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How do policy officials allocate their resources to support evidence-informed policymaking? Towards a research agenda

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Authors:

Louise Shaxson, PhD student, Kingston University

Rick Hood, Professor of Social Work, Faculty of Health Science, Social Care and Education, Kingston University, UK

Annette Boaz, Professor of Health and Social Care, Faculty of Social Science and Public Policy, King's College London, UK

Brian Head, Professor, School of Political Science and International Studies, University of Queensland, Australia

Abstract

Background: Studies from a range of countries and from different bodies of public policy scholarship have improved our understanding of evidence-informed policymaking as a complex political process. It is shaped by relations between policy officials and evidence providers, by relations between different groups of policy officials, and by organisational and administrative mechanisms.

Aims and objectives: There has been little analysis of the resource implications of this complexity: how officials in government departments manage their human, financial and other resources to improve how they use evidence to inform policy decisions. Our study investigates this apparent gap in the literature.

Methods: A three-stage 'hourglass' review was used to search for empirical research on how policy officials allocate their resources to support evidence use. Stage 1 mapped contributing literatures, Stage 2 used the PRISMA protocol to search seven databases and Stage 3 reviewed a wider range of studies.

Findings: The Stage 2 review found no studies which used empirical data to analyse how effectively resources are managed to support evidence use in policymaking. However, the Stage 3 review, which relaxed two of the PRISMA criteria, identified sixteen studies that contributed to an iterative, reflexive exploration of the research question.

Discussion and conclusion: The issue of how policy officials allocate their resources to support evidence-informed policymaking appears to have been overlooked, but the Stage 3 review uncovered a set of interlinked issues worth of further study. We propose four themes that could shape a research agenda to deepen our understanding of how evidence-informed policymaking is practised inside government departments.

Keywords: evidence-informed policymaking, resource use, resource management, research agenda

1. Background

The literature on how evidence is used in policymaking has proliferated over the past two decades. Early work on knowledge utilisation in policy processes (Weiss, 1979; Radaelli, 1995) has been strengthened by contributions from a range of countries, sectors and bodies of scholarship (Oliver and Boaz, 2019). Systematic reviews of bodies of scholarship have addressed questions such as: what policymakers consider to be evidence and how cultures of evidence vary between public health and non-health sectors (Lorenc *et al.*, 2014), the different purposes of using evidence in policymaking and the barriers and facilitators to that use (Oliver, Lorenc and Innvær, 2014; Masood, Kothari and Regan, 2020), the skills that facilitate the use of research evidence in policy decision making (Ziam *et al.*, 2021), the political and institutional influences on evidence use in policymaking (Liverani, Hawkins and Parkhurst, 2013; Oliver, Lorenc and Innvær, 2014), how academics can more effectively provide advice to policymakers (Oliver and Cairney, 2019), and whether the activities collectively known as ‘knowledge brokering’ improve the use of evidence in policy (MacKillop, Quarmby and Downe, 2020).

Different fields of research have contributed to our understandings of how evidence and policy are linked and the social relations that underpin policymaking processes. Science and technology studies have shown that different social and political contexts influence how scientific evidence is produced and used (Wilsdon, Wynne and Stilgoe, 2005), how science and technology are appraised (Stirling, 2007; Stirling, Hayes and Delborne, 2018) and the relational processes that shape how science advice and evidence is given to governments (Wynne, 2014; Owens, 2015; Gluckman and Wilsdon, 2016; Hopkins *et al.*, 2021). Research on public administration and policy sciences locate these processes within policymaking institutions (Lorenc *et al.*, 2014; Oliver, Lorenc and Innvær, 2014; Parkhurst, 2017; Cairney, 2018). It has deepened our understanding of policymaking as an inherently political process, one that is brokered by social relations and by organisational and administrative mechanisms (Head, 2016; Moynihan and Soss, 2020). Monaghan and Ingold (2019) observe that there is a complex set of interactions between the nature of each policy issue (which frames what types of evidence might be needed), processes of agenda setting and policy framing (which affect what evidence is permissible) and political institutions (which shape how policy processes operate and policymakers’ roles in using that evidence).

These overlapping issues shape policymakers' preferences for evidence, as expressed in what they prioritise in their decision processes. But to understand how policymakers use evidence it is important for researchers to consider how relationships develop between policymakers, not just between policymakers and researchers or other evidence providers (Howlett and Wellstead, 2011; Newman, 2017; Oliver and Faul, 2018). By recognising how these relationships are produced and reproduced within policymaking institutions we can develop our understanding of policy officials' agency—individually and collectively—as they use evidence to inform political decision making (Head, 2016; Newman, Cherney and Head, 2016). But this requires a subtle shift in emphasis: it means researching the perspectives of different groups of policy officials to understand evidence use *in* policy, as well as focusing on the rigour of the evidence base by examining evidence *for* policy (Capano and Malandrino, 2022).

[Note that inside a government department, different groups of civil servants can play very different roles in the policymaking process. In the UK, for example, the word 'policymakers' is only used to refer to the officials responsible for managing the legislative process of policymaking who liaise directly with political appointees. Their role is very different from the 'evidence specialists' who build the evidence base and advising 'policymakers' how to use it (Shaxson *et al.*, 2024). For the remainder of this working paper we use 'policy officials' or 'civil servants' as the generic term].

