How do government agencies use evidence?

Förord

Svenska myndigheter och offentliga organisationer värdesätter av tradition utrednings- och forskningsresultat för sina verksamheter. I takt med att ett evidensbaserade arbetssätt introducerats och utvecklats nationellt och internationellt ökar kraven på användning av högkvalitativ evidens. De senaste två decennierna har viktiga framsteg gjorts bland svenska myndigheter inom exempelvis Socialstyrelsens verksamhetsområden. Men mer återstår att göra. Syftet med denna rapport är att ge information till Svenska myndigheter att använda för benchmarking och som stöd till det pågående förändringsarbetet.

Socialstyrelsen och Forskningsrådet för arbetsliv och socialvetenskap (FAS) samarbetar sedan många år kring utvärderingsforskning, implementering och evidensbaserad praktik. Som en del i detta arbete fick professor Brian W. Head, från Institute for Social Science Research vid University of Queensland, Australien, i uppdrag att sammanställa kunskapen om kopplingen mellan vetenskaplig evidens och myndigheters beslutsfattande. Haluk Soydan från Socialstyrelsen har fungerat som kontaktperson till Brian W. Head. Rapporten har finansierats av FAS.

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Innehåll

Executive summary

Significant research gaps remain in our understanding about what happens inside government agencies in relation to the production, commissioning, assessment and incorporation of research-based evidence into their policy advice and their program delivery and review activities. Practices and capabilities vary enormously across types of public agencies, levels of government, and policy areas. Understanding these patterns and potentialities better would help focus attention on effective methods for improving the quality of decision-making through evidence-informed processes.

Currently, public agencies gather administrative information from their own operations, as a necessary component of undertaking program management and reporting; but there is little information about how rigorous information related to programs is actually used for performance management and program review. Little is known about how agencies access information from 'external' sources of expertise, which external sources are favored over others, and how external information is used for developing better programs or performance metrics. One key feature of an evidence-based policy process would be extent to which evaluation processes are built into the standard operating procedures of policy and service delivery units. Building an analysis and evaluation culture requires the availability of skilled staff as well as organizational leadership that values high quality analysis.

Although it is widely agreed that evidence-based improvements to policy and administrative systems are both desirable and possible, we cannot expect that a democratic public policy system could be primarily shaped by objective research findings. Various forms of evidence, both rigorous and otherwise, will continue to inform the policy process. Democratic leaders will pay attention to stakeholders and public opinion as well as scientific evidence. However, persistent efforts and targeted investments could help to create more systematic linkages between rigorous research and the processes of policy-making. Progress towards a more evidence-informed policy and administrative system would require commitment and investment at several levels – individuals, organizational units, and cross-organizational relationships.

Rigorous research findings on key issues are not yet available in many areas for informing policy and program managers. Creating such a research base takes time and resources. Even where reliable evidence has been documented, it is not always available in formats that meet the practical needs of policy and program managers. The professional knowledge of experienced service providers and program managers is especially relevant in social care domains where robust experimental knowledge is unlikely to emerge. Scientific and professional knowledge need to interact. The 'translation' of research findings into

codes, standards and procedures for professional practice has advanced in many areas but extracting 'lessons' from research findings and adopting them successfully in professional practice entails complex issues of education, relationships and collaboration.

This brief review highlights known areas of strength in the research base for evidence-based policies and programs, together with matters where there are significant research gaps hindering a solid understanding of evidence-use by government agencies in social policy-making and program development. The review draws attention to important background differences between the roles and resources for the various levels of government, and differences in administrative cultures and practices between policy areas and across national boundaries. This analysis leads to the identification of several key priorities for further research, taking into account what is already known concerning the key research issues. These priorities include better understanding of:

- the capability levels of key government agencies in respect of data collection and analysis, policy options analysis, and program evaluation; and whether cross-agency emulation and learning from best practice can be facilitated;
- how major policy reforms, and associated program implementation, have been significantly assisted by rigorous research;
- the lessons that emerge from implementation and translational research in service innovation;
- sources of variation in the use of expert information by a range of different public agencies;
- factors that might improve the use of research-based evidence by government agencies in priority fields of social policy;
- support for lower levels of government to conduct their core activities in ways that make effective use of relevant information;
- methods for encouraging best practice in relation to evidence-based trials, improving interaction and exchange processes, organizing expert forums and civic engagement, improving research receptivity and capability within public agencies;
- methods for institutionalizing respect for rigorous evidence across the turbulence of political and electoral changes;
- the appropriate adoption and adaptation of international experience.

Svensk sammanfattning

Det finns stora luckor i kunskapen om hur myndigheter ger uppdrag om, värderar samt använder forskningsbaserad kunskap för beslut om vägledning, reglering, insatser och uppföljning. Med begreppet myndighet avses i denna rapport offentliga myndigheter på lokal, regional eller nationell nivå, som ansvarar för vägledning, reglering eller tillsyn. Arbetssätt, ansvarsförmåga och mandat varierar stort mellan olika myndigheter, förvaltningsnivåer och politikområden. Med bättre kunskap om arbetssätt och övriga förutsättningar på respektive myndighet – och genom att tillämpa evidensbaserade arbetsprocesser – skulle kvaliteten på beslutsfattandet kunna förbättras.

Numera samlar myndigheter information om den egna verksamheten som en nödvändig del i genomförande och uppföljning av verksamheten, men det finns liten kunskap om i vilken utsträckning kunskap från utvärderade program faktiskt används i verksamhetsstyrning och utvärdering.

Lite är också känt om hur myndigheter får tillgång till information från externa experter, om vilka externa källor som gynnas framför andra och om hur extern information används för att utveckla bättre insatser och prestationsmått. Ett viktigt kriterium i en evidensbaserad policy är i vilken utsträckning man regelmässigt använder utvärderingar. Att utveckla en analys- och utvärderingskultur kräver såväl kompetent personal som ett ledarskap som värdesätter högkvalitativa analyser.

Även om det är allmänt accepterat att det är både önskvärt och möjligt att genomföra evidensbaserade förbättringar av policy och administrativa system, kan vi inte förvänta oss att demokratiska politiska system i första hand ska utformas med utgångspunkt från forskningsresultat. Andra typer av information fortsätter att vara viktiga för myndighetsstyrning och policyutformning. Politiker och andra chefer tar hänsyn till såväl olika intressentgrupper och den allmänna opinionen som vetenskaplig evidens. Däremot kan hållbara och riktade investeringar skapa en bättre koppling mellan rigorös forskning och beslutsfattande. Utvecklingen mot ett mer evidensinformerat politiskt och administrativt beslutsfattande kräver ett åtagande och investeringar såväl på individ- och organisationsnivå som mellan organisationer.

