Evidence-based Policy-Making in South Africa: using the best available evidence to inform the execution and implementation of the NDP

"What can be asserted without evidence, can be dismissed without evidence."
Christopher Hitchens

"I believe in the complexity of the human story and that there's no way you can tell that story in one way and say, This is it. Always there will be someone who can tell it differently depending on where they are standing; the same person telling the story will tell it differently."
Chinua Achebe

By the Africa Centre for Evidence team, with key contributions from Laurenz Langer, Likhwa Ncube, and Ruth Stewart.

Chapter synopsis:

This chapter introduces the theory and practice of evidence-based policy-making (EBPM) in South Africa. It covers the following learning outcomes:

- The what: Definition of EBPM, its history, and what is 'evidence' for policy-making;

- The why: Importance and benefits of EBPM for policy-makers and for delivery of the National Development Plan (NDP);

- The how: Application and use of evidence in the policy-making cycle including practical steps;

- The science of EBPM: What works to increase the use of evidence, including barriers and facilitators to the evidence use;

- The art of EBPM: Institutionalising EBPM into routine decision-making processes.

This chapter informed the Presidency's National Policy Development Framework 2020 approved by Cabinet on 2 December 2020 and accessible here:

https://www.gov.za/sites/default/files/gcis_document/202101/national-policy-development-framework-2020.pdf

Introduction

For South Africa (SA) to achieve its socio-economic objectives and transformation targets as set out in the NDP, a capable and developmental state architecture is required. This state architecture crucially depends on an effective public service that has the ability to plan and implement public policies. In this context, the Department of Planning, Monitoring and Evaluation (DPME) is responsible for the National Framework for Policy Development to guide departments on policy development and processes to support attainment of NDP priorities. A key component of effective policy planning and implementation is the systematic use of the best available evidence to ensure policy-makers understand which policies work, why and how, and for whom. SA has invested in a range of world-class mechanisms and tools to facilitate EBPM in the country; the next step is to ensure these are fully utilised by civil servants during policy design. This chapter therefore aims to support civil servants in translating EBPM into practice and policy action in SA.

1) THE WHAT: DEFINITION OF EBPM, ITS HISTORY, AND WHAT IS 'EVIDENCE' FOR POLICY-MAKING

1.1 Defining EBPM

The SA government is deeply committed to attaining the goals of the NDP and its vision 2030. In its 2018 budget, it has dedicated 2,897.9 billion rand to support social development and transformation in the country over 3 years and employs a dedicated body of public servants to execute this objective [1]. To do their job well, these public servants need to know which policies and programmes are most effective in supporting the NDP's objectives, at what cost, and at what scale. EBPM is a tool to help public servants understanding what works, how and why in the public sector.

EBPM refers to theory and practice of using the best available evidence to inform decision-making during the policy planning and design process. It has been defined in many ways. The DPME's definition states that *"EBPM helps policy makers and providers of services make better decisions, and achieve better outcomes, by drawing upon the best available evidence from research and evaluation and other sources."* [2]. In the research sector Langer and colleagues (2016) and Stewart and colleagues (2017) have put forward a more technical definition outlining that "*EBPM is defined as a process whereby multiple sources of information, including the best available research evidence, are consulted before making a decision to plan, implement, and (where relevant) alter policies, programmes and other services*" [3,4]. Among these, the PSPPD (2011) highlights EBPM's core objective emphasising that it is "a process that assists policy makers to make better decisions and achieve better outcomes" [5]. In general, terminology around EBPM

varies at times with some advocating for the term evidence-informed decision-making (EIDM) to stress the notion that policies will always be informed by multiple inputs, evidence being but one [6]. Increasingly, the term implementation is added to EBPM (i.e. EBPM&I) to ascertain that the process of evidence use does not end with the policy decision [2]. Other common terms often associated with EBPM are: knowledge translation and management, evidence into action, results-based management, research use [6].

1.2 The process of EBPM

In practice, EBPM refers to a particular way or process of designing and planning policy. This process entails a series of sequential steps that are integrated in the routine process of policy design and planning. In a nutshell, EBPM requires policy-makers to: (i) articulate evidence needs for policy, (ii) source and find such evidence, (iii) critically appraise this evidence, (iv) synthesise this evidence, and (v) integrate this evidence into the policy process. In this, a few key features of EBPM stand out. First, the process of using evidence has to be driven by policy-makers' evidence and the organisational and political context in which they work. Second, EBPM is not a once-off process but requires ongoing planning and receptive policy-making structures and processes. EBPM has to be integrated into existing policies processes and is neither a substitute nor a parallel structure to these existing processes. Third, EBPM relies on the consideration of bodies of evidence rather than single studies or reports. This includes the deliberate appraisal and synthesis of such bodies of evidence.

'Basing' policy on evidence or 'using evidence' for policy design and planning is best understood as a spectrum. At all points on this spectrum evidence is considered by policy-makers, even though the outcome might differ. At one end, use of evidence can refer to a policy-maker considering the results of a piece of evidence, but deciding that the evidence is not relevant to her context; for example, if the research focusses on policy options in high-income countries with larger budgets, a policy-maker in South Africa might decide it is not relevant. At the other end of the spectrum, a policy-maker might consider the results of a whole set of research studies and integrate the findings fully into the policy; for example when deciding on the size of social grants or setting the maximum limit on CO2 emission. It is therefore not the outcome of a policy that should be described as evidence-based but rather the extent to which the evidence-base is considered within the process of formulating the policy. For a more detailed and theoretical differentiation of the types of evidence uses see [7,8].

1.3 What constitutes evidence in EBPM?

Evidence should be broadly defined in EBPM and what constitutes the most relevant type of evidence differs per policy. At its broadest, evidence can be understood as the available body of facts or information indicating whether a belief or proposition is true or valid [9]. There are a number of ways to approach a definition of evidence. Sometimes the specific type of evidence is used to differentiate bodies of information, for example scientific evidence, data, legal evidence, anecdotal evidence, etc. Within these, EBPM is largely associated with the use of different forms of scientific evidence. Such scientific evidence is often differentiated by the types of questions it can answer. That is, the given research question determines what type of evidence is most relevant. Different methods are appropriate for answering different types of questions. For an overview of different research methods and their attributes see Appendix 1[1]. However, scientific evidence in the form of published research articles is by no means the only type of rigorous evidence for policy design. Equally important types of evidence include data sets and reports generated by government itself or civil society actors such as NGOs.

A good illustration of the range of policy-relevant evidence is provided by DPME. The Department produces or maintains the following types of evidence, all of which are useful in informing the policy-making process: data from the presidential hotline, citizen-based monitoring and frontline service delivery data, evaluations, monitoring data, SEIAS, expenditure reviews, evidence syntheses, and policy analysis and reviews. An important distinction, however, is between empirical evidence and anecdotal or opinion-based evidence. Empirical evidence refers to evidence that is generated by the collection and analysis of new data (including administrative and other non-research related data sources), whereas anecdotal and opinion-based evidence is associated with types of knowledge that are not based on a structured research process such as expert advice and political ideologies.

For a policy-making body, it is important to recognise the trade-offs between different types of evidence and the specific demands on evidence in a policy context [10]. While the rigour or trustworthiness of the evidence is very important, its relevance to the specific policy context, and its legitimacy in the eyes of the policy stakeholder are equally crucial attributes. Departments, therefore, should define evidence internally with policy teams operationalising these definitions given the policy being worked on. For example, a policy developed on crime reduction where a large body of evidence exists can set a more academically rigorous threshold of what is relevant evidence than can a team that works on an area of policy, say the regulation of cutting-edge

---

[1] And here for an interactive online tool to think through different research methods:
https://library.sacredheart.edu/c.php?g=29803&p=185901

artificial intelligence technologies, where little empirical evidence and data exist[2]. An overarching principle for defining evidence in a policy context refers to the use of all the available evidence, or a 'body of evidence', rather than single studies and selected reports.

1.4 Where does EBPM come from: historical context of EBPM

EBPM is most advanced in the health sector where it has been practiced since the early 80s and institutionalised in the decision-making of most national departments of health and of international organisations such as World Health Organisation [12,13]. However, its origins lie as much in social science, in particular during the golden age of evaluation in the US [14], and most social sectors can draw on sufficient evidence-bases to facilitate EBPM. Scaled examples of evidence-based initiatives outside the health sector refer to: the environmental sector and the use of evidence in the Intergovernmental Panel on Climate Change reports; the Education Endowment Foundation's evidence-based teacher toolkit in the UK used by two-thirds of all secondary schools in the country; and, the rise of the evidence movement in Global Development [15,16]. In addition, EBPM intersects with a range of specialised professions that provide relevant data and evidence for decision-making such as the M&E profession, the Behavioural Science community (e.g. Nudge Units), Implementation Scientists, and the BigData community.

The conception and understanding of EBPM itself has advanced during its history. While EBPM can be viewed as a linear process [13], more recent models of EBPM have become much more complex. These models have recognised the importance of politics in EBPM [17], as well as the process of organisational change [18]. The interactions between different players in the EBPM process and their relationships with each other, for example through evidence networks and evidence communities, have received increasing attention (e.g. [19,20,21,22]). One useful model to think about EBPM is to see it as both an art and a science. The science of using evidence to inform policy-making relies on structured processes, best practices and guidelines for decision-makers (e.g. the SEAIS in SA). These processes can be codified and transferred across contexts and organisations. On the other hand, using evidence to inform policy-making can also be an art. Policy-makers and their organisations navigate highly political processes, rely on relationships and networks, and need to remain agile and adaptive to rapidly changing contexts. Navigating these complex environments is often less linear and structured and more akin to a craft than a science.

---

[2] In some policy areas, explicit hierarchies of evidence have been developed to guide policy-makers in what constitutes the most trustworthy evidence [11].