2. Aims and objectives

Research done to date offers many pointers for researchers keen to help civil servants understand what shapes their use of evidence and how to improve it. There is no shortage of recommendations about what could be done to improve how policy officials use evidence such as being trained, setting up networks, strengthening brokering institutions, commissioning different types of evidence, changing administrative mechanisms or developing decision support tools. But the reader is often left wondering how those officials could and should allocate their limited resources between the recommended options. Many studies highlight that policy officials are willing in theory to invest in improving their evidence use but are prevented from doing so by resource constraints (for example Masood, Kothari and Regan, 2020). Yet there appears to be little corresponding analysis of how they manage their resources for evidence use, what budgetary leeway they have to make the necessary changes to their working practices and relationships, and what shapes their decisions about how to prioritise resources to support those changes.

'Working successfully with, or in, government requires an understanding of the social, cultural, economic, *resource*, structural and political stresses' (Boyd, 2020: 10, emphasis added). Taking the UK as an example, government departments and other public sector bodies have long been asked to demonstrate that they are using their resources to achieve stated policy goals and are delivering value for money (McMillan *et al.*, 2015; HM Treasury, 2021). British ministerial departments currently produce annual Outcome Delivery Plans (ODPs) which explain how they will use the resources allocated to them to achieve their intended outcomes and how their performance will be assessed against the Government's Public Value Framework. Progress towards

outcomes is regularly reported to the Prime Minister's office, the Cabinet Office and the Treasury to help develop a single view of government performance (HM Treasury, 2019; Clyne and Davies, 2022). As the focus on evidence informed policymaking increased in the late 1990s and early 2000s (Nutley, Walter and Davies, 2007) the British government began to invest in building the infrastructure to support evidence use (Oliver and Boaz, 2019). This included strengthening professional cadres of technical experts within and across departments (HMG, 2021; HM Government, 2021) and developing science advisory systems (Doubleday and Wilsdon, 2012; Gluckman and Wilsdon, 2016).

At a macro level, then, the impetus to use evidence effectively is linked to the impetus to use resources effectively. But where and how do these twin priorities intersect inside government departments to inform policy officials' use of evidence? Research has highlighted effective resource management as one of three normative positions officials need to negotiate as they implement an evidence-informed approach to their policymaking, along with 'fidelity to science' and 'policy legitimacy' (Parkhurst, 2017; Shaxson, 2019). This negotiation process happens in different ways within different parts of each department, often simultaneously. It could include creating staff positions responsible for developing the departmental approach to evidence and advising on evidence use, supporting independent expert advisory bodies, developing departmental priorities for collecting different types of evidence, drafting decision frameworks for allocating resources to evidence-related activities, and forward planning to ensure that critical competencies and skills for evidence use will be available to address future challenges (Shaxson, 2019). These institutional decisions will also be shaped by whole-of-government binding guidance that frames how civil servants conduct themselves (HM Government, 2015) and by specific guidance relating to evidence use (GCSA, 2010; HM Treasury, 2020, 2022b) and analysis (HM Treasury, 2015).

Adding to this complexity, policymaking departments have long been able to delegate parts of their budgets to non-departmental public bodies to provide policy-relevant evidence (HM Treasury, 2022a) and to form relationships with Research Councils to help ensure that academic research is aware of policy priorities. This means that policy officials' ability to source and use evidence will be shaped by their relationships with the 'fluid, plural and polycentric' ecosystem of internal and external evidence actors (Craft and Howlett, 2013: 189) and the different resourcing arrangements they have with each one.

This study's objectives were to understand what empirical research existed on the issue of how officials in government departments managed their resources to support evidence-informed policymaking and, if this represented a gap in the literature, which bodies of scholarship could help fill the gap and what insights they would contribute.

3. Methods

3.1. The 'hourglass' review

We used a systematic approach to understand how the concept of 'effective resource management' had been conceived and implemented in the context of policy officials'

efforts to improve their use of evidence. The previous section highlights the breadth of issues that could be covered by such a review which suggested a three-stage ‘hourglass’ approach (Hanney *et al.*, 2013): first, a broad exercise to map the different literatures; second, a formal, focused review of multiple databases and third, a wider though less systematic review of studies that did not meet the strict inclusion criteria for the first two stages but whose findings could contribute to the analysis.

Stage 1: mapping possible literatures. Experts from different fields were asked to suggest empirical analyses of how policy officials in central government departments allocated resources to improving evidence use—with a view to anchoring the review in key texts. None were aware of any such studies, and their responses suggested that different literatures would need to be included in the stage 2 review to cover the different ways the question could be addressed:

- How evidence is used to inform public sector decision making: literature from the policy sciences, science & technology studies, and public administration.
- How the structures and processes within policymaking departments could shape evidence use: literature on policy design, policy capacity and science & technology studies.
- How public sector budgets are managed: literature from public sector budgeting and public sector R&D management.
- How public sector organisations allocate internal resources: literature from administrative sciences and public administration.
- How systems develop to help evidence inform policy decision making: literature on knowledge management in the public sector.
- Insights into specific instances of how resources are managed to improve evidence use: science & technology studies, and sectoral literatures.