Idag saknas tillförlitlig vetenskaplig kunskap om områden som är relevanta och viktiga för politiker och verksamhetsansvariga. Att skapa en sådan forskningsbas tar tid och resurser. Även om det finns tillförlitlig evidens är den inte alltid tillgänglig i ett format som motsvarar behoven hos politiker och myndighetschefer. Under överskådlig tid kommer experimentell kunskap rimligen att vara en bristvara. Det är därför viktigt att tillvarata kunskap om det sociala omsorgsområdet från erfarna professionella och verksamhetsansvariga. Vetenskaplig och professionell kunskap måste samverka. Översättning av forskningsresul-

tat till regler, förhållningssätt och insatser för yrkesutövningen har utvecklats inom många områden. Men att syntetisera forskningskunskap och få den framgångsrikt använd i professionell verksamhet är komplicerat och förutsätter utbildning och träning, goda arbetsrelationer och samarbete mellan organisationer.

Denna översikt belyser både välbeforskade områden om hur evidens kan användas av myndigheter inom politik och verksamhetsutveckling, och områden där det finns betydande kunskapsluckor. Översikten uppmärksammar skillnader mellan roller och resurser på olika nivåer samt skillnader i administrativa kulturer och praxis mellan politikområden och över nationsgränser. Fortsatt forskning är angelägen för att få bättre förståelse om:

- vilka kompetenser olika myndighetsnivåer har för datainsamling och analys av policyalternativ och effektutvärdering
- jämförelser mellan olika organisationer
- hur man kan underlätta användningen av praktiknära kunskap
- hur forskning har bistått viktiga politiska reformer med tillhörande implementering
- hur nya effektiva insatser överförts och implementerats
- orsaker till att användningen av expertkunskap varierar mellan olika myndigheter
- faktorer som kan öka användningen av forskningsbaserad evidens hos regeringens myndigheter för prioriterade områden av socialpolitik
- hur stödet kan utformas till verksamhetsbaserade myndigheter, till exempel kommunala enheter, för en mer effektiv användning av relevant information
- metoder för att främja högkvalitativa effektutvärderingar, förbättra samverkan och utbyte av information, organisera expertfora och medborgerligt engagemang samt främja ökad mottaglighet för vetenskaplig evidens inom myndigheter
- metoder för att institutionalisera hållbar användning av evidens i tider av förändringar av politiska majoriteter
- hur man bäst implementerar och anpassar internationella erfarenheter till en nationell kontext.

Introduction[1]

This report seeks to scope the key issues underlying the general question:

How do government agencies at different levels use evidence in making decisions on social issues and programs, and how effective is their use of evidence in such decision-making?

Some clarification of key terms is warranted at the outset. Firstly, 'government' is intended to include all levels of public authority within a national territory, i.e. government agencies could be at the local, regional or national levels. Secondly, government 'agencies' could be primarily concerned with service delivery, or with regulation and compliance, or with policy and evaluation, or any mix of these functions.

Thirdly, it is accepted that terminology is used differently across various national contexts, with their specific histories of administrative and political arrangements. Finally, the roles and powers of local government vary widely across nation-states. In some countries, local authorities play an important role in the delivery of health, education and social services, as well as urban planning and infrastructure; in other countries their role is much less prominent and their need for evidence-informed capabilities is more circumscribed.

The research literature concerning use of evidence by government agencies raises complex multi-level questions. The relevant literature is diffuse in scope and coverage. It is uneven in quality, and difficult to compare across issues and institutional settings. There are major gaps in the empirical studies of how government agencies operate, including analysis of the knowledge bases actually utilized in policy development and program administration, and little systematic comparative analysis of trends and outcomes. The underlying research questions are diverse, and have been interpreted and structured in several ways by different authors. For all these reasons, a systematic literature review has not been attempted; instead, the present report attempts to explore and summarize the state of play concerning key themes, issues and challenges. The purpose is to promote a better understanding of how government agencies are involved in generating, considering and using rigorous social analysis, and to clarify matters for further research.

Overview

The evidence-based policy (EBP) movement since the 1980s has sought to promote rigorous analysis of service programs and policy options, thereby providing useful inputs for policy-makers in their ongoing consideration of policy development and program improvement (Bowen & Zwi 2005; Nutley et al 2007; Bochel & Duncan 2007; Boaz et al 2008; Orszag 2009; Bogenschneider & Corbett 2010). Analytical techniques have been improved, training has been improved, the use of controlled trials to assess policy innovations has become more widespread, and a larger number of program evaluations are now available. What is less clear is that government agencies are making good use of this material. Hence it would be fair to suggest that the hopes of large and rapid improvements in policies and programs, through better use of rigorous research, have not materialized as quickly or as widely as expected.

The new 'realism' emerging from recent research suggests that while evidence-based improvements are both desirable and possible, we cannot expect to construct a policy system shaped primarily by objective research findings. While various forms of evidence will continue to inform the policy process, a long series of efforts would be required to create more systematic linkages between rigorous research and the processes of policy-making. There are several reasons for this (Head 2010).

Firstly, a strong research base, with rigorous research findings on key issues, is simply not yet available in many areas for informing policy and program managers. Creating such a research base takes time and resources. Moreover, as we discover new knowledge about social issues we become more aware of other associated gaps and limitations of our knowledge. Secondly, government officials and political leaders are often motivated or influenced by socio-political factors other than research evidence. Political leaders in a democracy may be preoccupied with political argumentation, maintaining support, engaging with media debates, and managing risks. Evidence informs and enriches these political debates in a democracy but does not drive the outcome (Majone 1989; Shulock 1999; Pierre and Peters 2005). Policy officials and program managers are likely to pay as much attention to perceived levels of external support (stakeholders and partner organizations) as to the systematic research evidence. Thirdly, even where reliable evidence has been documented, there is often a poor 'fit' between how this information has been assembled by researchers (e.g. scientific reports) and the practical needs of policy and program managers (Commission on Social Sciences 2003; Fazekas 2012). Researchers themselves may not be adept at packaging and communicating their findings for policy and media audiences.

Fourthly, the value of professional knowledge needs to be recognized and appreciated alongside the findings of systematic reviews and experimental research-based knowledge. Administrative cultures vary across nations and regions. The professional knowledge of experienced service providers and program managers is especially relevant in social care domains where robust ex-

perimental knowledge is unlikely to emerge. Professional service providers gain valuable insights about 'what works under what conditions', through grappling with complex problems in field situations (Head 2008; Byrne 2011; NESTA 2011). They are well positioned to understand local nuances, including the practical need to adjust general objectives and procedures for local conditions.

