washington, DC: Georgetown University Press.
- . 2006. *Challenging the Performance Movement: Accountability, Complexity, and Democratic Values*. Washington, DC: Georgetown University Press.
- Redman, Sally, Louisa Jorm, and Mary Haines. 2008. Increasing the Use of Research in Health Policy: The Sax Institute Model. *Australasian Epidemiologist* 15(3): 15–18.
- Rist, Ray C., ed. 1990. *Program Evaluation and the Management of Government*. New Brunswick, NJ: Transaction.
- Rivlin, Alice M. 1971. *Systematic Thinking for Social Action*. Washington, DC: Brookings Institution.
- Rocheftort, David, and Roger Cobb, eds. 1994. *The Politics of Problem Definition: Shaping the Policy Agenda*. Lawrence: University Press of Kansas.
- Sabatier, Paul A., and Christopher M. Weible, eds. 2014. *Theories of the Policy Process*. 3rd ed. Boulder, CO: Westview Press.
- Sanderson, Ian. 2002. Evaluation, Policy Learning and Evidence-Based Policy Making. *Public Administration* 80(1): 1–22.
- Sax Institute. 2013. Evidence Check Library. <https://www.saxinstitute.org.au/category/publications/evidence-check-library/> [accessed October 18, 2015].
- Schorr, Lisbeth B., and Patricia Auspos. 2003. Usable Information about What Works: Building a Broader and Deeper Knowledge Base. *Journal of Policy Analysis and Management* 22(4): 669–76.
- Schorr, Lisbeth B., and Frank Farrow. 2011. Expanding the Evidence Universe. Paper presented at the Harold Richman Public Policy Symposium, Washington, DC, Center for the Study of Social Policy.
- . 2014. An Evidence Framework to Improve Results. Paper presented at the Harold Richman Public Policy Symposium, Washington, DC, Center for the Study of Social Policy.
- Shillabeer, Anna, Terry F. Buss, and Denise M. Rousseau, eds. 2011. *Evidence-Based Public Management: Practices, Issues, and Prospects*. Armonk, NY: M. E. Sharpe.
- Shipan, Charles R., and Craig Volden. 2012. Policy Diffusion: Seven Lessons for Scholars and Practitioners. *Public Administration Review* 72(6): 788–96.
- Shonkoff, Jack P. 2000. Science, Policy and Practice: Three Cultures in Search of a Shared Mission. *Child Development* 71(1): 181–87.
- Shulock, Nancy. 1999. The Paradox of Policy Analysis: If It Is Not Used, Why Do We Produce So Much of It? *Journal of Policy Analysis and Management* 18(2): 226–44.
- Solinis, Germán, and Nicolas Baya-Laffite, eds. 2011. *Mapping Out the Research-Policy Matrix*. Paris: UNESCO.
- Stevens, Alex. 2011. Telling Policy Stories: An Ethnographic Study of the Use of Evidence in Policy-Making in the U.K. *Journal of Social Policy* 40(2): 237–55.
- Sullivan, Helen. 2011. “Truth” Junkies: Using Evaluation in U.K. Public Policy. *Policy & Politics* 39(4): 499–512.
- Sullivan, Helen, and Chris Skelcher. 2002. *Working across Boundaries: Collaboration in Public Services*. London: Palgrave Macmillan.
- Talbot, Colin, and Carole Talbot. 2014. Sir Humphrey and the Professors: What Does Whitehall Want from Academics? Discussion paper, University of Manchester. [http://www.policy.manchester.ac.uk/media/projects/policymanchester/1008_Policy@Manchester_Senior_Civil_Servants_Survey_v4\(1\).pdf](http://www.policy.manchester.ac.uk/media/projects/policymanchester/1008_Policy@Manchester_Senior_Civil_Servants_Survey_v4(1).pdf) [accessed October 7, 2015].
- Tilley, Nick, ed. 2010. *Analysis for Crime Prevention*. Boulder, CO: Lynne Rienner.
- Tseng, Vivian, and Sandra Nutley. 2014. Building the Infrastructure to Improve the Use and Usefulness of Research in Education. In *Using Research Evidence in Education: From the Schoolhouse Door to Capitol Hill*, edited by Kara Finnigan and Alan Daly, 163–75. New York: Springer.
- Turnpenny, John, Claudio Radaelli, Andrew Jordan, and Klaus Jacob. 2009. The Policy and Politics of Policy Appraisal: Emerging Trends and New Directions. *Journal of European Public Policy* 16(4): 640–53.