This mapping shaped the pilot stage of the formal review in Stage 2. It ensured that the review question was broad enough to include relevant literatures whilst remaining focused on the core issue, and indicated the range of journals to be covered by supplementary search methods.

Stage 2: the formal, focused database review

The review question was developed using the PICO framework (population, intervention, context, outcome) (Booth, 2006; Methley *et al.*, 2014). It was piloted across two databases and further refined with support from an information specialist at Kingston University. Its final expression was: *how do policy officials in central government departments manage their human and financial resources in the context of efforts to improve evidence-informed policymaking, and how do we understand its effectiveness?* Studies would be included in the full review if they met the following criteria: A) empirical research, B) concerned with officials’ use of human and financial resources in support of evidence-informed policy formulation and C) concerned with understanding the effectiveness of that resource use. The supplementary material contains the full review protocol describing how the PICO framework was constructed, the search string, the databases and the final screening protocol. The emphasis on understanding effectiveness of resource use was intended to help unpack the concept of ‘effective resource management’ outlined in Shaxson (2019).

The review searched seven databases (see Fig 1), limited to research within countries and regions where there had been documented long-term efforts by central government departments to improve evidence-informed policymaking. Although extensive work in low- and middle-income countries has helped improve evidence use in public policymaking, much of this has been resourced by international donors (Orem *et al.*, 2012). Given that the intention was to uncover how policy officials consider the issue of effective resource allocation, donor involvement could introduce a layer of incentives which would skew the findings. This limited the Stage 2 review to initiatives in the UK, Europe, Canada, the USA, Australia and New Zealand, though the Stage 3 review identified relevant analysis from South Africa.

All studies found through the review process were uploaded into Rayyan.ai, a specialist software for collaborative reviews which facilitates deduplication and blind screening and provides an accurate count of the number of studies excluded at each stage of the review. LS, RH and AB individually screened the first 150 abstracts in the review before meeting to discuss the findings and fine-tune the inclusion criteria. LS then screened the remaining abstracts, discussing uncertainties with RH and AB.

Figure 1 shows how the review progressed. 3529 records were found through the database searches; reduced to 3017 after deduplication. Of these, 1107 studies were excluded for 'wrong study design' and 1826 for 'wrong population'. The remaining 84 were not concerned with the effectiveness of resource use and excluded for 'wrong topic'. No studies were found that met all three review criteria. This null result was checked manually: LS screened titles and abstracts of all articles published since 2010 in twenty-four relevant journals identified in the Stage 1 mapping but found no studies that the database search had missed.