Finally, contextual relationships matter as much as scientific knowledge. It is noteworthy that the translation of research findings into codes, standards and procedures for professional practice has advanced in many areas of public health (Dopson and Fitzgerald 2005; Best and Holmes 2010; Best et al 2012; Brownson, Colditz and Proctor 2012) and also in some areas of social care and support services for children and families (Roberts and Yeager 2006; Palinkas and Soydan 2012; Gray et al, 2013). For example, one challenge has been to 'translate' the findings and lessons of healthcare research about effective treatment into clinical guidelines used by healthcare professionals. However, extracting 'lessons' from research findings and adopting them successfully in professional practice entails complex issues of education, relationships and collaboration:

> *...adopting and utilizing an evidence-based innovation in clinical practice fundamentally depends on a set of social processes such as sensing and interpreting new evidence; integrating it with existing evidence, including tacit evidence; its reinforcement or marginalization by professional networks and communities of practice; relating the new evidence to the needs of the local context; discussing and debating the evidence with local stakeholders; taking joint decisions about its enactment; and changing practice. Successful 'adoption' of an evidence-based practice depends on all these supportive social processes operating in the background. (Ferlie 2005:183)*

The research literature on the use of evidence by government agencies has been concerned mainly with two 'points' or nodes in the long chain of policy development and program management and review. These are the moment of executive decision, where a policy or program idea is first adopted or subsequently adjusted; and secondly, the stage of formal review where an established program is evaluated, perhaps as part of the budget review process. The first of these literatures, largely found in political science or policy studies, retrospectively analyzes the policy actors, debates and circumstances in which government leaders selected one option over others. Those studies are of little relevance for the present paper, except where policy choices were informed by research-based expertise. The second literature is largely found in evaluation studies, variously undertaken either by government agencies themselves or undertaken more independently by various research centres, think-tanks and evaluation contractors. These evaluation materials are highly relevant for this paper, but the availability of program review reports does not necessarily determine

how government agencies actually use evidence in their policy and program activities.

Significant research gaps remain in our understanding about what happens inside government agencies themselves. For example, how do agencies gather administrative information from their own operations, and how is this used for performance management and program review? How do they access information from 'external' sources? Which of these sources are favoured over others, and how is this external information used for developing better programs or performance metrics? To what extent are evaluation processes built into their standard operating procedures? What are the skill levels of staff engaged in policy development and program review activities? These and related questions need to be tackled at the level of individuals, organizational units, and cross-organizational relationships.

Before outlining some of these challenges in more detail, it may be useful to explore the key dimensions required in moving towards a more evidence-based public sector.

The long-term challenge

In schematic terms, the building of a more rigorous evidence-informed public sector would require long-term commitments in at least five closely-related dimensions. The first is systematic and substantial public investment in long-term data collection on key social, economic and environmental phenomena. The second is public investment in the analytical skills required to manage and analyze these data collections and ensure quality control and to provide useful information for managers and other stakeholders. Third is developing the specialized institutional capacities required to manage complex information systems and to enhance the use of information drawn from a variety of sources, both within government agencies and from external organizations. Fourth is the extensive use of evaluation and review mechanisms, with clear processes for assessing the impact of various programs and interventions and feedback into the policy development process. Finally, the political culture needs to be supportive of open debate and the sharing of knowledge, so that improved understanding of trends and issues can be joined up with focused deliberation on the merits of various options for action (Head 2012). These key features are provisionally summarized in Table 1, noting that these general features are long-term aspirational requirements rather than tools for immediate adoption and use in current public agencies. Some more immediate tools or steps for more rapid consideration are discussed in the final section of this paper.

Table 1: General dimensions of an evidence-based government policy and service delivery system

Key feature	Examples	Indicators of strength
Official statistics systematically collected	- Specialist government organizations for data and information - All agencies collect service data	- Level of investment in data collection and management - Scope and continuity of coverage
Personnel with strong skills in data analysis	- Staff in specialist data analysis roles - Staff have policy-analytical capacities	- Qualifications of personnel in all agencies - Training & mentoring
Institutional capacity to provide performance information & policy analysis of options	- Government agencies draw on wide range of expertise - Coordination and collaboration mechanisms	- Open processes for developing major policy initiatives - Successful collaborative relationships - Establish benchmarks for targeted improvements
Evaluation & review processes	- Evaluation guidelines developed & updated - Ex-ante analysis and post-implementation reviews	- Major programs undergo substantial review - Use of external experts - Establish experimental programs with rigorous ongoing evaluation
Open political culture & knowledge flows	- Government information widely accessible - Evaluation reports widely accessible - Independent sources of evidence-based advice are widely available	- Political leaders make commitments to open processes and to evidence-informed decision-making - Ongoing involvement of key stakeholder groups - Contestability of advice and multiple sources of expertise

This paper is mainly concerned with the demonstrated capacity of government agencies to undertake evidence-based analysis, including their capacity to identify and utilize the expert knowledge generated by non-government organizations. This focus will throw some light on the production, circulation, reception and utilization of rigorous social analysis by government agencies. It is important to appreciate the literature that has already attempted to document what is already known in relation to:

- the extent to which government agencies generate and utilize social analysis;
- the role within government agencies of both internally generated evidence and externally derived research evidence;

- the overall range of forms of evidence (from rigorous analysis to stakeholder advocacy and advice) utilized by government agencies in their social policy processes, social program decision-making and review activities;
- the main institutional sources of production for rigorous social research and analysis, including internal reports and 'grey' literature commissioned by government agencies;
- criteria for assessing the effectiveness with which government agencies currently use various forms of rigorous evidence in their decision-making and review processes, and any barriers or impediments to their more effective use of social research;
- variations in these utilization patterns – across different levels of government, across different social policy fields, and over various time periods; and
- best practices or promising practices in effective research use by government agencies or institutions.

Consideration of these matters will help to generate suggestions concerning current good practice, and to identify major priorities for further research concerning the key challenges and issues within the policy/evidence nexus.

Background context

The case has been made many times, and in many countries, for the benefits that could arise from improving both the production and the utilization of rigorous research-based evidence relevant to the social programs of government. This general concern has been widely expressed by the OECD in relation to its member group of advanced democratic countries; by many international organizations promoting education, health and sustainable development; by legislatures and their budget committees in some countries; by commissions of inquiry tasked with extracting lessons from past failures in policy design or program implementation; by academic research centers concerned to advance knowledge; and by think-tanks seeking to advocate preferred solutions for selected causes (OECD 2007, 2010; Papanagnou 2011; Solinis and Baya-Laffite 2011). In the USA, the Office of Management and Budget under President Obama announced annual plans to make 'rigorous, independent program evaluations' a key tool for 'determining whether government programs are achieving their intended outcomes … ….and at the lowest possible cost' (OMB 2010).