Recommendations:

> *When considering the types of evidence available to inform a decision, define evidence broadly and include stakeholder evidence and your Department's own evidence, not only research evidence.*

> *Aim to include evidence in the process of decision-making, rather than making a decision and then looking for evidence to back it up. EBPM is about the process of considering and integrating evidence in a decision, not about the final outcome.*

> *Don't be put off if your sector hasn't engaged much with evidence previously. EBPM is equally applicable to all policy sectors. While most advanced in health, all policy-making sectors can benefit from EBPM.*

> *Every professional can engage with evidence; you don't need to be a scientist. EBPM is both and art and a science, and the practical experience that you bring to policy-making is equally valuable.*

2. THE WHY: IMPORTANCE AND BENEFITS OF EBPM FOR POLICY-MAKERS AND FOR DELIVERY OF THE NDP

Public servants and policy-makers are busy professionals constantly navigating a complex web of organisational systems, legal frameworks, media and citizen demands, and the politics of governance and government. Why, then, would we suggest adding another layer of complexity to the already muddled and technical policy formulation process? In short, what do policy-makers have to gain from taking an evidence-based approach?

There are four key benefits of taking an evidence-based approach to policy design and planning outlined below. Each of these is embedded in the reality that policy-makers have to choose between different policy options. In almost each policy context, decision-makers will be faced with the task of weighing up different policy options against one another taking into consideration likely costs and benefits, ease of implementation, budget and resource constraints, political contexts, and media and civil society interests, to name but a few. EBPM has the potential to support policy-makers in this complicated and high-stakes task.

2.1 Unintended consequences: How EBPM avoids doing harm through policy design and implementation

Public policies and programmes directly intervene in people lives and affect the functioning of social systems. In the absence of perfect knowledge of social complexity and processes, designing public

policies and programmes on the basis of "theories unsupported by reliable empirical evidence" is irresponsible as it has the potential to do harm as well as good [12]. There are many examples of well-intended social policies resulting in negative outcomes, for instance the Scared Straight programme to reduce juvenile delinquency which in fact increased crime rates amongst youngers [23]; or, more recently, the Virtual Infant Parenting programme aimed at reducing teenage pregnancy but actually increasing it [24] (Appendix 2). This applies in South Africa too. For example the policy on outcome-based education, while well-intended, led to a negative impact on the education sector in the country [25]. Policy design in this case overlooked the realities on the ground leading to a large disruption and implementation challenge in the education sector. Another South African example refers to policy and programming on reducing violence against women and children. A review of existing evaluations of different policy approaches showed large variety of programme effects [26]. For example, the HIV- and violence-reduction programme Stepping Stone was found to increase rates of women's sexual activity and unwanted pregnancy, while decreasing risks of sexual violence [27].

By using the best available evidence to weigh up the relative advantages and disadvantages of policy options, policy-makers can safeguard as much as possible against policies that have unintended social and economic effects. In short, EBPM reduces the risk of doing unintended harm.

2.2 Reducing waste: How EBPM can make policies more effective and reduces wasteful expenditure

In addition to the issue of unintended consequences, many public policies and programmes fail at achieving their intended outcomes. Examples of these include microfinance schemes and deworming programmes to reduce poverty [28], educational mechanisms such as school uniforms and making learners repeat a year [29], and anti-drug programmes such as the Drug Abuse Resistance Education (DARE) federal initiative in the US [30]. South African public policies are not different from this. For example, a series of evaluations on SA's large human settlements and housing portfolio of programmes shows that while these policy interventions have largely increased access to housing and supported socio-economic security of beneficiaries, they have fallen short of supporting a transformation and restructuring of the housing market and ownership patterns [31]. Another example refers to the evaluation of environmental governance in the mining sector. This policy evaluation showed that the South Africa's Environmental Governance Framework is challenging to apply in practice and thus undermines effective governance by the relevant departments [32].

The impact and social and economic cost of such ineffective policies and programmes cannot be underestimated. In SA, each policy that does not achieve its goals is a missed chance for social development and transformation. By using the existing evidence to assess in advance the likely impact of policies, and by using careful evaluations of already implemented policies, policy-makers can greatly reduce the risk of wasting scarce public funds on ineffective policies and programmes.

2.3 Building trust: How EBPM can make policies more transparent and accountable

Civil society, media, and opposition parties often challenge the chosen policy options. By nature, any public policy creates winners and losers. Even if a policy has the potential to benefit the majority of people, there will often be smaller interest groups that have a lot to gain or lose from a policy and they may therefore protest loudly. Policy-makers and government departments can expect criticism and legal challenges for policy options chosen. By using the best available evidence in the policy design process and being transparent about it, policy-makers can more easily defend their policy choices. For example, the Obama administration set clear standards for the use of evidence in the design of public programmes funded by the federal government. These standards allowed the administration to remove federal funding for programmes and to defend this decision with the help of the reviewed evidence [30]. In a similar way, SA's SEIAS greatly enhances transparency in the policy design process and stakeholders can explicitly trace the considered and chosen policy options [33]. Being able to illustrate that a body of evidence supports a policy choice can play a key role in defending this policy against expected pushback.

2.4 Leave no one behind: How EBPM can make policies more sensitive to social issues of equity and inclusion

The last core benefit of EBPM relates to objectives of social justice and equity. First, and most crucially, marginalised groups in society depend the most on well-functioning social services and effective policies. That is, these groups have the most to lose from *un*-evidence-informed policies that don't achieve their intended results. For example, ineffective education programmes and dysfunctional health services affect the poor most, while more affluent groups can circumvent these policy failures by choosing private sector services. Second, evidence can give a voice to marginalised groups that often don't have direct access to the power structures that influence policy-making (e.g. lobby groups). Including high-quality evidence from all social settings can bring to the surface the concerns and needs of groups in society that rarely have direct access to policy-makers; in addition, the highly consultative process of EBPM facilitates a deliberate surfacing of these stakeholders and their types of evidence. Examples of how evidence can bring to the surface deep-rooted inequalities and give different groups in society a voice and an input into the policy process

include the way in which gender-disaggregated data reveal the pay gaps between men and women, and the way in which race-disaggregated data highlight how different racial groups suffer disproportionally from police violence. In both cases, such data empowered these groups to advocate for more equitable policy changes.

2.5 The risk of not using evidence: exploring the alternative to EBPM

Based on the above, the benefits of using evidence in the policy-making process are evident. The same can be said about the alternative or 'counterfactual' of not using evidence. Disregarding the available evidence altogether leaves policies, and policy-makers, open to criticisms, in particular from groups that have access to the evidence. Moreover, failing to consider evidence enhances the likelihood of policy failure and an associated waste of funds, fuelling the concerns of civil society, the media, and opposition parties; and it greatly increases the risk of causing unintended harm to communities and citizens. In short: not using evidence is wasteful, bad politics, and can cause harm. It leaves you unable to defend your position, and vulnerable to challenge by your colleagues and managers inside and outside your Department.

Box 1: How can evidence synthesis enhance the benefits of EBPM

Within the above benefits of EBPM, the principle of using the full available body of knowledge through a process of evidence synthesis plays a key role:

- Increasing reliability: Evaluations of what works and what doesn't work are more reliable when based on a synthesis of a set of individual evaluations rather than a single study.
- Unintended consequences: Doing harm can be avoided if a body of knowledge is consulted bringing together evidence from different contexts, population groups, and programme approaches, rather than evidence from single studies in limited contexts.
- Building trust: Defensibility and transparency is enhanced if policy-makers can say that they looked at an entire body of knowledge rather than a single study or a commissioned report.
- Leave no one behind: The larger the evidence-base, the smaller the risk of overlooking studies representing particular voices.

2.6 The benefits of EBPM in South Africa

At the most applied level, EBPM in SA can save lives. The introduction of an evidence-based HIV/AIDS policy including the free provision of ARVs has been estimated to prevent a total of 1.72 million deaths in the country between 2000–2014. This added a total of 6.15 million years of life to the South African population [34]. Though EBPM in SA has not only live-altering impacts in the health sector. Likewise, the introduction of an evidence-based early childhood development (ECD)

policy has been found to increase mathematics and language learning outcomes [35]. This ECD policy has been developed following a range of different evidence reviews and impact evaluations and is estimated to have the potential to add as much as up to a quarter of adult average income a year [36]. Another evidence-based success story is South Africa's social grants programme, which has been evaluated rigorously in multiple studies attesting significant positive impacts on poverty reduction (e.g. 21% and 17% reductions in provincial poverty rates in the Eastern Cape and Limpopo respectively) and women's empowerment, among other outcomes [37; 38].

At a more macro level, SA's vision for a transformed country free of poverty is outlined in the NDP. Therefore, achieving the objectives of the NDP links directly with objectives of social development and transformation. The NDP itself aims to fulfil the mandate of "put(ting) forward solid research, sound evidence and clear recommendations for the government" [39: 480]. It is an evidence-based initiative calling for an evidence-based approach to policy development [39: 59]. Integrating EBPM as an operating principle of the public service in SA has the potential to enhance the achievement of the NDP through the design of more effective policy plans and through the monitoring and evaluation of the implementation and outcomes of government policies. DPME as the government department with the function of overseeing policy planning, monitoring and evaluation, is the custodian of a range of mechanisms supporting policy-makers' use of evidence. Examples of such mechanisms include: citizen-based monitoring, the national evaluation system (NES), policy-relevant evidence mapping, and SEIAS. Each of these contribute a different input into SA's approach to EBPM. For example, the NES has evaluated over 5 billion Rands worth of government expenditure by 2015 to ensure existing policies have the intended effect [40]. SEIAS, on the other hand, is a cabinet-approved system to ensure that all new policy proposals are informed by a review of existing evidence to gauge the costs and benefits of different policy options. Taken together, these mechanisms for EBPM play an important role in building a South African developmental state that is capable of driving socio-economic transformation in the country.

Recommendations

> *As a policy-maker who may need to make a case to your colleagues as to why you are taking an evidence-based approach, you could highlight the following points:*
>> *You can identify and separate effective from ineffective policies and better understand why policies work and how.*
>> *You can avoid causing harm through unintended consequences from policy design and implementation.*
>> *You can enhance the transparency and defensibility of your policies.*

> *You can ensure that no one is left behind in policy design and planning.*
> *EBPM is a key tool to support the achievement of the NDP. Mainstreaming an evidence-based approach to policy development is key to a capable and development state in South Africa.*

3. <u>THE HOW: APPLICATION AND USE OF EVIDENCE IN THE POLICY-MAKING CYCLE</u>

EBPM integrates directly with the policy-making cycle (Figure 1). The cycle provides the framework for the application and use of evidence in the policy-making process. It consists of four areas—Diagnosing, Planning, Output/Implementation, and Outcome/Impact—each of which relates to a different aspect of EBPM.