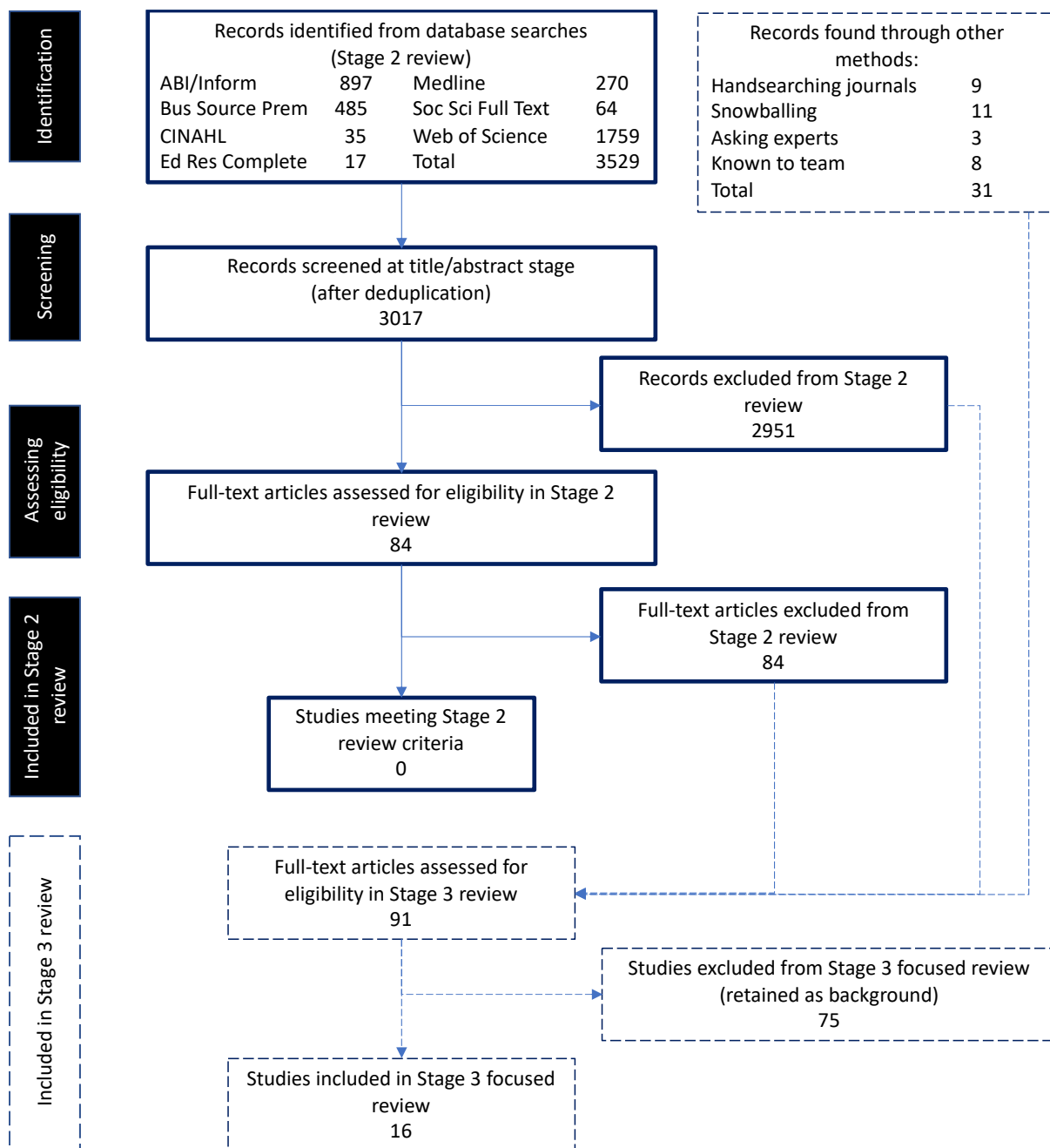


Figure 1: results of Stages 2 and 3 of the literature review

Stage 3: the wider review

The advice from experts in Stage 1 of the hourglass review process had indicated that the review might find only a few empirical studies, but the team had not anticipated a null result. LS, RH and AB discussed the finding, exploring what limitations could have been imposed by the criteria used in Stage 2 review and what this meant for Stage 3. We agreed that relaxing criteria A (empirical research) and C (effectiveness of resource use) would give a slightly modified research question that could still reveal valuable insights: *how can we understand the ways policy officials manage the (human and financial) resources available to them in support of evidence informed policymaking?*

LS subsequently rescreened all 3017 studies and 31 manually-identified records against this revised question.

Ninety-one studies were taken through to full text review in Stage 3. With advice from RH and AB, LS selected sixteen for inclusion in the final analysis: five ethnographic analyses of policymaking processes including one PhD thesis, two practitioner reflections on their experiences of using evidence in policymaking, six empirical analyses of either evidence use or resource management in policymaking (but not of effectiveness), and three theoretical analyses of aspects of policymaking and resource management (but not specifically of evidence). Their quality was appraised using eight questions (Walsh and Downe, 2006):

1. Scope and purpose: is there a clear statement of the rationale for the work, the research aims and questions? Is the study thoroughly contextualised by existing literature?
2. Design: is the design apparent and consistent with research intent? Is the data collection strategy apparent and appropriate?
3. Sampling strategy: is the sampling and sampling method appropriate?
4. Analysis: is the analytical method appropriate?
5. Interpretation: is there a clear audit trail of the interpretation, and is the wider context described and considered? Is data used to support the interpretation?
6. Researcher reflexivity: is reflexivity demonstrated?
7. Ethical dimensions: is there sensitivity to ethical concerns?
8. Relevance and transferability: are the findings relevant and any limits to transferability evident?

All sixteen studies fully or partially met all relevant criteria so could be included in the focused review. The remaining 75 studies contributed background information.

Study details	Found in	Type of publication	Type of study	Walsh & Downe criteria								
				1	2	3	4	5	6	7	8	
Eppel, S., Sharp, V., & Davies, L. (2013). A review of Defra's approach to building an evidence base for influencing sustainable behaviour.	Database search	Journal article	Practitioner reflection		■	■					■	
Kroll, A., & Moynihan, D. P. (2018). The Design and Practice of Integrating Evidence: Connecting Performance Management with Program Evaluation.	Journal handsearching	Journal article	Empirical - ethnographic							▨		
Kruyen, P. M., & Van Genugten, M. (2020). Opening up the black box of civil servants' competencies.	Journal handsearching	Journal article	Empirical							▨		
Marvulli, L. (2017). Towards Sustainable Consumption in public policy development and implementation	Citation snowballing	PhD thesis	Empirical - ethnographic									
Maybin, J. (2016). Producing health policy : knowledge and knowing in government policy work	Known to team	Monograph	Empirical - ethnographic									
Monaghan, M., & Ingold, J. (2019). Policy practitioners' accounts of evidence-based policy making: The case of universal credit.	Citation snowballing	Journal article	Empirical - ethnographic									
Mukherjee, I., Coban, M. K., & Bali, A. S. (2021). Policy capacities and effective policy design: a review.	Database search	Journal article	Theoretical		■	■		■	■			
Newman, J., Cherney, A., & Head, B. W. (2017). Policy capacity and evidence-based policy in the public service.	Database search	Journal article	Empirical - ethnographic							▨		
Oliver, K., & Fraser, A. (2021). Evidence-based Policy and Public Value Management: Mutually Supporting Paradigms?	Expert advice	Book chapter	Theoretical		■	■		■	■			
Parker, M. (2016). The Rothschild report (1971) and the purpose of government-funded R&D—a personal account.	Known to team	Journal article	Practitioner reflection		■	■					■	
Rickinson, M., Walsh, L., de Bruin, K., & Hall, M. (2018). Understanding evidence use within education policy: a policy narrative perspective	Database search	Journal article	Empirical									