The concerns for effective utilization of social research are linked to the increasing pressure across all countries for greater accountability and effectiveness in service delivery, and therefore better design of policies and systems. This stance applies both to domestic policy issues and to more effective design and delivery of overseas aid programs. These objectives are complemented by much broader concerns to improve the perceived legitimacy of policy-making processes, and to improve trust in decision-makers. Evidence-based and open decision-making, relying on the transparent use of sound evidence and genuine consultation processes, is seen as contributing to balanced and legitimate governance arrangements.

While these concerns and responses are system-wide, evidence-based initiatives have been more advanced in specific social policy sectors. These sectors include healthcare 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. Prevention-based orientations to social policy design have been especially fruitful in recent years (Puttick 2012). However, there are many other areas of strategic policy innovation, beyond the 'social policy' focus of this paper, where the science/policy interface is intensively evaluated by government agencies in their quest to facilitate national productivity – e.g., frameworks and incentives to encourage commercial innovation in ITC industries, intelligence capability, medical research for disease mitigation, agricultural innovation for crop resilience, industrial waste reduction and re-use, diversification of energy resources, and so forth (Borrás 2011). The innovation agenda is an arena which combines

technical R&D, national productivity objectives, and experimentation with incentives. In social policy, the levels of available research funding have always been much lower than in the industrial-commercial sectors. However, strategic investment in key sets of social and economic data, including ongoing performance indicators and longitudinal information on key client groups, are now making a substantial difference to the capacity of social science analysts to provide well-informed assessments of trends, issues and interventions.

A brief example: education

To mention one of several focus areas, the OECD (2007) has been conducting a series of explorations concerning factors underlying the use of evidence in educational policy-making. The research program addresses 'what constitutes evidence for research in education, how that evidence can best be utilized, and possible solutions to challenges'. OECD analysts argued there has been enhanced attention to high-quality education research that could be directly relevant to policy-makers. This attention is due to several key factors, including:

- a greater concern with student achievement outcomes;
- a related explosion of available evidence due to a greater emphasis on testing and assessment;
- more explicit and vocal dissatisfaction with education systems, nationally and locally;
- increased access to information via the Internet and other technologies; and
- resulting changes in policy decision-making (OECD 2007).

Testing regimes have usually focused on assessing student performance in standardized skills tests. The challenge is to provide skills profiles that are comparable across the borders of different schooling systems and different socio-economic and cultural circumstances. In performance assessment in school education, the target is measurable standardized skills which can be assessed and compared across different institutional contexts, including across national boundaries. A compelling example is the Program for International Student Assessment (PISA) sponsored by the OECD since 1997, a skills testing regime for students aged 15 years across mathematics, science and reading (OECD 2012). The publication of test scores has not only made available objective and comparable performance indicators, but has also introduced new incentives and challenges for teachers, schools and parents. Thus, the new assessment tools have produced a wealth of data, but there remain a range of potential explanations for the significant variability in scores and what measures could lead to improvement. This debate has focused on several underlying factors that might influence the achievement levels found in particular schools – such as teacher qualifications and skills, the financial resources available to each school, the cognitive and emotional support provided by parents, attention to special needs

and minorities, and the regulatory context of school management. The OECD project on education systems has been exploring the role of governance arrangements in promoting or constraining educational excellence across diverse local contexts. In many OECD countries, the use of detailed centralized controls over professional practices is increasingly seen as impractical and undesirable, as countries shift towards more de-centralized arrangements with more responsibility and discretion for local authorities (Peters 2011; Fazekas and Burns 2012; Hooge et al 2012). This shift in governance, aimed at improving outcomes, has implications for how educational success is framed and measured. In particular, education programs have to be conceptualized and evaluated at a more decentralized level, rather than being judged largely in terms of their success in implementing centralized and uniform mandates. In education, health and social care, the' system' level of analysis needs to be integrated with the local and specific levels of analysis (Best et al 2010, 2012).

The debate on scientific rigour

An important background issue is the extent to which rigorous research and evaluation is seen by government officials as essential for improving programs and systems. The general issue is the quality and reliability of research relevant to specific issues. Within the social science community there is strong support for rigour and quality, but ongoing debate about the wisdom of imposing one preferred research methodology. The most significant debate in recent decades centers on the role of experimental designs in policy evaluation studies and the screening of research quality through rigorous systematic reviews of research studies (Petticrew and Roberts 2005).

In accordance with the recommendations of the Campbell Collaboration (e.g. Petrosino et al, 2001; Mosteller and Boruch 2002; Boruch and Rui 2008), and organizations such as the Coalition for Evidence-based Policy (2012), a strong argument has been developed for placing great weight on randomized controlled trials (RCTs), as the most precise method for testing the efficacy of specific programs or interventions. Greater investment in such evaluations has been urged (e.g. Glennerster 2012). Some units and agencies within government, and legislative committees in some US jurisdictions such as Pennsylvania, have largely adopted this approach to ensuring high standards of evidence, by requiring that certain methodologies be applied in the assessment of the impacts and effectiveness of public programs.

Other social scientists, and many government agencies, have taken a broader view of program evaluation, by suggesting that qualitative forms of evidence, including the professional judgement of practitioners and the experience of program clients (Pawson 2006; Head 2008; Woolcock 2009), are also very important for assessing the feasibility and appropriateness of various options. In practice, governments need to make decisions under conditions of uncertainty, Hence they will tend to use the' best available' evidence, rather than wait for more rigorous findings from RCTs or other experimental designs. The UK gov-

ernment's central agencies have promoted both these sets of arguments, by indicating that scientifically rigorous studies are highly desirable but that all forms of systematically appraised evidence are potentially valuable (UK Treasury 2007; UK Cabinet Office 2008). In many areas of policy-making and program development, there are serious uncertainties about 'what works for whom and under what conditions' (Boaz, Grayson et al, 2008). Government leaders might in principle prefer rigour, but in practice they might be equally satisfied by a combination of evidence-types including expert-consensus processes (e.g. Schorr and Auspos 2003; Innes and Booher 1999; Prato 2007) and various other methods for ascertaining program efficacy and best value. Pawson and colleagues argue that in many cases:

> *Certain propositions seem well supported; others are not yet proven and possibly unknowable. /.../ this is the standard predicament of evidence-based policy. Evidence does not come in finite chunks offering certainty and security to policy decisions. Rather, evidence-based policy is an accumulative process in which the data pursue but never quite capture unfolding policy problems. The whole point is the steady conversion of 'unknowns' to 'knowns'. (Pawson, Wong and Owen 2011)*

Even where there is access to good evidence and expert knowledge, there is no guarantee that the government officials will boldly 'follow the evidence' rather than conform to the cultural assumptions and organizational practices of their agency, and the political signals of executive government leaders. Qualitative observational research by Stevens (2011) on UK criminal justice policy suggests that many public officials tacitly rely on evidence that reinforces existing policy stances or narratives.