3.1 How to use evidence in the diagnosing stage

At the policy diagnosis stage, societal and governmental problems are scoped and analysed to understand whether there is a need for new policies, and, if so, what the potential new policy options might entail. The policy process is prospective at this stage and evidence plays a key role in both understanding the policy problem and framing policy options. In terms of the SEIAS process, this stage overlaps completely with the initial impact assessment (SEIAS-template 1).

There is a range of evidence that can help us understand the root causes of a problem. Census, monitoring, and other administrative data can provide insights on the extent and prevalence of problems; descriptive surveys can understand general perceptions of issues; stakeholder responses and in-depth qualitative research can unearth more structural and granular causes. For example, on the issue of service delivery protests, administrative data is needed to understand the extent of the protests (their frequency, number of attendees, etc); descriptive surveys of protesters can generate information on the overall patterns in why people protest and the type of people that are more likely to participate in them; while in-depth qualitative work is required to understand individual protester's motivations and demands.

Likewise, different types of evidence can inform the framing of possible policy options. Surveys, stakeholder feedback, and qualitative research are a good starting point for identifying a range of initial options. These potential policy options can then be informed through a review of existing evidence to bring together the available knowledge on each of the policy options. This review needs to include existing evidence from within government (i.e. evidence on whether other departments tried similar policy options and how these have fared), as well as from outside government (i.e.

evidence about whether similar policy interventions have been implemented and assessed elsewhere and with what results).

Policy-makers at the diagnosis stage also need to comply with a range of policy development documentation. Most importantly, these include the drafting of a Green Paper outlining the policy rationale and potential options as well as the conduct of the initial SEIAS impact assessment probing the benefits and costs of different policy options. Both processes require a review of existing evidence in order to justify the policy position expressed and options argued.

3.2 How to use evidence in the planning stage

The policy planning stage comprises the development of a detailed theory of change, the concrete design of the policy, and the operationalisation and budgeting of that policy. A theory of change outlines how the planned policy intends to achieve its desired impact ([41,42] for more in-depth reading). It is important that the theory of change itself is evidence-informed. That is, each component of the theory of change needs to be assessed for its evidence-base. Often existing evidence only provides insights into the overall impact of a programme and not its underlying programme mechanisms. Evidence from theory-based evaluation approaches can help inform which programme components drive impact and are transferable across contexts. For example, if the chosen policy refers to the use of technology in education, the theory of change needs to outline what types of technologies (inputs) lead to what types of outputs (e.g. increased learner attendance), and subsequent educational outcomes (e.g. improved matric rates). Evidence can be sought along-side the entire theory of change to test its underlying assumption and the empirical validity of each component of the theory.

Based on the evidence-informed theory of change, a detailed policy design is then developed. While the overall policy approach and its components have already been informed by evidence, there are additional considerations when formulating the detailed design that are receptive to the use of evidence. These refer to existing evidence on the benefits of specific design principles such as how to mainstream equity objectives in policy. There are, for example, scientifically-proven principles for gender-sensitive policy and programme design [43]. In order to meet equity and inclusion objectives, it is crucial to validate key design choices, such as access to the programme, against the needs and abilities of key populations. This is to ensure that the design does not exclude or disadvantage any groups unintendedly. Having a large evidence-base at hand that includes data on the needs and abilities of these key populations is therefore required.

As in the diagnosis stage, policy-makers again need to comply with a range of policy development documentation in the planning stage. The Green Paper should be developed into a White Paper for submission to Cabinet. At this stage, the final SEIAS impact assessment is needed for submission to Cabinet too. As before, both documents need to be evidence-based, now including the final assessment of the evidence and its breakdown against the more detailed policy design. Detailed plans for operationalisation and budgeting are required too. If adopted by Cabinet, the policy is then legislated into an Act moving the EBPM process to the next stage of implementation.

3.3 How to use evidence in the implementation stage

The policy implementation stage is when the policy turns into action and is applied in practice. The actual instruments and interventions are implemented and the policy starts to change existing social systems, for better or for worse. At this stage, EBPM plays two key roles.

First, there is an existing body of evidence that can inform the effective implementation of policies. The scholarly area of Implementation Science has generated a wealth of insights on how to implement policies efficiently and with impact [44]. This includes evidence-based advice on how to promote programmes to participants or how to encourage behaviour change of key populations in social systems. The body of knowledge on behavioural sciences—often dubbed Nudging— also constitutes part of this science of implementation [45]. In short, implementation science supports the uptake of evidence-based policies and programmes. This policy implementation is a crucial step in the EBPM process and of high relevance in SA. It is often claimed that the country features a range of excellent and evidence-based policies but that these get stuck at the implementation stage [46]. This could be read in two ways representing different perspectives on how to look at the policy development process.

First, one can argue that the design of the policy and the implementation thereof are two different processes. Thus, one can design a high-quality, evidence-based and effective policy, but due to implementation challenges this policy never gets a chance to exert its full potential. This might be the case when crucial inputs, such as text-books or trained child care workers, are missing during implementation. In such a case, the evidence-based policy will remain ineffective without having any impact. However, a second way to approach this issue is to argue that policy design and implementation cannot be considered in isolation. That is, if an evidence-based policy is not implementable, this is an essential design flaw itself and requires a revision of the actual policy. According to Lubisi [25] such was the case in the White Paper on post-school education policy.

Here, a policy was designed without symmetry to the reality on the ground resulting in a policy that couldn't be implemented as it overlooked the very contexts that it aimed to address.

Second, monitoring and evaluation (M&E) plans need to be put in place to ensure that the policy implementation is monitored. Only by monitoring the implementation of a policy from the start can an accurate assessment of the policy be conducted. It is therefore important to build the M&E component into the policy implementation plan. Examples and reflections on how to do this in practice are provided in [47] and [48]. In addition, DPME has detailed guidelines for the design of M&E plans on its website including templates for evaluation frameworks and plans as well as standards for evaluations in government[3].

M&E is a core component of EBPM. Each new policy or programme should contribute to building a body of knowledge on policy impact. This body of knowledge is required to inform future policy planning and diagnosis—the EBPM process is a cycle. Only by generating continuous evidence on policy impact can a sustainable EBPM framework be maintained and transferable insights be identified across policy portfolios. For example, evaluations of health and vocational training policies respectively might identify that certain population groups don't respond well to programmes using voluntary sign-ups. This finding might then be explored in other policy areas.

3.4 How to use evidence from evaluations and effectiveness studies

The last step in the policy cycle refers to assessing policy outcomes and impacts. Here, the policy cycle has run its course: policy-makers are presented with the results of whether their policies worked (or did not work), why and how. The process that initially began with using evidence to identify, plan, and implement the most effective policy or programme has now generated new knowledge itself on policy impact which can be used to inform current or future policies. There are many ways to evaluate the effects of a policy, from process evaluations, to comparative analyses, and impact evaluations. Since 2010, DPME has conducted over 100 evaluations under the National Evaluation System (NES)[4]. These can be accessed from the Department's knowledge repository. The NES itself has inspired other African governments to implement similar systems and provides a vast resource for policy-makers wanting to assess the effects of their policies [40,49].

---

[3] See here for DPME's resources and guidance on the design of M&E for policies:
https://evaluations.dpme.gov.za/pages/guidelines-other-resources
[4] As of January 2019, the Department's evaluation repository counts 139 results which can be accessed at:
https://evaluations.dpme.gov.za/evaluations.aspx

An interesting debate in this context is at what point a programme can be regarded as 'proven' or failed. Are the results of single studies sufficient to determine the success or failure of a programme? Do we need different standards of evidence for large-scale policies such the National Health Insurance policy as opposed to medium and small-scale policies? Does a policy require proof of its impact as well as proof of its cost-effectiveness? How are equity and transformation objectives integrated in thresholds for policy success and failure?

At this stage, there is no overarching framework in EBPM that could provide answers to all these questions. Policy-makers in different departments have developed different guidelines for defining how much evidence is needed to determine what works and this is an area of work that requires further refinement and governance by the Centre of Government. Relevant resources for further study can be found in Appendix 3.

3.5 How to use evidence throughout all the stages in the policy-making cycle

A range of practical recommendations emerge when looking at how evidence is used across the policy cycle. **First, there is a strong need throughout the cycle for a responsive evidence-base that policy-makers can conveniently access**. Across the first three stages in the cycle, but in particular in phase 1 and 2, policy-makers ideally would have access to the policy-relevant body of evidence in their area. Having rapid access to such an evidence-base would greatly facilitate the drafting of policy documents such as SEIAS assessments and Green and White Papers. In South Africa, there are currently a number of attempts to build responsive evidence-bases for policy-makers to draw on. The most advanced of these refers to DPME's policy-relevant evidence maps and the use of these maps to provide rapid responses to policy-makers' requests. By end of 2018, DPME had completed four evidence maps in strategic policy areas linked to the NDP, each of these bringing together the entire body of evidence and organising it according to policy-makers' needs [50,51].

Second, there is a strong need for more strategic knowledge management across the public sector. For most policy areas in SA, departments have crafted and iterated different policies and programmes. However, there is no central or standardised knowledge repository that collects and organises government's know-how on policy development and policy impacts. This is a missed chance for cross-learning, synthesis, and for the strategic filling of knowledge gaps. For example, an analysis of the evidence-base on ecosystem services and poverty alleviation in sub-Saharan Africa shows that most evidence is clustered around phase 1 of the policy cycle, a pattern that overlooks policy-makers' evidence needs for the other three stages (Figure 2). And, while, external

organisations such as the SA-SDG hub and Cochrane South Africa are working to collate large-scale evidence-bases around particular issues for use by policy-makers, these do not replace internal sources of evidence.