Seixas, B. v, Regier, D. A., Bryan, S., & Mitton, C. (2021). Describing practices of priority setting and resource allocation in publicly funded health care systems of high-income countries.	Citation snowballing	Journal article	Empirical									
Shaxson, L. (2019). Uncovering the practices of evidence-informed policy-making.	Known to team	Journal article	Empirical									
Smith, N., Mitton, C., Davidson, A., & Williams, I. (2014). A politics of priority setting: Ideas, interests and institutions in healthcare resource allocation:	Journal handsearching	Journal article	Empirical									
Stevens, A. (2011). Telling policy stories: An ethnographic study of the use of evidence in policy-making in the UK.	Citation snowballing	Journal article	Empirical - ethnographic									
Wilkinson, K. (2011). Organised Chaos: An Interpretive Approach to Evidence-Based Policy Making in Defra.	Database search	Journal article	Empirical - ethnographic									

Table 1: Quality appraisal of the sixteen core studies. Clear: fully met the criterion. Horizontal lines: partially met the criterion. Grey: criterion not relevant because of the study design.

3.2. Analytical approach

The sixteen studies covered different types of evidence, topics and research approaches. This called for a critical interpretive approach to analysing the findings (Dixon-Woods *et al.*, 2006). The analysis began by setting aside the research question in favour of a continuous and reflexive reading of the sixteen to develop tentative, contingent analytical themes that became firmer and more tightly specified as the analysis progressed and as insights from the remaining 75 studies were incorporated. Four interconnected issues emerged and are set out in the next section.

4. Findings and analysis

4.1. Evidence-informed policymaking is a continuous process of knowing

The first issue to emerge was the need to ground our analysis of policy officials' resource use in their daily experience of working with evidence and managing their resources. From the core set of studies, six used ethnographic techniques or interviews with civil servants to understand how they used evidence (Stevens, 2011; Wilkinson, 2011; Maybin, 2016; Marvulli, 2017; Rickinson *et al.*, 2018; Monaghan and Ingold, 2019). One policy practitioner and their academic colleagues reflected on developing an evidence base for a specific policy area (Eppel, Sharp and Davies, 2013). All seven studies highlighted that evidence-informed policymaking is not about using evidence to support a discrete, bounded decision: it comprises multiple, overlapping decision processes that involve different types of evidence for different purposes in a continuous process of knowing (Maybin, 2016). These could include defining a problem to making a case for policy change, clarifying trends, challenging policy proposals, getting buy-in from priority audiences, designing interventions, advocating for budgets and allocating programme budgets (Stevens, 2011; Rickinson *et al.*, 2018; see also Parkhurst *et al.*, 2021). It could involve decisions on whether to expend resources on commissioning literature reviews, running pilot projects to test different approaches to policy implementation and setting up and resourcing academic research groups (Eppel, Sharp and Davies, 2013). Stevens (2011) counted fifteen different types of evidence used to develop policy around universal credit in the UK.

The core set of studies showed that within a policy team the process of knowing is one of aligning and realigning policy narratives with the available evidence (Maybin, 2016). This involves dealing with politically urgent policymaking whilst developing a longer-term understanding of what a particular piece of evidence means for the wider strategic issue, how different groups' interests are affected and the broader risks to achieving policy goals (Eppel, Sharp and Davies, 2013; Marvulli, 2017). It includes understanding what room for manoeuvre is possible within the current political zeitgeist finding coherence with other policy priorities and exploring which policy instruments are most aligned with regulatory frameworks and current political preferences (Rickinson *et al.*, 2018; Monaghan and Ingold, 2019).

To achieve this alignment, different tasks are distributed to different groups of people at different times (Wilkinson, 2011). This gives rise to a process of informing policy with evidence which is "collaborative, culturally embedded, task oriented and realised in

action” (Maybin, 2016: 36). Although it might seem like mess and chaos from the outside, from the inside policymaking is a set of deliberate choices made according to well-defined processes (Marvulli, 2017). There is clear guidance on which steps need to be taken during the process of policy development to ensure the legitimacy of the policy process (Parkhurst 2017; see also HM Treasury 2015; HM Treasury 2020; HM Treasury 2022b). Thus, although policy focus can change quickly in response to external events, the formal process of crafting most policies proceeds incrementally and in sequence. An important part of the work is understanding who could provide the evidence and putting in place contractual arrangements to deliver it (Marvulli, 2017).

Thus while evidence-informed policymaking as a continuous process of knowing, this happens within a structured framework: the mandatory and sequential steps of the policy formulation process. It raises the question of how resources are allocated and managed such that they can support a wide range of evidence needs and contractual obligations, respond to changing policy focus, yet follow the mandatory sequential steps of the policy process.

4.2. Resourcing capabilities and capacities for evidence-informed policymaking is also a continuous process

Adopting the vocabulary used by Marvulli’s policy officials (Marvulli, 2017), this section refers to the skills and competencies officials need to do their work as ‘capabilities’ and their individual and collective ability to take on different amounts of that work as ‘capacities’.