Types of policy arenas

The issues and challenges addressed in the sphere of social policy are diverse. Moreover, their underlying assumptions have evolved significantly over time – in terms of how the problems are defined, how political leaders engage with the issues, how systematic research is generated, how funding and resources are mobilized, how agencies develop and administer service models and regulatory standards, and how professional managers and stakeholder groups influence the policy and service systems.

Policy arenas are inherently variable, and the institutional frameworks for managing this range of policy issues will be correspondingly diverse. Governments from time to time seek to impose generic 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 decisions are actually made by agencies on matters of policy design and service systems, variations are to be expected. It is reasonable to expect that agencies at different levels of government would also reflect different patterns of engagement with scientific evidence, different relationships with informed stakeholder perspectives, and different levels of power and authority to deploy large resources.

In relation to the use of systematic evidence in their decision-making, agencies are not obliged to be self-reliant or self-sufficient. For many sources of information, they can draw on assistance from within the public sector, especially their fellow agencies; they can also draw lessons from the experience of other jurisdictions, directly through their networks and forums or indirectly through the increasingly extensive comparative research published by international bodies such as the OECD and the European Commission. A considerable amount of unpublished analysis ('grey' literature) is available through trusted networks but is largely invisible to those outside the relevant agencies. There are also vast reservoirs of non-government research documentation, but government agencies often lack the incentives, time or capacity to access such sources. Increased attention is now being directed toward methods to overcome the wide institutional 'gaps' between the governmental sector and other sectors (including universities, business and community organizations), in order to enhance knowledge-sharing and to translate research findings for policy and practice audiences (Edwards 2001; Nutley, Walter and Davies 2007; Head 2010).

One of the most difficult challenges is how to make better use of sound research within conflictual policy areas, characterized by highly charged value differences – areas where the media and advocacy groups are also likely to be very influential. In complex value-laden areas – such as biotechnology applica-

tions in healthcare (e.g. Mintrom and Bollard 2009), or socio-legal policy responses to juvenile offending or to illegal immigration – rational and reasonable deliberative processes can become side-tracked by heated controversy. To the extent that research findings are widely used as weapons in strongly emotive debates, it may be only a short step to accusations that most research on these matters is biased and lacks objectivity. In such situations, it is likely that partisans will 'cherry-pick' evidence that seems to support their existing positions, 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 domain of political leadership and stakeholder dialogue, rather than the domain of science itself. The findings of social research tend to be contextual, shining light on specific elements of a debate rather than the policy governance framework within which debate is conducted. The production of 'more' research is unlikely to settle the underlying issues in the absence of greater steering of policy objectives and directions by the political leadership.

It has been claimed that evidence-informed processes are more likely to develop in policy areas where a policy approach or paradigm has become relatively 'settled' and where ideological disputation has diminished (Mulgan 2009; Head 2010). This stability and continuity allows for a process of refinement and continuous improvement over a number of years (Moore 2005). However, in some policy areas where the traditional approach is no longer seen to be delivering expected results, there could be support for innovation and policy change. The sources of innovative ideas may well be located beyond the boundaries of the government sector, requiring new ways to work with NGOs and requiring a more pluralist approach to developing new solutions (Mulgan 2006; Osborne and Brown 2013). Disruptions in policy also regularly occur as a result of political change (for example, where a new conservative government has different commitments and goals from its social-democratic predecessor). In this case the role of policy entrepreneurs and evidence-brokers may become more prominent, seeking to promote more cost-effective ways to deliver the new requirements. Calls for evidence-based approaches in the UK after 1997, following the election of the 'New Labour' government, had some of these characteristics. It is sometimes difficult to achieve a balance between the requirements of social research excellence (involving largely retrospective insights from the assessment of recent programs), and the perceived needs for innovation and policy adjustment, driven by external crises and by political factors.

In policy areas more amenable to the findings of objective analysis, such as public health, the quality, accessibility and transparency of the information is generally seen to promote a fair and accepted decision-making process (Niessen et al, 2011). Studies of government agencies and NGOs in the area of public health are very rich in indicating the range of capacities and areas of strength in assessing and implementing evidence-informed systems and practices (e.g. Lavis et al 2003; Lavis et al 2008; Commission on Social Determinants of Health 2008; National Research Council 2009). However, there are also policy

areas where systematic research is hard to find, or where professional experience and intuition is 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 US State agencies, there were many agencies that paid only symbolic lip-service to rigorous use of evidence. Jennings and Hall (2012) have suggested a simple 2 x 2 typology of government agencies, based on two sets of key variables: (a) the degree of conflict concerning the core issues of the agency; and (b) 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 2.

Table 2: Expected use of evidence-based processes in government agencies, by degree of conflict and level of scientific capacity (Source: Jennings & Hall 2012, Table 5, p.261)

		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

The incentives and interests of government officials, and their capacity to undertake evidence-informed decision-making, diverge widely across this range of agencies. The vertical hierarchies of government systems may also play a role in the capacity and interest of agencies at local, state and national levels. For example, in many instances, lower-level officials and leaders may have insufficient resources to undertake systematic policy and service development initiatives without major assistance from higher levels of government. In multi-level governance systems, the central (national) government is generally well placed to invest in large research and information systems, and to provide grants to lower levels of government conditional on performance reporting on agreed service goals and outcomes. Under those arrangements, lower levels of government are encouraged to focus on efficient service delivery rather than policy.

Policy and social analysis work
of government officials

There are many thousands of policy and analysis 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). There has been a large literature on program implementation and program evaluation, but relatively little attention to how evidence is used within public bureaucracies in the policy development work of public employees. Some agencies have dedicated units concerned with policy analysis, research and review. There has been relatively little research exploring the practices, skills and capacities of policy workers – how they undertake their policy design and review roles, how they perceive their tasks, how they use information, what sources they trust, and how they process the feedback from political masters and from stakeholder consultation. Moreover, the 'policy cycle' conception implies that the implementation phase of policy development is very different from other phases such as data analysis, policy design and program review; if so, it follows that these various functions are performed by very different sets of professionals. Perhaps only a very small minority of staff are well positioned to understand and influence the 'big picture', and very few are able to understand the changing information requirements across the whole policy process.