- U.K. Cabinet Office. 1999. *Professional Policy Making for the Twenty First Century*. London: Cabinet Office.
- . 2008. *Think Research: Using Research Evidence to Inform Service Development for Vulnerable Groups*. London: Social Exclusion Taskforce, Cabinet Office.
- U.K. Treasury. 2007. *Analysis for Policy: Evidence-Based Policy in Practice*. London: Government Social Research Unit, Treasury.
- U.S. Government Accountability Office (GAO). 2009. *Program Evaluation: A Variety of Rigorous Methods Can Help Identify Effective Interventions*. Washington, DC: U.S. Government Printing Office. GAO-10-30.
- U.S. Office of Management and Budget (OMB). 2010. *Evaluating Programs for Efficacy and Cost-Efficiency*. Memorandum for Heads of Executive Departments, July 29. <https://www.whitehouse.gov/sites/default/files/omb/memoranda/2010/m10-32.pdf> [accessed October 7, 2015].
- Van Dooren, Wouter, Geert Bouckaert, and John Halligan. 2010. *Performance Management in the Public Sector*. Abingdon, UK: Routledge.
- Van Kammen, Jessika, Don de Savigny, and Nelson Sewankambo. 2006. Using Knowledge-Brokering to Promote Evidence-Based Policy-Making: The Need for Support Structures. *Bulletin of the World Health Organization* 84(8): 608–12.
- Vanlandingham, Gary R., and Elizabeth Drake. 2012. Results First: Using Evidence-Based Policy Models in State Policymaking. *Public Performance and Management Review* 35(3): 550–63.
- Vaughan, Roger D., and Terry F. Buss. 1998. *Communicating Social Science Research to Policy Makers*. Thousand Oaks, CA: Sage Publications.
- Vifell, Åsa C., and Ebba Sjögren. 2011. More Knowledge, Better Government? Consequences of Knowledge-Based Decision-Making in Swedish Pharmaceutical Benefits. *Governance* 24(1): 85–110.
- Wagenaar, Hendrik. 2004. “Knowing” the Rules: Administrative Work as Practice. *Public Administration Review* 64(6): 643–56.
- Walshe, Kieran, and Huw Davies. 2010. Research, Influence and Impact: Deconstructing the Norms of Health Services Research Commissioning. *Policy & Society* 29(2): 103–11.

- Walter, Isabel, Sandra Nutley, and Huw Davies. 2005. What Works to Promote Evidence-Based Practice? A Cross-Sector Review. *Evidence & Policy* 1(3): 335–64.
- Ward, Vicky, Allan House, and Susan Hamer. 2009. Knowledge Brokering: The Missing Link in the Evidence to Action Chain? *Evidence & Policy* 5(3): 267–79.
- Webber, David J. 1984. Political Conditions Motivating Legislators' Use of Policy Information. *Policy Studies Review* 4(1): 110–18.
- Weber, Edward P., and Anne M. Khademian. 2008. Wicked Problems, Knowledge Challenges, and Collaborative Capacity Builders in Network Settings. *Public Administration Review* 68(2): 334–49.
- Weiss, Carol H. 1979. The Many Meanings of Research Utilization. *Public Administration Review* 39(5): 426–31.
- . 1980. Knowledge Creep and Decision Accretion. *Knowledge: Creation, Diffusion, Creation* 1(3): 381–404.
- . 1999. The Interface between Evaluation and Public Policy. *Evaluation* 5(4): 468–86.
- Wettenhall, Roger. 2003. Exploring Types of Public Sector Organizations. *Public Organization Review* 3(3): 219–45.
- Williams, Paul A. 2012. *Collaboration in Public Policy and Practice: Perspectives on Boundary Spanners*. Bristol, UK: Policy Press.
- Williams, Walter. 1998. *Honest Numbers and Democracy: Social Policy Analysis in the White House, Congress, and the Federal Agencies*. Washington, DC: Georgetown University Press.
- Wilson, James Q. 1973. *Political Organizations*. New York: Basic Books.
- . 1989. *Bureaucracy: What Government Agencies Do and Why They Do It*. New York: Basic Books.
- Woolcock, Michael. 2009. Toward a Plurality of Methods in Project Evaluation. *Journal of Development Effectiveness* 1(1): 1–14.