Although research has studied the capabilities individual civil servants need to strengthen their use of evidence (Ziam *et al.*, 2021), we did not find any empirical studies of how managers allocate resources to different capabilities and capacities for evidence work, or of what frames that allocation process. The literature on human resource management in the public sector is scattered, mainly focused on the competencies of top civil servants rather than on broader questions of how to resource and manage capabilities and capacities in policy teams (Kruyen and Van Genugten, 2020). This is a gap in our understanding because policy officials need to have continuous access to a suite of analytical, operational and political capabilities at individual, organisational and system levels and to be able to flex overall capacities depending on need (Mukherjee, Coban and Bali, 2021). This flexibility needs to be embedded in ongoing decisions about resource allocation. From the core set of studies, Eppel *et al.* (2013) noted how policy teams may build relationships with specialist researchers or research groups; while the background articles noted that they can create thematic evidence advisory groups covering broad sets of issues (Gluckman and Wilsdon, 2016), develop other types of collaboration to help manage their evidence base (Weiss, 1979; Radaelli, 1995) or support intermediary activities such as knowledge translation and brokering (MacKillop, Quarmby and Downe, 2020; Oliver *et al.*, 2022). The background studies also showed that on a larger scale, long-term investments in evidence clearinghouses such as the Results First initiative in the USA (VanLandingham, 2020), the What Works centres in the UK (Bristow, Carter and Martin, 2015), or the National Evaluation System in South Africa (Phillips *et al.*, 2014)

build capability and capacity for different types of evidence, supporting a range of policy issues and policy teams.

Our core group of studies showed that once budgets are allocated to departments, senior officials bargain for the resources they need using ‘distinctive, meticulous and at times creative ways of allocating, cutting and disposing budgets’ (Marvulli, 2017: 9). Individual officials take part in continuous processes of deciding what balance of capabilities should be on their policy team, who else is interested in the issue and could be encouraged to contribute resources, how much could be done in-house and how much should be commissioned externally, what types of project could feasibly be commissioned from whom, how to manage requests for additional project activities that come in mid-year, where to disburse underspends, and other typical project budget management activities (Marvulli 2017; Rickinson et al. 2018). Decisions at the level of an individual policy team will influence and be influenced by decisions taken higher up the organisation. Their decisions will depend on how budgets are delegated, the nature of any long-term institutional relationships to provide evidence, different styles of policymaking and other issues that affect the organisational processes of business planning, management and reporting (Mukherjee, Coban and Bali, 2021; Seixas *et al.*, 2021).

If the process of knowing is a continuous one, it follows that the process of resourcing that knowing must also be continuous. It must also be anticipatory: as well as drawing on existing capabilities and capacities to make current policy, senior managers will be looking at the outcomes they have committed to deliver and anticipating their future needs for evidence, the internal and external capabilities and capacities that could provide it, and the likely size of their budgetary envelopes. They will be doing this against a constantly changing backdrop of the political zeitgeist, policy priorities, and the types and levels of expertise available externally. To make decisions on how to use their budgets effectively they will need to navigate a particular set of issues, as outlined in the next section.

4.3. Allocating resources to evidence means continually arbitrating between four types of claim on the evidence base

The third issue to emerge from the review is that in deciding how to allocate their resources to evidence and its associated capabilities and capacities, policy officials need to negotiate different types of claims on the evidence base. These are claims made by different groups inside and outside policymaking departments about what types of evidence are needed, why they are needed, when they are needed, how much of each type is required, how they should be analysed and what value each type of evidence brings to the policy process. Four broad types of claims were identified from the core studies: issue-related, procedural, epistemic and institutional.

Issue-related claims arise from how different groups view each policy issue and therefore what types and amounts of evidence they believe needs to be prioritised for policymaking. These were the most obvious claims found in the review but they are not explored here because the literatures on specific policy issues rehearse in detail how issue claims are negotiated and to what effect (see, for example, Monaghan, 2011 on

UK drug policymaking and Owens, 2015 on science advice and policymaking around environmental pollution). However, the remaining three claims appear to have been less well examined.

One of our core studies noted that inside the policymaking process, officials need to negotiate a second set of *procedural* claims on the evidence base. Working inside a British central government department, Marvulli (2017) observed that policymakers' ability to progress a policy proposal rested on it passing a series of 'tests'; clearances from internal groups which are integral to a proper policy process. First, the departmental legal team advises on the need for different types of legislation and potential Parliamentary involvement in scrutinising the proposal. Next, the economist cadre uses formal appraisal processes and tightly specified types of evidence to consider which mix of economic instruments could be used under Treasury rules and what benefits and costs could accrue to different groups. After that, groups with interests in the proposed interventions need to be consulted, Parliamentary scrutiny may be needed, and the policy teams consider how to handle potential criticism from the general public and the press. The technical aspects of each issue and its specific requirements for evidence mainly enter the policy process once these different tests have been passed (Marvulli, 2017). Although the details of how policies are made will vary between jurisdictions, within each policymaking department there will be a core set of procedural rules which generate and sequence different claims on what evidence is needed, for what purpose, at what stage of the policy process (see also Maybin, 2016 from our core group).