Studies of work practices within *policy* units have suggested that negotiation skills are as much valued as analysis; that generalists often prevail, with only a minority of policy workers having formal skills in relevant analytical methods; and that a diverse range of stakeholder inputs may 'crowd out' the more rigorous analysis provided by analytical staff (e.g. Colebatch 2006; Colebatch, Hoppe and Noordegraaf 2010; Howlett 2009; Page and Jenkins 2005). Other limitations often cited in these studies include a common focus on short-term issues; high levels of job turnover/discontinuity in work on specific issues; and little familiarity with external research literature. The capacity to share knowledge among public agencies, and with NGOs, is often poorly developed (Willem and Buelens 2007).

Many government agencies have made large investments in both data collection and social analysis expertise. One example is the UK Department of Work and Pensions (DWP). Like public agencies in other OECD countries which oversight a national system of social security payments, DWP has invested in sophisticated data management and analysis systems in order to ensure not only that its business processes are efficient and accurate, but that the client groups

are well documented and that the payments are well targeted and cost-effective. Much of this work is undertaken internally, and substantial numbers of economic and social analysts are employed for this purpose. In recent years, a high volume of reports have been commissioned from external experts, including university centres and private consultants, to explore trends and assess the effectiveness of programs. These reports are largely made publicly available through the agency website. Such an agency would be widely regarded as approaching best practice in many of its activities and skill base.

DWP's use of evidence was well regarded in its Capability Review in 2008. This same department commissioned a study in 2008 to assess how well the agency uses, manages and prioritizes externally-commissioned research. The report (Boa et al, 2010) noted a number of very specific areas in which research-based evidence had been influential in the design or revision of programs. It noted that research management was well organized and that relationships between policy staff and researchers were effective. However, the report also noted the inherently difficult trade-off between political pressures for quick answers and the time required for research synthesis or for new research. More attention to medium and long-term issues was recommended (Boa et al, 2010). In a perhaps unique study, Coates undertook a doctoral thesis (Coates 2009, unpublished) examining DWP's analytical processes and capabilities, in a comparison with those in another agency concerned with education. Interviews with staff provided valuable additional insights about how tasks and issues are managed. In such case studies of individual agencies, however, the focus on the internal work of the department may not extend to a detailed examination of how evidence use is filtered and interpreted at the highest levels in the agency and in the office of the Minister.

Several studies have suggested that analysis generated internally by the agencies is much more likely to be recognized and utilized by government officials than externally sourced information, although there are differences in preferred sources between the social, economic, regulatory and technology portfolios (Webber 1984; Lester 1993; Hall and Jennings 2010). The British Academy (2008) reported reasons given by UK policy-makers as to why they avoided or ignored academic external research. These included the perceptions that:

- research itself was not always valued or well communicated within their own organizations;
- internally conducted research or commissioned research from consultants was more likely to be regarded as relevant than academic research;
- external academic research was not seen as sufficiently timely, or as not sufficiently relevant to users' current needs;
- research was much less likely to be used when findings were controversial or when findings upset the status quo (British Academy 2008: 27).

These perceptions by UK policy staff raise a number of implications concerning how research is identified, assessed and utilized; how research findings are fil-

tered for compatibility with established policy assumptions; and how relationships with external sources of expertise are managed. There has not been any extensive documentation of comparative experience in evidence-informed policy processes, despite recent efforts by the OECD to stress the importance of evidence-based approaches and efforts to develop indicators on public governance (OECD 2011). In only a few countries has there been the discernible emergence of a policy analysis 'profession' marked by specific skills and experience (e.g. Meltsner 1976 and Radin 2001, on the USA; however, other countries exhibit rather different patterns, e.g. Dobuzinskis et al, 2007, for Canada, and Gleeson et al, 2011, for Australia). A more widely shared concern across many countries has been the perceived need to develop 'policy capacity' (Painter and Pierre 2005; Lindquist and Tiernan 2011). This term usually connotes a broader range of challenges than simply analytical capacity, and includes the capacity to undertake strategic relationships with other agencies and with external stakeholders. Importantly, 'policy capacity' draws attention to the need for strategic foresight and longer-term considerations, going well beyond the competent management of immediate programs (e.g. OECD 2010: ch 4).

As noted, the policy literature has been focused mainly on individual case-studies (single issues in single countries, e.g. Vifell and Sjögren 2011 on pharmaceuticals policy in Sweden; Boswell 2012 on UK immigration policy), and much of this literature is concerned as much with the impact of non-government actors and stakeholders (e.g. lobbyists) as with the scientific qualities of internal agency processes. There have been a number of calls to undertake more *comparative* studies of how evidence use might vary among agencies across national boundaries and across policy areas. The area of comparative policy analysis is developing rapidly as an academic sub-field, with a journal (*JCPA*) now dedicated to this theme. The journal *Evidence & Policy* since 2005 has carried many case-studies of specific policy and program issues, with particular attention to improving linkages between research, policy and professional-practice communities. A recent symposium (Nutley et al 2010) presented case-studies from six countries, including a discussion of the social-care sector in Sweden (Soydan 2010).

It is apparent that some countries, and specific government agencies, are more advanced than others in championing evidence-based or evidence-informed approaches. While the level of investment in science-related research is one important dimension, funding is not the key explanatory variable. Nutley et al (2010) developed a broad framework linking several knowledge factors with institutional context factors, which would be expected to interact in different ways: 'we 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, p.134). The different professional cultures and institutional histories of the six countries made direct comparisons very difficult, and a unified framework for future comparisons of

evidence-use will require some further work. Explaining these differences in a more systematic way could be one of the challenging themes for a future research agenda.

Relationships, communication and brokering

In accounting for the relationships between producers and consumers of expert knowledge, the traditional 'science-push' model of dissemination and utilization has been discredited. Few would now believe that the attention of decision-makers will be gained simply through the distribution or transmission of scientific reports (Bielak et al, 2008). In the last two decades, there has been a sea-change, in which the emphasis switched to various forms of interactive relations between the research sector and potential end-users in the policy and practice arenas. 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. Lavis et al, 2003; Bowen and Zwi 2005; Lomas 2007; Mitton et al, 2007). One of the key issues was whether linkage and exchange relationships could be left to individual initiatives, or whether new purpose-built networks and communication channels would have 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 need to be institutionalized (Walter et al, 2003; Walter et al, 2005). In a review of studies concerned with 'knowledge transfer and exchange', Mitton and colleagues 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 design, conduct, and interpretation of research) (Mitton et al 2007, p.744)

One of the promising ideas is knowledge-brokering, a concept which 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 et al, 2006; Ward, House and Hamer 2009; Williams 2012). The approaches selected need to be adapted for the scale of the issue, the organizational contexts, and stakeholders (Michaels 2009). The knowledge-brokering concept goes beyond simply 'telling' others about re-

search (e.g. publicity about newly available summaries of scientific findings); knowledge-brokering seeks to add value for end-users of knowledge through various types of dialogue and co-production of insights in new contexts (Landry et al, 2006; Bammer et al, 2010).