Third, departments need to plan for EBPM and create organisational structures and processes that facilitate and manage evidence use. Policy-making in SA flows through a number of set stages including White Paper drafting and SEIAS submission. Departments should develop a strategic research and evidence agenda mapping out their evidence needs in anticipation of the envisaged policy proposal. This would facilitate a process of evidence generation that is relevant and timely to inform the Department's intended policy proposals and their grounding in the best available evidence-base. The national Department for Environmental Affairs, for example, develops 10-year research & evidence strategies in order to encourage the research sector to generate evidence on strategic policy questions for the Department [18, 52]. Last, in addition to these overall policy steps and the integration of EBPM within them, there are a range of sequential technical steps within the EBPM process itself. These are outlined in Box 2 and Appendix 4 lists a number of capacity-building courses available to policy-makers for in-depth training on these steps.

Box 2: The practice of EBPM: how-to box

Step 1: Defining evidence needs and what constitutes relevant evidence
- √ Plan and articulate departmental evidence needs and communicate these to the research sector through a research & evidence strategy.
- √ Develop a departmental definition of what constitutes policy-relevant evidence and take stock of what types of evidence the Department currently has access to.
    - o Tip 1: Use the People-Intervention-Comparator-Outcome (PICO) framework to guide your definition of evidence.
    - o Tip 2: Definitions of evidence should be guided by what evidence is 'fit-for-purpose' given the policy needs and not by rigid hierarchies of evidence.
    - o Tip 3: Ensure that you differentiate between primary research and evidence synthesis in your evidence needs.

Step 2: Finding evidence from different sources
- √ Invest in regular exhaustive searches for the relevant evidence-base in your policy area.
    - o Tip 1: Use departmental libraries and reference software (e.g. EndNote) as a first starting point; build capacity around Information and Data Science.
- √ Searches for evidence need to cover the whole evidence-base and therefore comprise both searches of indexed academic literature (e.g. Web of Science) and of the Grey literature (e.g. departmental Websites, World Bank).
- √ Common sources of evidence refer to: (i) academic sources, such as journals; (ii) repositories of research; (iii) Grey literature (e.g. organisational reports); (iv) government's own research and data; (v) data as evidence; (vi) stakeholder evidence; (vii) knowledge translation sources (e.g. policy briefs); and (viii) popular sources of evidence (e.g. blogs, media).
    - o Tip 2: Have a look at Appendix 5 for a more exhaustive list of search sources.
- √ All searches need to emphasise government's own sources and internal knowledge management system including departmental research units.
    - o Tip 3: Build relationships across research units, knowledge brokers, evidence champions in different departments to create an informal knowledge and information network that can serve as a source of evidence.

Step 3: Critical appraisal of evidence
- √ Not all evidence is of equal quality. A critical appraisal of the evidence for its trustworthiness is therefore important in a policy context.
- √ Methodological rigour is not the only determinant of the quality of a piece of evidence. The relevance of the evidence to the policy context and legitimacy of the evidence in the eyes of policy stakeholders are equally important.
    - o Tip 1: Have a look at Appendix 6 for a selection of different critical appraisal tools for evidence.
- √ Be aware of the dangers of a single study. The combined result of a body of evidence (evidence synthesis) is more reliable and transferable across contexts than the results of single studies.
- √ Be aware of the difference between the quality of a single piece of evidence (which we assess using critical appraisal) and the quality of a body of evidence (which requires assessment of the strength of the evidence-base as a whole).

Step 4: Organisation and synthesis of evidence
- √ Where possible, use policy frameworks such as the NDP or the MTSF to organise and structure the available evidence-base.
- √ Evidence maps are a powerful way to organise a body of knowledge for policy-makers in SA.
- √ The gold standard for a synthesis of evidence is systematic review methodology, which provides a transparent, systematic, and replicable synthesis of the knowledge-base. Other systematic approaches include rapid evidence assessments, rapid reviews, rapid responses, and scoping reviews (See Table 2 for an overview).

- o Tip 1: Make sure that your evidence-base and syntheses includes all types of evidence synthesis covering quantitative and qualitative evidence.
- √ Be aware of traditional literature reviews. These often don't follow a systematic and transparent approach to evidence synthesis and their findings will vary considerably depending on which literature the authors have chosen to include and how much attention they give to certain findings.

Step 5: Integrating evidence into policy decision-making
- √ Invest and maintain a responsive evidence-base that policy-makers can access at their fingertips.
  - o Tip 1: Explore with your IT unit what technology and information science options are available to facilitate a rapid and convenient access to relevant evidence for policy-makers, which is crucial in high-pressured policy contexts.
- √ Plan ahead for which policy documents will be required to be based on evidence (e.g. White Paper submission, SEIAS)
- √ Develop a departmental knowledge management and brokerage system.
  - o Tip 2: You are trying to build relationships and trusted networks that can serve as an effective bridge between evidence and policy. Dedicated knowledge brokers and research units are very helpful in this and ensure to consider the soft skills needed for effective brokering and relationship-building.
- √ Policy-making is a political process and the use of evidence within this should be demand-driven by policy-makers agreeing on the appropriate space to give to evidence.
- √ Aim for an evidence-based policy-making process rather than a narrow focus on the outcome of an evidence-based policy.
- √ A number of mechanisms and strategies to support evidence use have been evaluated extensively and are summarised in the Science of Using Science report [3].
  - o Tip 3: When considering relationships to support evidence use, explore both inter- and intra- relationships between policy-makers and researchers as well as wider evidence networks which are crucial to support EBPM.

Recommendations

> *Develop a broad definition of evidence in the diagnosis stage and be aware that this is often where most research evidence has clustered.*

> *When designing a theory of change for your policy, ensure that all components of the theory are evidence-informed.*

> *When considering the implementation of a policy, draw on existing scientifically-proven design principles, e.g. gender-sensitive design, and ideally maintain a database of these principles.*

> *In order to evaluate the effectiveness of your policy, M&E needs to be integrated in the design and implementation stage of the policy process already.*

> *Develop a departmental research & evidence strategy to ensure you consistently identify and communicate your Department's evidence needs.*

4. THE SCIENCE OF EBPM: WHAT WORKS TO INCREASE THE USE OF EVIDENCE, INCLUDING BARRIERS AND FACILITATORS TO EVIDENCE USE

There are many competing factors in the policy-making arena and in order to be considered at the decision-making table, evidence needs to be advocated for with relevant public service governance structures. This acknowledges that policy-making is an inherently political process and that EBPM needs to embrace these politics. Frameworks for how EBPM can achieve this have been developed, for example Parkhurst's Good Governance of Evidence framework and DEA's five principles for EBPM [10,18].

4.1 Barriers to EBPM

An individual policy-maker advocating for EBPM and attempting to use evidence in her decision-making is up against a range of barriers that might leave her feeling isolated and discouraged. EBPM relies on strong evidence networks and inter- and intra-relationships between policy-makers and researchers [20]. In most cases, only together can policy-makers turn EBPM into action. A helpful tool to identify and structure the key barriers to EBPM in a policy context has been developed by Veyrauch and colleagues [53]. In their Context Matters framework, the authors break down the barriers to using evidence into six groups: barriers related to (1) macro factors (e.g. political climate), (2) lack of relationships, (3) prevailing organisational culture, (4) organisational capacity, (5) the receptivity of management processes, and (6) the availability of resources. The framework is open-access and developed into an interactive tool based on policy-makers' own experiences of using evidence.

In addition, there is also a body of knowledge on barriers for using evidence including a particularly useful systematic review by Oliver and colleagues [54]. Based on 145 scientific studies, the authors conclude that "timely access to good quality and relevant research evidence, collaborations with policy-makers, and relationship- and skills-building with policy-makers are reported to be the most important factors in influencing the use of evidence" [54]. Note that evidence networks and strong relationships are again highlighted as important.

4.2 What works to promote the use of evidence by policy-makers

Despite the challenges in using evidence, research provides some useful guidance in how best to promote the use of evidence by policy-makers in the policy cycle. Policy-makers and knowledge brokers can learn from a range of assessments of specific local EBPM strategies such as UJ-BCURE, VakaYiko, the NES, African rapid response services [18,20,22,40]. This also includes

detailed reviews of portfolios of evidence use programmes (e.g. [55]). Arguably, the most comprehensive of these reviews is the Science of Using Science review, a collaboration between the Alliance for Useful Evidence, UK What Works Centres, the EPPI-Centre, and the Africa Centre for Evidence [3]. The Science of Using Science report evaluates strategies to support policy-makers in using evidence by considering six underlying mechanisms of change. These six mechanisms for evidence use are outlined below and in more detail in Table 1:

- Awareness: Building awareness for, and positive attitudes towards, EBPM.
- Agree: Building mutual understanding and agreement on policy-relevant questions and the kind of evidence needed to answer them.
- Communication & Access: Providing communication of, and access to, evidence.
- Interact: Inter- and intra-interaction between policy-makers and researchers.
- Skills: Supporting policy-makers to develop skills in accessing and making sense of evidence.
- Structure & process: Influencing policy-making structures and processes.

In addition, the Science of Using Science review proposes that we can best understand policy-makers' use of evidence in terms of behaviour change. It considered policy-makers' capability to use evidence, their motivation to use evidence, and their opportunity to use evidence. Strategies to support EBPM often address different parts of this evidence capability, motivation, opportunity nexus in their effort to support policy-makers' use of evidence (Figure 3).

4.3 Insights for policy-makers from the Science of Using Science review

The review identified a large evidence-base about evidence use. Here, we only provide a high-level summary of the evidence together with brief case studies of an example of a successful strategy provided in the appendices.

Awareness of EBPM: For policy-makers within a government department, building awareness about using evidence and why this use can make a difference is an important first step in increasing EBPM. **Promising strategies include the use of social marketing and identity cues to build evidence norms**. An example is the 'Africa loves evidence' initiative by the Africa Evidence Network.

Our featured learning case for the 'Awareness' mechanism is Evidence for Democracy (Appendix 7). Evidence for Democracy is a civil society organisation in Canada that mobiles citizen action for EBPM. Concerned with the Canadian governments' continuous cuts to science policies including the national census, in 2012, thousands of Canadians mobilised for nation-wide 'Death of Evidence' rallies. This momentum build into a wider concern about the diminishing role of evidence in

government decision-making and a vision of transparent evidence-based decision-making for a strong democracy and for the well-being of all Canadians.

Agreement on evidence for policy: Policy-makers and researchers need to define what types of evidence are relevant for answering policy needs and what research questions are priority to answer. There are a range of consensus-building techniques and engagement approaches that show promise in facilitating this process of building agreement. **These include Delphi-panels, and co-production initiatives, as well as departmental journal clubs and reading groups**.