The third set of claims to be identified in our core studies are *epistemic*. These relate to what types of evidence are prioritised and put forward for decision making by expert groups. Different professional communities have different epistemic logics which influence their preferred types of evidence (Kroll and Moynihan, 2018). For example, officials seeking to understand the effects of a particular policy or programme will need evidence of the changes it has brought about. This could come from: performance management information which tends to be gathered inside government, evidence from evaluations that are commissioned from external social science researchers, or evidence from direct citizen engagement activities. The three types of evidence have different 'tribes... with different languages and techniques' (Kroll & Moynihan, 2018: 185) which will need to be negotiated throughout the policy formulation process. Our background studies showed that different approaches to best practice will rely on different types of evidence (Cairney, Oliver and Wellstead, 2016) meaning that each 'tribe' will argue for resources by making claims about the utility of their type of evidence and the value it brings to a specific policy proposal and, therefore, how much of which type of evidence should be resourced (Boswell, 2021).

The fourth set of claims to emerge from our core studies were *institutional*. These relate to where the authority for budget management resides in each policymaking department, how that authority is enacted and what this implies for how resources are allocated between the other types of claim on the evidence base. Parker recounts the significant changes to the role of scientists in the UK government since the 1970s and his experiences as a senior policy official in one British government department since

the 1990s (Parker, 2016). He describes a ten-year process of organisational change that aimed to better plan and co-ordinate investments in evidence. This highlighted the need to improve how evidence specialists engaged with their policy colleagues and to strengthen networking with government research institutes and academia. Decisions about how resources would be allocated to evidence and evidence specialists had been embedded with the heads of the evidence cadres, but in the mid 2000s some of these decisions were assigned to heads of policy teams to improve how well the departmental evidence base was aligned with policy priorities (see also Shaxson, Harrison and Morgan, 2009; Shaxson, 2019, from our background studies). Changing who has authority over evidence resources changes how decisions about resource allocation are framed and enacted (Shaxson *et al.*, 2024). This in turn shapes decision makers' ideas about what choices they face, how different administrative processes frame which actions are possible and how these actions are affected by different types of organisational inertia (Smith *et al.*, 2014).

Our core studies suggested that four claims will intersect at different times throughout the policymaking process, coming together during priority setting processes as different types of claims on the evidence base are translated into claims on the budget (Smith *et al.*, 2014; Kroll and Moynihan, 2018; Seixas *et al.*, 2021).

4.4. Governance paradigms frame how claims on the evidence base are interpreted in the policymaking process

Our core studies indicated that different approaches to policy governance will affect how the four sets of claims are expressed and how they interact with one another during the process of prioritising resources. Kruijen and Van Genugten (2020) and Oliver and Fraser (2021) outline how approaches to policy governance have shifted from Public Administration to New Public Management and to Public Value Management and the implications of these shifts for evidence-informed policymaking. Under a Public Administration (PA) approach civil servants emphasise subject matter expertise, skills that help them solve technical problems, and being precise, neutral and impartial (Kruijen and Van Genugten, 2020) within 'rule-based and task-oriented modes of organising in public sector organisations' (Oliver & Fraser, 2021: 121). This contrasts with a New Public Management (NPM) approach, which is more likely to emphasise results orientation, risk management, project management, and maintaining effective customer-contractor relationships (Kruijen & van Genugten, 2020). An NPM approach emphasises value for money and a technocratic approach to policymaking within which evidence is 'of high discursive significance' (Oliver & Fraser 2021: 121).

The Public Value Management (PVM) paradigm emphasises externally-facing skills such as collaboration, co-creation, negotiation and innovation during policy design processes. Under PVM, officials are encouraged to creatively address situations where evidence is uncertain or ambiguous by questioning and experimenting (Kruijen and van Genugten 2020). They do this within a reflexive style of policymaking that emphasises double-loop learning (Oliver & Fraser, 2021), using dynamic approaches to exchanging and co-producing evidence (see Kass, Milner and Dodds, 2022 from our background

studies). Different governance frameworks also give rise to different types of accountability, with the ‘answerability’ of PA and NPM emphasising hierarchies and control and the ‘management of expectations’ under PVM highlighting strategic management of multiple relationships (Aleksavska, Schillemans and Grimmelikhuijsen, 2022).

This could imply that modes of governance change, the claims on the evidence base are likely to become more complex and interact in different ways. For example:

- The PA mode of governance may have the simplest set of claims to negotiate about how the evidence base should be resourced and allocated. Its hierarchical, technical emphasis is likely to define policy issues in relatively simple terms (issue claims), foregrounding limited types of technical evidence (epistemic claims) that are used in tightly specified policy processes (procedural claims) with well-defined decision-making responsibilities (institutional claims).
- NPM may be associated a wider set of interest groups defining the issue (broader issue claims) but with strongly hierarchical processes (procedural claims that emphasise evidence for risk management and accountability), clearly defined decision processes (institutional claims) and a need to demonstrate value for money (epistemic claims to evidence from evaluations may dominate).
- Under a PVM regime all claims to the evidence base may be more complex to negotiate. A range of groups may be involved in defining the issue (leading to more complex issue claims). They will have different understandings of the value that ‘their’ type of evidence brings to the policy process (clashing epistemic claims) and of how they and their evidence should be involved (disputed procedural claims). The flatter, more fluid and polycentric nature of relationships under PVM may also give rise to disagreements about who has the authority to decide what evidence is put forward for decision (contested institutional claims).