In addition to encouraging localized initiatives, the value of building high-level supporting infrastructure and specialized bodies has been recognized (e.g. Kitagaw and Lightowler 2013). For example, in the UK in the 1990s, new organizations and partnership networks were 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. Examples included the National Institute for Health and Clinical Excellence, which focused on guidelines, standards and cost-effectiveness evaluation (Walshe and Davies 2010). A large part of the research about evidence-based decision-making in the public sector has focused on how research may be translated into guidelines and standards for practitioners in service delivery organizations. This is the research/practice nexus, concerned with professional practices and procedures for implementing best-practice services, whether in the health-care or social-care sector (e.g. Dopson and Fitzgerald 2005). A further body of research has canvassed how working across the boundaries of professional groups and organizations is crucial for good program outcomes (e.g. Sullivan and Skelcher 2002).

From the perspective of quality in decision-making, the use of evidence within policy-making and professional-managerial practice has remained patchy (Landry et al, 2001), and is likely to remain quite challenging on several fronts. Institutional studies have established, with reasonable levels of clarity, that there are many problems: on the production or supply-side, issues include research funding, priorities/targets, analytical skills, etc; and on the usage or demand-side, 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. Several research groups internationally have been working to understand more clearly how the traditional views of how knowledge flows (e.g. from science production into science consumption) are seriously flawed (e.g. Meagher, Lyall and Nutley 2008; Davies, Nutley and Walter 2008; Ouimet et al, 2009; Harvey et al, 2010; Cherney and Head 2011). More nuanced studies are beginning to demonstrate how future improvements in research-production and research-use relationships will require a multi-level set of considerations:

(a) producers of research knowledge need to be better skilled at communicating and distilling the implications of their research on relevant topics;
(b) government agency leaders and key policy staff need to be better skilled in setting research priorities and in understanding and accessing research findings;

(c) guidelines, standards and benchmarks need to be established to foster best practice not only in methodologies but also in collaborative practices;

(d) linkage and exchange mechanisms between researchers and policy-makers need to be improved and institutionalized;

(e) the political system needs to support open circulation of ideas/ information and support public investment in rigorous research programs.

Investment in evaluations of program effectiveness

A major form of evidence-based initiatives is evaluation of program effectiveness. This entails assessing the impact of programs in relation to their stated objectives, and where possible to assess the relative cost-effectiveness of specific interventions. Lessons can be learned from implementation and translational research trials conducted in association with service delivery organizations. These trials are intentionally constructed to identify factors that facilitate (or impede) innovative evidence based interventions. Evaluation requires specific skills and has become a professionalized area of work across the government and non-government sectors.

In the USA, the federal agencies have been involved in major waves of performance management reforms and program reviews which have been widely documented (e.g. Ellig et al 2011). Less well known is that most US state legislatures have created specialized offices that conduct research studies and evaluate state government policies and programs. These evaluation studies and performance audits address whether agencies are properly managing public programs, and identify ways to improve programs and control costs (NCSL 2012). For example, 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, an independent body based at the state university, has been requested to supply evidence-based policy reports on juvenile and adult crime and corrections, school education, early childhood education, mental health, substance abuse, child welfare and public health issues. Through this work, the Institute has developed a list of cost-effective 'best-buys' for legislators (Lee et al, 2012). Other research centres have also been active in providing estimates of return on investment (ROI) in crime prevention programs, emphasizing the avoided costs of incarceration and court processes (e.g. Jones et al, 2008; Tilley 2010). The Office of Management and Budget has harnessed program evaluation to the task of achieving best value in public expenditures while reducing public deficits:

> *Rigorous, independent program evaluations can be key resources in determining whether government programs are achieving their intended outcomes as effectively as possible and at the lowest possible cost. Evaluations can help policymakers and agency managers strengthen the design and operation of programs. The President has requested that each*

non-security agency submit a budget request 5 percent below the agen-cy's FY 2012 discretionary total in the FY 2011 Budget. In the context of meeting the President's goal of cutting the deficit in half as a share of the economy by the end of his first term and restoring fiscal sustainability over the medium term, careful evaluation and decision-making based on demonstrated results are even more vital than ever. Ultimately, evalua-tions can help the Administration and Congress determine how to spend taxpayer dollars effectively and efficiently, by investing taxpayers' re-sources in what works. (OMB 2010)

Another important domain where public institutions utilize systematic evidence is the role of regulatory review procedures and the use of 'impact statements'. This is most common in two policy areas: proposed changes in regulatory re-gimes that may impact on business, and proposed development projects that may have environmental impacts. In such cases it is often mandated by law that an analysis must be undertaken to assess likely social-economic-environmental impacts of proposed change. The OECD has taken steps to collect experience of 'best-practice regulation' and has promoted thorough models for regulatory assessment that aims to protect business while achieving social or other objec-tives (OECD 2009).

One of the fields in which rigorous social research has made significant im-pacts is criminology (e.g. Tilley 2010; Clear 2010; France and Homel 2007; Petrosino et al, 2001), especially in relation to understanding the social factors related to criminal behavior and evaluating the relative efficacy of various treatment options for offenders. Researchers linked to the Campbell Collabora-tion (www.campbellcollaboration.org/reviews_crime_justice/index.php) have generated systematic reviews based on high-quality program evaluations and field trials. In the UK, the Home Office in 1999 launched an ambitious crime reduction program based on prevention principles. This program was designed in close consultation with social research experts, and covered a wide set of objectives. A major evaluation drew attention to a range of difficulties in the implementation process, and the outcomes were seen as rather mixed (Nutley and Homel 2006). Nevertheless, the program may be regarded as a flagship in research-based crime prevention and has inspired other initiatives elsewhere. Law and justice issues are often caught up in value-based conflicts about crime and punishment, and the careful findings of social research are often brushed aside by leaders intent on defending their commitment to traditional 'law and order'.