Our featured learning case for the 'Agreement' mechanism is the development of bipartisan evidence standards in the US (Appendix 8). In a partisan policy environment, the 2008 and 2012 Obama administrations attempted to build consensus on what type of teen pregnancy reduction programmes to fund from the federal budget. Given the ideological differences between Republicans and Democrats on how best to address teen pregnancy, the administration set out to use the common denominator between both groups of wanting to only fund effective programmes in order to develop an approach to consensus-building. The administration constituted a bipartisan working group which developed joint standards of evidence to identify which teen pregnancy reduction programmes work and thus should be funded.

Communication of & access to evidence: Without a convenient and seamless access to evidence, policy-makers are unlikely to use evidence. **The research shows that only communication and access tools that support both policy-makers' motivation and opportunity to use evidence were effective**. That is, stand-alone 'push' options of sending out policy briefs or developing evidence repositories were ineffective in supporting EBPM.

Our featured learning case for the 'Communication & Access' mechanism is DPME's policy-relevant evidence maps (Appendix 9). Since 2016, DPME has developed a programme of work around policy-relevant evidence maps and by the end 2018 the Department had produced four maps in strategic policy areas. The evidence maps are hosted by the Departments' own knowledge management and visualisation software and accessible to all staff of the Department. Through the evidence maps, policy-makers can access full evidence-bases organised by NDP and MTSF outcomes, further being able to draw on either 1-page summaries or the full-texts of relevant studies.

Interactions between and within policy-makers and researchers: **The importance of inter- and intra-relationships between policy-makers and researchers in supporting EBPM cannot be overstated**. Evidence networks and strong communities of practice for EBPM are central in supporting a constant flow of exchanges, shared learning, and mutual understanding between

different actors in the evidence ecosystem. Policy-makers dealing with complex decisions on policy options can benefit greatly from formal and informal support networks proving information and relevant evidence where needed. **It is important to be deliberate about building evidence networks**. Relationship-building initiatives should be informed by a detailed theory of change as to how they can support EBPM.

Our featured learning case for the 'Interactions' mechanism is the Africa Evidence Network (AEN) (Appendix 10). The AEN is a large and diverse continent-wide community of people interested in EBPM. The network has over 2000 members from 42 African countries, 30% of these being from government. The AEN provides different opportunities to build relationships and interactions in order to strengthen the African evidence ecosystem. Starting from only 23 members in 2012, the growth of the AEN reflects the wider growth of EBPM in Africa.

Skills for EBPM: In order to engage in EBPM, policy-makers require knowledge of a range of technical steps and corresponding capacities. An overview of these capacities is provided in Figure 4. **The available research indicates that EBPM capacity-building is more effective when combining elements of building capability to use evidence as much as motivation to use evidence**. This points towards capacity-building approaches that are integrated in policy-makers' day-to-day work processes and existing policy development.

Our featured learning case for the 'Skills' Mechanism is the University of Johannesburg Building Capacity to Use Research Evidence (UJ-BCURE) programme (Appendix 11). UJ-BCURE was a 3-year EBPM capacity-building initiative working with policy-makers in South Africa and Malawi. It developed an explicit model for how to combine training workshops with a range of mentoring services for EBPM. This model of EBPM capacity-building subscribes to a problem-based and relationship-centred approach to learning and sharing EBPM capacity which is embedded within policy-makers' day-to-day work processes and routines [4,20].

Structures & Processes to facilitate EBPM: EBPM is as much a political as a technical process. It is therefore crucial to build organisational structures and processes in policy organisations that embed evidence use and provide a dedicated space for evidence in policy planning and design. **There is a clear indication in the available research that such organisational change strategies for EBPM are effective in supporting evidence use**. SA in this regard features some of the most advanced institutional tools for embedding EBPM, such as the SEIAS and the NES.

Our featured learning case for the 'Structure & Process' mechanism is DEA's Principles and Guidelines for EBPM (Appendix 12). Since 2012, DEA has explored the applicability of using an evidence-based approach to fulfil its governmental mandate in relation to chapter 5 of the NDP, the

National Environmental Management Act of 1998, and the National Strategy for Sustainable Development. The Department has developed a 10-year research & evidence strategy outlining its evidence needs to the research and civil society sector in order to ensure a supply of research relevant to meet its above mandate. In order to integrate this policy-relevant evidence, the Department then further developed departmental guideline documents for EBPM to support each staff in the use of evidence.

Recommendations

> *Only together can policy-makers turn EBPM into action. Evidence networks and relationships are key to EBPM and fostering these within government departments and between research and policy professions is an important step in the EBPM process.*
> *Context matters for thinking through barriers to EBPM. Barriers can manifest at different levels from the individual to the organisational, institutional, and macro context; and some of these are outside of the control of policy-makers.*
> *In designing strategies to promote the use of evidence, we can draw on detailed reviews of what works for EBPM.*

5. THE ART OF EBPM: INSTITUTIONALISING EBPM INTO ROUTINE DECISION-MAKING PROCESSES

In section 4, we discussed the insights gained from the formal study of EBPM—the science of using evidence. There is an equally important body of knowledge on EBPM that is not as easily captured in academic studies: the tacit or craft knowledge of policy-makers. This we refer to as the art of using evidence. There a range of international and local practical examples and insights where governments and departments have successfully integrated EBPM into routine policy-making processes.

5.1 International examples of institutionalising of EBPM

It is often claimed that the first mainstream implementation of EBPM at a national government scale was driven by Tony Blair's labour government in the UK, which coined the election slogan of 'what matters is what works' to indicate commitment to bi-partisan policy development and implementation [8]. It is no surprise then that the UK government has taken several steps to institutionalise EBPM. These steps include a system of science advisors, a Nudge Unit in the Cabinet Office, and, most importantly, a network of What Works Centres.

The What Works Centres represent a significant development in the art of using evidence. Since their inception in the UK in 2013, similar institutions have been set up in other countries. Each Centre is set up by government and dedicated to a specific policy area with the objective of generating rigorous policy-relevant knowledge on what works in this policy area. While the Centres are parastatal to ensure some independence from the rest of government, they are explicitly not traditional research centres and feature a strong mandate for knowledge translation and EBPM. A 2018 evaluation of the network of what works centres found them to be an effective national approach to building a more robust and comprehensive evidence base; raising awareness and understanding regarding the need for using evidence; and, influencing local and national policy to consider evidence more effectively [56].

A second high-profile example of institutionalising EBPM took place under the two Obama administrations in the US from 2008-2016. In an effort to foster bipartisan policy-making, Obama implemented six evidence-based policy initiatives in areas of social policies. Taken together, these initiatives governed approximately 4 billion USD in government expenditure [30]. In each policy area, bipartisan agreement was sought on standards of evidence for effective programmes that are eligible for federal funds. Programmes not meeting these standards were no longer funded by the federal government. It is striking that this policy continued in the highly polarised political climate of the first Trump administration culminating in the bipartisan act for EBPM in January 2019 [57].

Within Africa, there a number of high-profile EBPM initiatives. In fact, by many measures, Africa features the most innovative and vibrant body of work on EBPM. For example, a map of African organisations dedicated to EBPM identified 91 organisations. In Uganda, the Centre for Rapid Evidence Synthesis at Makerere University has developed a rapid response service for national policy-makers that has informed over 50 policy questions [22]. An evaluation of this Ugandan service found it to be highly promising in institutionalising the use of evidence synthesis in policy-making and the Centre's directors have since trained more than ten other African governments on this unique approach to support EBPM [58].

In Kenyan and Malawi, the African Institute for Development Policy has worked with parliamentarians to form evidence caucuses in the countries' legislatures. These evidence caucuses then developed detailed guidelines for EBPM adopted by the respective assemblies. This work links to a wider set of initiatives around evidence use by parliaments in Africa [59]. Africa also is home to a community of vibrant evidence networks. In addition to the AEN (see above), Twende Mbele provides a focussed network across certain governments for senior policy-makers working on national evaluation systems. ZEIPNet and GINKs provide national networks for the evidence

communities in their respective countries, Zimbabwe and Ghana; while networks such as the East Africa Social Science Translation Collaborative and the West Africa Capacity-building and Impact Evaluation Program have more regional foci. **In sum, EBPM has seen a large growth globally in the last 15 years with African governments and evidence networks leading much of the innovation in this space over the last 5 years.**

5.2 South African steps towards institutionalising of EPBM

South Africa is no exception within this thriving Global EBPM system. In fact, the country was one of the earliest adopters of EBPM with the formation of DPME in 2009. By 2019, it was the only country that had set up a dedicated Centre of Government department overseeing the function of integrating evidence into the policy-making process. Moreover, EBPM is a strong focus across a range of government departments in the country. To mention but a few related initiatives:

- DPSA has set up a dedicated course for EBPM as part of the National School of Government. This ensures that all public servants gain a basic understanding in and capacity for EBPM, which is positioned as a key skill for the public service sector. An additional EBPM course for senior government officials has been developed by PSPPD and is offered through DPME.
- DST has led innovation and strategy on the science-policy interface in the country. Through a range of programmes such as the SA Research Chairs and Centres of Excellence, the Department is actively supporting the production of policy-relevant evidence. Its 2018 White Paper on Science, Technology, and Innovation further lays out how DST believes that science can inform policy and foster social development in the country.
- The drive for EBPM at the centre of government also has translated in an increasing use of evidence by line departments. For example:
    - DEA has developed detailed guidelines for EBPM in the environmental sector. This includes the development of 10-year research & evidence strategies and an annual Evidence Indaba hosted by the Department [18].
    - DBE too has invested in the systematic generation and use of evidence, most evident in its series of studies and subsequent programme design on early-grade teaching and learning [60].
    - DHS similarly has used existing research and evaluation evidence in the formulation of its revised 2016 White Paper on Housing and Human Settlements.

Taken together, the South African government has created a world-class infrastructure for EBPM with a range of institutional mechanisms to support evidence use that are un-paralleled globally

[61]. This has translated in the design and implementation of a range of evidence-based policies and programmes some of which have since been evaluated and validated for their effectiveness. Examples of such policies and programmes include: the ECD policy, the Social Grants policy, the early-grade reading programme, and the Minimum Wage Bill.

5.3 What we can learn from the craft of conducting EBPM:

Across the local and international practical EBPM initiatives, a number of cross-learnings and principles that constitute the art of doing EBPM can be identified [18,20,21,40,55].

Stakeholder engagement, relationship-building and evidence networks are the central ingredient of effective EBPM. Building responsive evidence-bases and reaching agreement on evidence needs and on what evidence can meet these needs requires ongoing interaction and trusted relationships between all actors in the EBPM sector. Crucially, strong networks and relationships between government officials themselves are needed. Such networks and relationships build trust, facilitate consensus-building, exchange lessons-learned, and share information and opportunity. In all of the above-mentioned high-level initiatives, relationships and evidence networks are central. For example, bipartisan support for EBPM in the US rests in deep relationships and trust across political divides; Uganda's rapid response service started expanding once strong relationships had been built with senior policy-makers; programmes like Twende Mbele deliberately target the power of evidence networks as a mechanism for change.

Capacities for EBPM are as much social as they are technical: they depend on soft skills. Brokering knowledge and supporting policy-makers to use evidence are social processes. While important, technical capacities for EBPM are not sufficient and need to be complemented by a softer set of skills such as building stakeholder relations and managing these, priority setting, and flexibility [58,62].

Departments require explicit structures and processes for ongoing knowledge management and translation. To be sustainable, EBPM needs to be integrated into existing organisational structures and policy-making processes. Ideally, evidence use becomes a routine behaviour, part of the professional norms of the public service. EBPM needs to be seamlessly integrated into existing work flows and policy development requirements. It should not become an additional layer of bureaucratic compliance rules.

For EBPM to manifest as a professional norm in the public sector, EBPM needs to be owned and driven by government. The use of evidence should start with the users themselves, that is

the public servants. The public service should therefore set the agenda and vision for EBPM. The role of the Centre of Government in this agenda and vision setting is essential. This also extends to government's role in shaping policy-relevant research supply (for example through activities such as co-production, research agenda setting, and determining evidence needs).

By developing responsive evidence-bases and detailing standards for evidence, it is possible to facilitate the process of EBPM. To practice EBPM, all public servants need the body of policy-relevant evidence at their fingertips. A lack of access to the relevant evidence becomes a bottleneck in EBPM because searching for and accessing of evidence is a specialised and tedious task unlikely to fit into policy-makers' routine schedules. Investing in the development of departmental evidence repositories meeting the relevant evidence needs for the Department's policy area and organised according to its own policy framework is increasingly seen as a pre-requisite for EBPM. The same can be said about developing explicit evidence standards. Systems such as SEIAS require a threshold for what level of evidence is needed to justify policy decisions. Such systems build demand for evidence and enforce the use of evidence in policy development. With SEIAS in mind, departments need to proactively plan their evidence needs and generate relevant evidence-bases accordingly. Detailed guidance on what standards of evidence are expected for what policy options (e.g. single studies or evidence synthesis; impact evaluations or diagnostic evidence) would further enhance rigour and structure in the routine use of evidence across the public service.

CONCLUSION AND KEY MESSAGES

1. EBPM is as a tool for social change, transformation, and equity. In order to achieve the NDP, SA depends on a capable and developmental state architecture. The systematic use of evidence during policy design is an effective tool to support public servants in their efforts to construct such a capable and developmental state.
2. EBPM is embedded in the existing system of public governance and management; the use of evidence is not a parallel structure.
3. Key to navigating this complex system of governance and management processes are strong relationships and evidence networks. EBPM is a social process with technical inputs.
4. Evidence, or EBPM, never speaks for itself. The use of evidence needs dedicated advocates within the public sector and deliberate structures to support its integration in policy-making processes.
5. Therefore, EBPM by design starts with the policy-maker and her evidence needs. EBPM in the public service requires a demand-led approach.

6. The use of evidence is both an art and a science combining policy-makers' craft knowledge with replicable mechanisms and strategies to support the use of evidence.

7. In this process, it is unlikely that evidence provides the magic bullet to arrive at a policy decision; rather, evidence should be seen as but one input that can help policy-makers inform and weigh multiple policy options to identify the most effective and relevant option among these.

8. It is therefore paramount to have access to large and diverse evidence-bases to inform such policy choices. It also requires systematic evidence synthesis to understand what we know across all the available evidence.

9. Africa features a vast network of governments, research institutions, and civil society bodies dedicated to the use of evidence to support development on the continent. Together, this forms a cutting-edge continental evidence ecosystem.

10. South Africa's civil service and government departments have led the way in many of these innovations and continue to provide regional and global thought-leadership on EBPM.

APPENDICES

All appendices can be found online at:
https://africacentreforevidence.org/resources-for-ebpm-in-sa/

Appendix 1: Overview of research methods (online appendix)
Appendix 2: Examples of unintended consequences from social programmes (online + soft copy)
Appendix 3: Overview of strengths of the evidence assessments (online + soft copy)
Appendix 4: Further EBPM capacity-building opportunities (online + soft copy)
Appendix 5: Overview of sources of evidence (online + soft copy)
Appendix 6: Example of critical appraisal tools (online + soft copy)
Appendix 7: Case study 1—Evidence for Democracy (online + soft copy)
Appendix 8: Case study 2—Bi-partisan Evidence Standards (online + soft copy)
Appendix 9: Case study 3—DPME's Policy-relevant Evidence Maps (online + soft copy)
Appendix 10: Case study 4—The Africa Evidence Network (online + soft copy)
Appendix 11: Case study 5—The UJ-BCURE programme (online + soft copy)
Appendix 12: Case study 6—DEA's Principles and Guidelines for EBPM (online + soft copy)

REFERENCE LIST

[1] National Treasury, 2018. Treasury Review. National Treasury: Pretoria, South Africa.

[2] Department of Planning, Monitoring and Evaluation (DPME), 2014. What is Evidence-Based Policy-Making and Implementation? Overview Paper. DPME: Pretoria, South Africa.

[3] Langer, L., Tripney, J. and Gough, D.A., 2016. *The science of using science: researching the use of Research evidence in decision-making*. UCL Institute of Education, EPPI-Centre.

[4] Stewart, R., Langer, L., Wildeman, R., Erasmus, Y., Maluwa, L.G., Jordaan, S., Lötter, D., Mitchell, J. and Motha, P., 2018. Building capacity for evidence-informed decision making: an example from South Africa. *Evidence & Policy: A Journal of Research, Debate and Practice*, *14*(2), pp.241-258.

[5] Programme to Support Pro-Poor Policy Development in South Africa, 2011. *Evidence-Based Policy-Making (EBPM): enhancing the use of evidence and knowledge in policy making*. DPME: Pretoria, South Africa (Policy Brief 1).

[6] Stewart, R., Dayal, H. and Langer, L., 2017. Terminology and tensions within evidence-informed decision-making in South Africa over a 15-year period. *Research for All*, *1*(2), pp.252-264.

[7] Weiss, C.H., 1977. Research for policy's sake: The enlightenment function of social research. *Policy analysis*, pp.531-545.

[8] Nutley, S.M., Walter, I. and Davies, H.T., 2007. *Using evidence: How research can inform public services*. Bristol: Policy Press.

[9] Oxford Dictionaries. *Define evidence*. Available at: https://en.oxforddictionaries.com/definition/evidence.

[10] Parkhurst, J., 2017. *The politics of evidence: from evidence-based policy to the good governance of evidence*. Abingdon: Routledge.

[11] Murad, M.H., Asi, N., Alsawas, M. and Alahdab, F., 2016. New evidence pyramid. *BMJ Evidence-Based Medicine*, pp.ebmed-2016. https://ebm.bmj.com/content/21/4/125

[12] Chalmers, I., 2005. If evidence-informed policy works in practice, does it matter if it doesn't work in theory?. *Evidence & Policy: A Journal of Research, Debate and Practice*, *1*(2), pp.227-242.

[13] Sackett, D.L., Rosenberg, W.M., Gray, J.M., Haynes, R.B. and Richardson, W.S., 1996. Evidence based medicine: what it is and what it isn't.

[14] Oakley, A., 2000. *Experiments in knowing*. Cambridge: Polity Press.

[15] Savedoff, W.D., Levine, R. and Birdsall, N., 2006. *When will we ever learn?: Improving lives through impact evaluation*. Center for Global Development.

[16] Lipsey, M. and Noonan, E., 2009. *Better evidence for a better world* (No. 2009-2). International Initiative for Impact Evaluation (3ie).

[17] Cairney, P., 2016. *The politics of evidence-based policy making*. Berlin: Springer.

[18] Shaxon, L., Tshengela, M., Bohler-Muller, N., Datta, A., Funke, N., Godfrey, L., Matomela, B., Pienaar, G., Pophiwa, N. and Strydom, W., 2015. Evidence-informed policymaking in practice: an overview from South Africa's Department of Environmental Affairs. DEA: Pretoria, South Africa.

[19] Stewart, R., 2015. A theory of change for capacity building for the use of research evidence by decision makers in southern Africa. *Evidence & Policy: A Journal of Research, Debate and Practice*, *11*(4), pp.547-557.

[20] Stewart, R., Langer, L. and Erasmus, Y., 2018. An integrated model for increasing the use of evidence by decision-makers for improved development. *Development Southern Africa*, pp.1-16.

[21] Dayal, H., 2016. Using Evidence to Reflect on South Africa's 20 Years of Democracy: Insights from Within the Policy Space. Knowledge Sector Initiative: Jakarta, Working Paper 7.

[22] Mijumbi-Deve, R., Rosenbaum, S.E., Oxman, A.D., Lavis, J.N. and Sewankambo, N.K., 2017. Policymaker experiences with rapid response briefs to address health-system and technology questions in Uganda. *Health research policy and systems*, *15*(1), p.37.

[23] Petrosino, A., Boruch, R.F., Soydan, H., Duggan, L. and Sanchez-Meca, J., 2001. Meeting the challenges of evidence-based policy: The Campbell Collaboration. *The ANNALS of the American academy of political and social science*, *578*(1), pp.14-34.