Major departments in the UK engage in considerable commissioning of evaluations. One of the largest and ambitious new social programs was Sure Start, commencing in some disadvantaged localities around 1999 and later modified and expanded. The broad aim was to support young children and their families by integrating early education, childcare, healthcare and family support services in disadvantaged areas. A major longitudinal evaluation study com-menced in 2001, and has released a series of findings on a regular basis. A re-

cent summary (DFE 2012) showed significant positive effects on several outcome indicators for at least some of the target groups, but a uniform improvement was not apparent. One important question arises as to whether the program design and assessment regimes for Sure Start can be reasonably regarded as based on rigorous social research, and therefore whether Sure Start could be regarded as a principal example of evidence-informed policy (Johnson and Williams 2011). Johnson (2012) summarized the key conditions under which rigorous social research was influential in helping to shape and develop the Sure Start initiative:

- The commitment of the newly-elected Labour Government to pursuing 'evidence-based' policy-making.
- The personality, enthusiasm and professionalism of Norman Glass [Treasury] in bringing together leading researchers, thinkers, practitioners and interest groups and encouraging them to share and debate ideas.
- The availability of research findings that were widely recognised as being of extremely high quality, including evaluations of early years initiatives in the US, and birth cohort studies in the case of UK studies of life courses.
- The willingness of academics to engage in debates with policymakers and other key stakeholders, and present complex findings in formats that were accessible and useful to their audiences.
- The appointment of high-quality research teams to undertake the national evaluation and the EPPE research.

More broadly, the perceived relevance and impacts of rigorous academic research has been of increasing interest to research funding councils and governments (Boaz, Fitzpatrick and Shaw 2008). The Economic and Social Research Council in the UK has initiated a number of reports seeking to elucidate the nature and scope of research impacts (e.g. Juhlin, Tang and Molas-Gallart 2012). One example is a review of the impact of UK social science research in the domain of policies to address child poverty, where the role of 'conceptual' impact was found to be significant (Morrin et al 2011). The active role of a major funding body such as the ESRC in encouraging and sponsoring studies of research impact may be regarded as setting a good example that other funding bodies might seek to emulate. Moreover, several years ago some capacity-building initiatives were undertaken; for example, the Evidence for Policy and Practice Information and Coordinating Centre, at the University of London (Oakley et al 2005), was established with a special mandate to undertake systematic reviews in social policy domains, partly sponsored by the ESRC's National Centre for Research Methods. Such support centres not only provide guidance literature on evaluation and review methods, but also provide advice to agencies on how to undertake effective processes for commissioning research (e.g. EPPI 2012). Some government agencies have contributed funds to establish 'rapid review' evidence consultancy services from various providers. While the models vary, the essential feature is that research experts familiar with spe-

cific topics are contracted to provide short evidence-based summaries upon the request of government departments (e.g. Lavis et al 2009; Redman et al 2008; Sax Institute 2013).

It needs to be recalled that research evidence and evaluation studies may have not only a potential direct effect on particular policy proposals, but may also have an indirect longer-term influence on the organizational cultures of decision-makers. The indirect effects are more difficult to measure, but may nevertheless be just as important for the overall quality of policy and program systems (Henry and Mark 2003; Mark and Henry 2004; Mulgan and Puttick 2013). The challenge is to institutionalize better practices at the individual level, the organizational level, and the inter-organizational and system levels.

More immediate steps for consideration

In terms of actions that could be taken rapidly to improve the evidence-into-policy systems in government agencies, several ideas can be suggested as outlined in Table 3 below.

Table 3: immediate initiatives which support evidence-based systems for government policy and service delivery

Initiatives for public agencies:
Consider establishing field trials to test program innovations in conjunction with service organizations
Publish a priority list of research topics after consultation with stakeholders
Consider best-practice processes for commissioning research
Commit to an increased number of evaluation studies
Commit to publishing the results of evaluation studies and performance audits
Ensure that internal-audit and external-audit units are using evidence-informed approaches and that their recommendations to other agencies reinforce best practice
Ensure that the budget process for agencies and for government as a whole requires that budget proposals are underpinned by robust evidence
Establish an 'Evidence-Check' advisory facility, by which policy or program managers can request rapid literature reviews or summaries of evidence-informed policies and practices on specific topics
Establish several web-based Clearinghouses for relevant research, evaluation and best-practice reports on key themes (could be hosted by independent agencies or NGOs)
Develop a long-term strategy for information collection and analysis on significant topics including longitudinal information
Sponsor staff training in data analysis and policy analysis skills
Sponsor regular forums to share and discuss research and evaluation findings and best practice approaches to service delivery
Sponsor joint colloquia with policy, research and practice communities to discuss intractable policy problems
Initiatives for funding bodies:
Commission evaluation reports on the quality and relevance of previously commissioned research projects on key themes
Commission an evaluation report on the direct and indirect impacts/influences of funded projects
Publish and update a priority list of research topics

In summary, there has been a large growth in information relevant to policy-decision-making in recent years, driven by the communications and IT revolution, vocal interest groups and think-tanks, and diverse media channels and outlets. There has also been an increase in well-designed rigorous evaluation studies of government programs, involving a combination of intra-agency analysis, consultancy reports, and academic research studies. Thus, there is more data available, across a larger range of policy issues and across a wider range of countries, than ever before. Much of the research challenge is to connect up the massive amount of research and evaluation outputs and the perceived utilization patterns within public agencies. The key question is why the utilization by government agencies of research findings is apparently so variable and patchy?

Research questions of high priority

This brief review has attempted to highlight known areas of strength in the research base for evidence-based policies and programs, and to highlight matters where there are significant research gaps hindering a solid understanding of evidence-use by government agencies in social policy-making and program development. There are important background differences between the roles and resources for the various levels of government, and differences in administrative cultures and practices between policy areas and across national boundaries.

This review points to several key priorities for further research, taking into account what is already known concerning the key research issues:

(1) What is the capability level of key government agencies in respect of data collection and analysis, policy options analysis, and program evaluation? Which of these aspects being undertaken very well by some agencies could be emulated by others?

(2) What can be learned from leading cases in which major policy reform and associated major program implementation have been significantly shaped by rigorous research?

(3) What lessons can be learned from implementation research and from translational research? How can the results of program innovation trials in service delivery organizations be assessed to identify the factors which facilitate or constrain the success of innovations?

(4) What are the factors explaining significant variations in the usage of expert information by government agencies across a range of social, economic and other policy areas?

(5) What factors might lead to an improvement in the use of research-based evidence by government agencies in each of nominated priority field of social policy?

(6) What support is required by lower levels of government to conduct their core activities in ways that make effective use of relevant information?

(7) In regard to supporting best practice: What innovative and best-practice models are being implemented that could be more widely used? (for example, best practice in relation to conducting evidence-based trials, improving interaction and exchange processes, organizing expert forums and civic engagement, improving research receptivity and capability within public agencies themselves)

(8) What steps can be taken to insulate the research-based information systems from the disruptive effects of occasional changes in political re-

gimes, in order to encourage policy learning from investment in program evaluation and from cumulative research findings?

(9) What lessons from international experience can be adopted and adapted locally in appropriate ways?

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