[24] Brinkman, S.A., Johnson, S.E., Codde, J.P., Hart, M.B., Straton, J.A., Mittinty, M.N. and Silburn, S.R., 2016. Efficacy of infant simulator programmes to prevent teenage pregnancy: a school-based cluster randomised controlled trial in Western Australia. *The Lancet*, *388*(10057), pp.2264-2271.

[25] Lusibi, C.R. 2018. *Evidence for policy making and implementation course*. An interview. https://www.youtube.com/watch?v=gf2CRAcXaqE&feature=youtu.be

[26] Vetten, L. 2014. *Evaluation Synthesis—Violence*. Gauteng Planning Commission Office of the Premier Gauteng Provincial Government, Johannesburg, South Africa.

[27] Jewkes. R., Nduna, M., Levin, J., Jama, N., Dunkle, K., Puren, A. and Duvvury, N. 2008. 'Impact of Stepping Stones on incidence of HIV and HSV-2 and sexual behaviour in rural South Africa: cluster randomised controlled trial, *BMJ* 337:a506. DOI: 10.1136/bmj.a506.

[28] Van Rooyen, C., Stewart, R. and De Wet, T., 2012. The impact of microfinance in sub-Saharan Africa: a systematic review of the evidence. *World Development*, *40*(11), pp.2249-2262.

[29] Education Endowment Foundation, 2018. Sutton Trust-Education Endowment Foundation Teaching and Learning Toolkit (London: Education Endowment Foundation): https://educationendowmentfoundation.org.uk/evidence-summaries/teaching-learning-toolkit

[30] Haskins, R. and Margolis, G., 2014. *Show me the evidence: Obama's fight for rigor and results in social policy*. Washington D.C.: Brookings Institution Press.

[31] Marais, L. 2015. *Synthesis evaluation of whether the provision of state subsidised housing addressed asset poverty for households and local municipalities*? DPME/DHS: Pretoria, South Africa.

[32] PSPPD (2015) *Effective environmental governance in the mining sector*. PSPPD Policy Brief Series. Pretoria, South Africa.

[33] Department of Planning, Monitoring and Evaluation, 2016. Socio-Economic Impact Assessment System (SEIAS). Final Impact Assessment Template (Phase 2) ON Competition Amendment Bill, 2017. DPME: Pretoria, South Africa.

[34] Suthar, A.B., Bärnighausen, T. 2017. 'Antiretroviral therapy and population mortality: Leveraging routine national data to advance policy'. *PLoS Med* 14(12): e1002469. https://doi.org/10.1371/journal.pmed.1002469

[35] Boulle, J., Davids, M., Mabogoane, T. Goldman, I. 2015. *Early Childhood Development Evidence-Based Policy Making and Implementation Case Study*. DPME: Pretoria, South Africa.

[36] Richter, L.M. 2016. *Economies grow when early childhood development is a priority*. Available from: https://theconversation.com/economies-grow-when-early-childhood-development-is-a-priority-69660

[37] Satumba, T., Bayat, A. and Mohamed, S. 2017. 'The impact of social grants on poverty reduction in South Africa'. *Journal of Economics*, *8*(1), pp.33-49.

[38] Patel, L., Knijn, T. and Van Wel, F., 2015. 'Child Support Grants in South Africa: A Pathway to Women's Empowerment and Child Well-being?'. *Journal of Social Policy*, *44*(2), pp.377-397.

[39] National Planning Commission, 2011. National Development Plan: Vision for 2030. Office of the Presidency: Pretoria, South Africa.

[40] Goldman, I., Mathe, J.E., Jacob, C., Hercules, A., Amisi, M., Buthelezi, T., Narsee, H., Ntakumba, S. and Sadan, M., 2015. Developing South Africa's national evaluation policy and system: First lessons learned. *African Evaluation Journal*, *3*(1), p.9.

[41] Department of Planning, Monitoring and Evaluation (DPME), 2010. Guides to Outcomes Approach. DPME: Pretoria, South Africa.

[42] Vogel, I., 2012. Review of the use of 'Theory of Change' in international development. Review report. UK Department of International Development (DFID): London, UK.

[43] Bohnet, I., 2016. *What works: Gender equality by design*. Cambridge: Belknap Press of Harvard University Press.

[44] Bauer, M.S., Damschroder, L., Hagedorn, H., Smith, J. and Kilbourne, A.M., 2015. An introduction to implementation science for the non-specialist. *BMC psychology*, *3*(1), p.32.

[45] Halpern, D., 2016. *Inside the nudge unit: How small changes can make a big difference*. London: Random House.

[46] Department of Planning, Monitoring and Evaluation (DPME), 2018. Concept Note on the NDP Five Year Implementation Plan, Draft Document for Consultation. DPME: Pretoria, South Africa.

[47] Davids, M., Samuels, M.-L., September, R., Moeng, T.L., Richter, L., Mabogoane, T.W. *et al.*, 2015. 'The pilot evaluation for the National Evaluation System in South Africa – A diagnostic review of early childhood development', *African Evaluation Journal* 3(1), Art. #141, 7 pages. http://dx.doi.org/10.4102/aej.v3i1.141

[48] Abrahams, M.A., 2015. 'A review of the growth of monitoring and evaluation in South Africa: Monitoring and evaluation as a profession, an industry and a governance tool', *African Evaluation Journal* 3(1), Art. #142, 8 pages. http://dx.doi. org/10.4102/aej.v3i1.142

[49] Twende Mebele, 2018. The National Evaluation Policy landscape in Africa: A comparison. Twende Mbele: Pretoria, South Africa (Policy Brief).

[50] Dayal D., Langer L. (2016) Policy-relevant Evidence Maps: A departmental guidance note. DPME: Pretoria, South Africa.

[51] Dayal, D., 2018. Introducing Evidence Mapping in the SA Public Sector. Keynote presentation at the Using evidence in the public sector: what can rapid response services and evidence maps offer Learning Exchange, 1 August, Protea Hotel, Pretoria South Africa.

[52] Department of Environmental Affairs (DEA), 2016. National Biodiversity Research & Evidence Strategy (2015-2025). DEA: Pretoria, South Africa.

[53] Politics & Ideas. 2016. Context Matter framework: http://cm.politicsandideas.org/homepage

[54] Oliver, K., Innvar, S., Lorenc, T., Woodman, J. and Thomas, J., 2014. A systematic review of barriers to and facilitators of the use of evidence by policymakers. *BMC health services research*, *14*(1), p.2.

[55] Vogel, I. and Punton, M., 2018. Final Evaluation of the Building Capacity to Use Research Evidence (BCURE) Programme: Comparative Report.

[56] Gough, D., Maidment, C. and Sharples, J., 2018. UK what works centres: aims, methods and contexts. *EPPI Centre, Institute of Education, University of College London*.

[57] Social Sciences Space, 2019. 'President Signs Bill on Evidence-Based Policy'. *Social Sciences Space*. Available at: https://www.socialsciencespace.com/2019/01/president-signs-bill-on-evidence-based-policy/.

[58] Mijumbi-Deve, R. and Sewankambo, N.K., 2017. A process evaluation to assess contextual factors associated with the uptake of a rapid response service to support health systems' decision-making in Uganda. *International journal of health policy and management*, *6*(10), p.561.

[59] Oronje, R.N. and Zulu, E.M., 2018. Contribution of a network of parliamentary committees of health to the ecosystem of evidence use in African parliaments. *Evidence & Policy: A Journal of Research, Debate and Practice, 14*(3), pp.523-535.

[60] Department of Basic Education (DBE), 2017. The Early Grade Reading Study (EGRS): Summary Report: Results of Year 2 Impact Evaluation. DBE: Pretoria, South Africa.

[61] Stewart, R., Dayal, H, Langer, L. 2019. The evidence ecosystem in South Africa. Palgrave Communications (*forthcoming*).

[62] Stewart, R. S., 2017. 'What should we do to ensure that research evidence is both useful and used?' *Africa Centre for Evidence Network Series 1* (July). Available at: https://africacentreforevidence.org/2017/07/04/what-should-we-do-to-ensure-that-research-evidence-is-both-useful-and-used/.
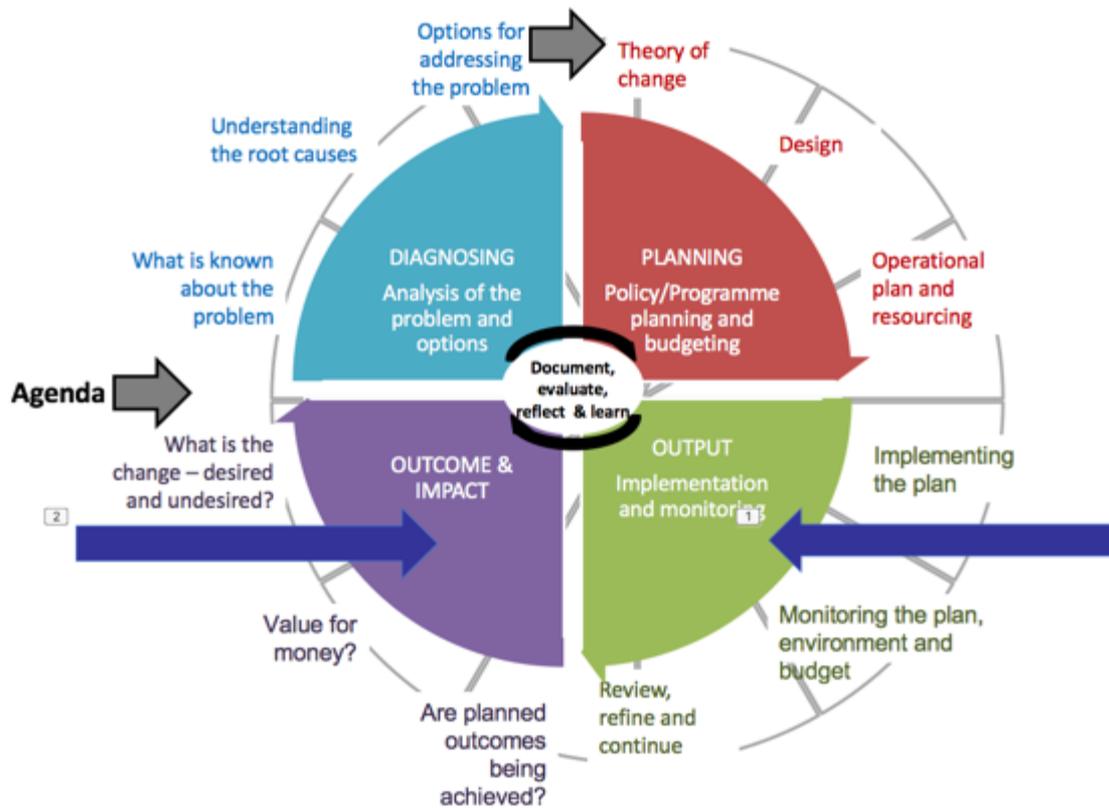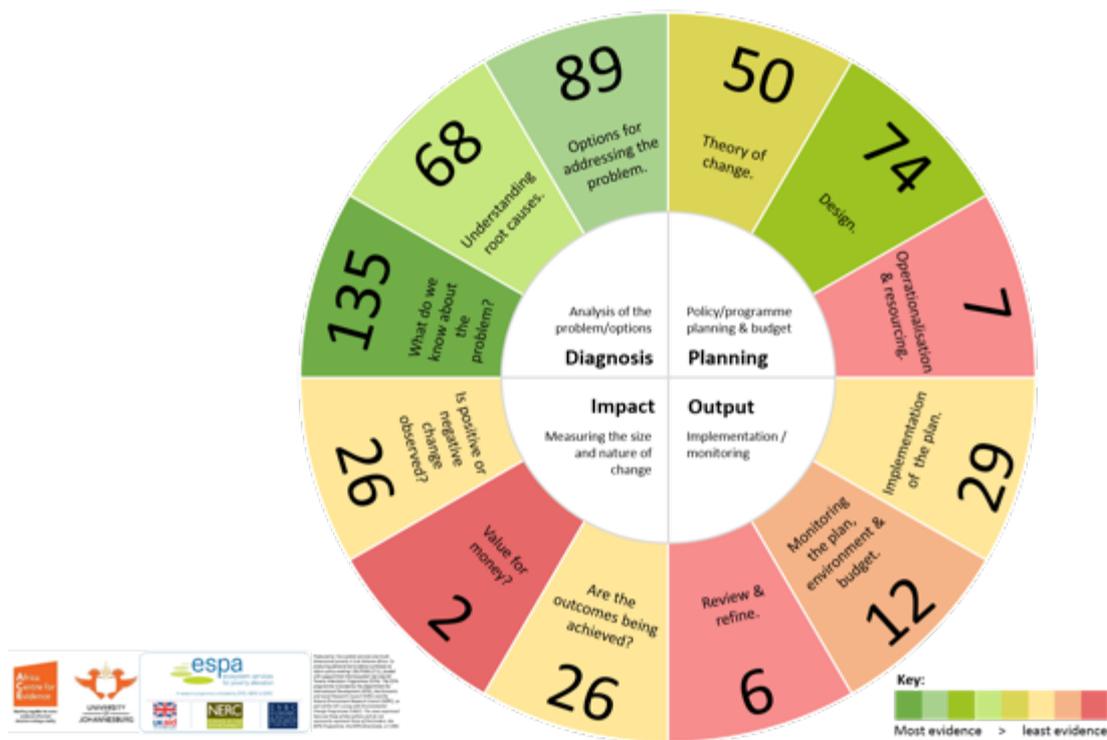
Figure 1: DPME EBPM Circle

Figure 2: Distribution of evidence around the policy cycle

Based on Erasmus and colleagues 'Co-producing policy-relevant evidence' available at: https://africacentreforevidence.org/project-outputs/

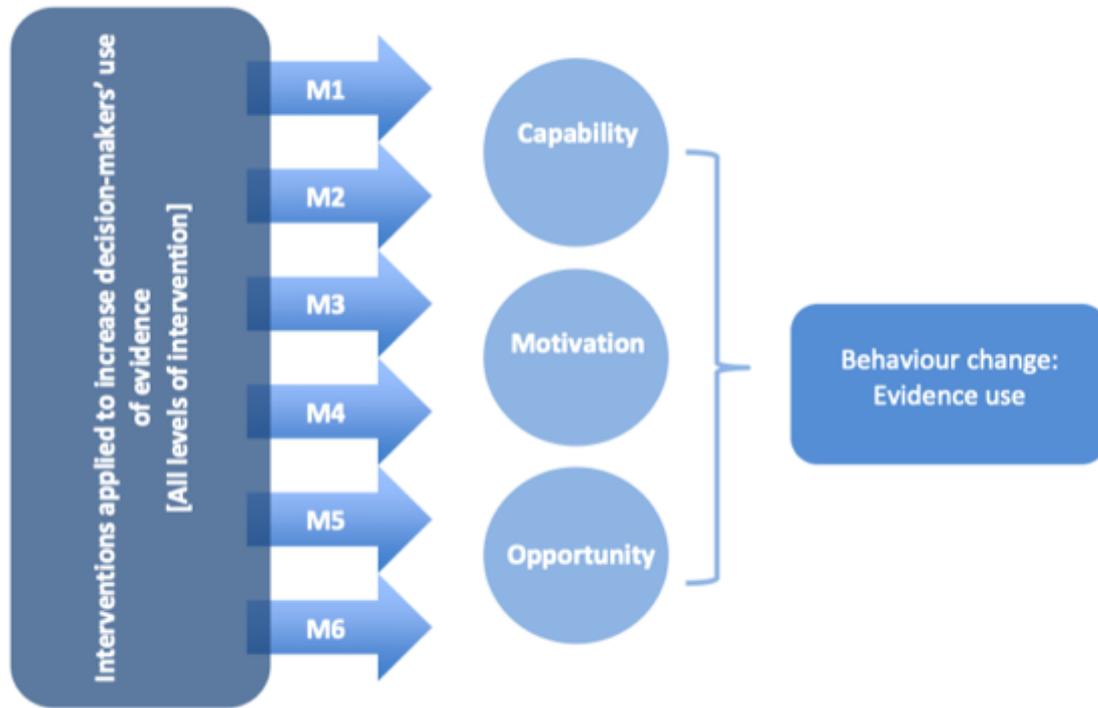**Figure 3: Evidence mechanism-outcome framework**

Figure 4: EIPM Skills Matrix

Available from:
https://ec.europa.eu/jrc/communities/en/community/evidence4policy/news/framework-skills-evidence-informed-policy-making

Table 1: Mechanisms for evidence use overview

Mechanism	Description	Example of linked activity
Awareness (M1)	Building awareness for, and positive attitudes towards, evidence-informed decision-making (EIDM). This mechanism emphasises the importance of decision-makers' valuing the concept of EIDM.	- Social marketing of the norm to use evidence (e.g. Sense About Science) - Awareness raising campaigns (e.g. March for Science)
Agree (M2)	Building mutual understanding and agreement on policy-relevant questions and the kind of evidence needed to answer them. This mechanism emphasises the importance of building mutual understanding and agreement on policy questions and what constitutes fit-for-purpose evidence.	- Co-production approaches - Delphi panels - Inter-professional education - Communities of practice
Communication & Access (M3)	Providing communication of, and access to, evidence. This mechanism emphasises the importance of decision-makers receiving effective communication of evidence and convenient access to evidence.	- Knowledge repositories - Communication campaigns and strategies - Policy briefs - Seminar/webinars
Interact (M4)	Interaction between decision-makers and researchers. This mechanism emphasises the importance of decision-makers interacting with researchers in order to build trusted relationships, collaborate, and gain exposure to a different type of social influence.	- Networks and communities of practice - Networking events and conferences (e.g. science cafés) - Knowledge brokers
Skills (M5)	Supporting decision-makers to develop skills in accessing and making sense of evidence. This mechanism emphasises the importance of decision-makers having the necessary skills to locate, appraise, synthesise evidence, and	- Capacity-building (e.g. workshops and formal training courses) - Mentoring programmes - Adult learning - Online learning

	integrate it with other information and political needs etc.	
Structure & Process (M6)	Influencing decision-making structures and processes.

This mechanism emphasises the importance of decision-makers' psychological, social, and environmental structures and processes (for example, mental models, professional norms, habits, organisational and institutional rules) in providing means and barriers to action. | - Secondments
- Embedded support (e.g. knowledge brokers)
- Rapid Response Services
- Institutionalisation (e.g. NES)
- Evidence checklists
- Clearing houses
- Show me your workings |

Table 2: Overview of key differences between evidence maps and other forms of evidence synthesis

Evidence synthesis steps	Differences between EMs and SRs
Setting the question	EMs deal with broader questions that are more descriptive and less normative
Conceptual scope	EMs organised around mapping framework, usually 2-dimensional, that is less conceptually complex
Inclusion criteria	EMs can include multiple types of evidence within the same map
Searching for evidence	No differences
Screening for inclusion	No differences
Data extraction and coding	EMs only code for high-level characteristics needed to categorise studies and to facilitate filtering function
Critical appraisal	Depends on EM, but where appraisal is conducted, it is less in-depth
Synthesis	EMs do not conduct formal synthesis
Use of the product	Primarily to develop a responsive evidence-base to inform research production or decision-making

| Methodology | Broad thematic/ sector focus | Included evidence | | | Systematic Search | Critical appraisal | Analysis | Visualisation using intervention-outcome framework | Access to user-friendly summaries |
		SRs	IEs	Other					
3ie EGM	Yes	Yes	Can do	No	Yes*	Yes (SRs)	Yes	Yes	Yes
Evidence map	Yes	Yes	Yes	Yes	Yes	No	Yes	No	Yes
Scoping study	Yes	Can do	Can do	Can do	May be limited	No	Yes	No	No
Systematic map	Yes	Can do	Can do	Can do	Yes	Limited	Yes	No	No
Overviews of systematic reviews	Can do	Yes	No	No	Yes	Yes	Yes	No	No
Evidence-Based policing matrix	Yes	No	Yes	No	Yes	Yes	No	No	Yes
Rapid evidence assessment	No	Can do	Yes	Can do	Yes (but may be limited)	Limited	Yes	No	No
Systematic reviews	No	No	Yes	Can do	Yes	Yes	Yes	No	Can do