In practice, elements of each governance paradigm are likely to co-exist with one another because political preferences for how policies are designed and delivered will vary, and because organisational change in government bureaucracies can be very slow and patchy (Cloutier *et al.*, 2016; Kruijven and Van Genugten, 2020; Mukherjee, Coban and Bali, 2021). This has implications for how evidence claims are prioritised, which affects how resourcing decisions are made.

5. Additional cross-cutting considerations

In any organisation, priority setting for resource allocation is an inherently political process. Our review found no analysis of how this happens inside government departments, but additional insights were gained from our core studies which focused on priority setting within large policy programmes. For example, decisions about what to fund could be based on rolling over projects or programmes because of their significant sunk costs. Although some policy stakeholders may have an appetite for more innovative programmes, disinvesting from existing programming can be politically challenging where governance templates have been established, institutional

capacities have been built around that investment and a range of interest groups have become invested in those institutions' existence (Moynihan and Soss, 2020). And powerful actors with large budgets may be reluctant to relinquish them because of a perceived loss of prestige (Seixas *et al.*, 2021). Formal processes to allocate resources to evidence-related capacities and capabilities—both internal and external—are unlikely to work consistently over time or with one another.

This means that claims for resources which run counter to the prevailing pattern of allocation are not simply blockages in the processes of informing policies with evidence. Instead, they are 'situationally appropriate strategies deployed by actors concerned with conserving existing organisational forms that they deeply value' (Smith *et al.*, 2014: 336). Resource prioritisation processes are best conceived of as 'rhetorical constructions' (Smith *et al.* 2014: 336) which serve to defend particular interests or epistemic logics (Kroll and Moynihan, 2018). This means that each process needs to be understood *in situ*, which has implications for research on how policy officials prioritise and allocate their resources to evidence.

6 Summary and conclusions: an outline agenda for future research

Researchers from different disciplines have studied evidence-informed policymaking for several decades. But one specific piece of the puzzle appears to have been overlooked: how officials allocate resources to obtaining the evidence they need and what shapes that process. This issue seems to be hiding in plain sight: in any organisation, including in government departments, budget decisions shape what can and cannot be done.

An 'hourglass' literature review failed to find any empirical analyses of how civil servants allocate resources to evidence activities. However, sixteen studies were found that formed the basis of an iterative, reflexive exploration of the issue. They suggest that evidence-informed policymaking is a continuous process of knowing rather than a series of discrete, bounded decisions. This process of knowing, and the process of resourcing the capabilities and capacities to support that knowing, are shaped by four types of claims on the evidence base: issue-based, procedural, epistemic and institutional. The way each claim is expressed and how it interacts with other claims is influenced by how different approaches to governance are articulated and layered over one another within the policy process. Finally, the rhetorical and performative nature of priority setting processes means that each needs to be examined individually and on its own merit.

The question that guided the database search in Stage 2 of this review sought to understand what 'effective' resource allocation looks like in the context of evidence-informed policymaking. Analysing the sixteen core studies in Stage 3 suggests that the question needed to be reinterpreted because the complex and interconnected negotiations that support policy officials' continuous process of knowing make it impossible to look for a single reference point for 'effectively' allocating resources to

evidence. Any such standard would set up an unhelpful logic (Howlett *et al.*, 2014) that would risk framing disagreements about priorities as barriers to overcome rather than strategies to maintain organisational forms, epistemic logics and policy narratives that policymakers value (Smith *et al.*, 2014; Maybin, 2016; Rickinson *et al.*, 2018). However, the analysis does indicate that researchers could study processes of evidence-informed policymaking *through* resource prioritisation, analysing how different claims on the evidence base intersect and to what effect. It could also help understand how, in practice, issues of political permission such as agenda setting and policy framing interact with questions of political and policy procedure (Cairney, 2017; Parkhurst, 2017; Monaghan and Ingold, 2019).

This suggests that analysing how resources are allocated to evidence—who decides the allocations and on what basis—could deepen our understanding of how evidence-informed policymaking is practiced inside government departments. It opens a new avenue for interdisciplinary research that could draw together the fields of public administration, policy sciences, science and technology studies, public sector budgeting and organisational behaviour. Some initial suggestions are outlined below.

Given the lack of empirical analyses of the issue, researchers could begin by building on the work of Maybin (2016) and Marvulli (2017) to describe, in detail, the processes that shape policy officials' decisions about how to allocate resources. What does their daily work consist of? How do they decide how much should be spent on evidence capabilities and capacities inside and outside government departments? How do they balance building up internal cadres of experts with sourcing evidence from external organisations; commissioning research, delegating budgets to arms-length bodies, setting up evidence clearinghouses or taking a more distributed approach that utilises (and helps build) a more plural knowledge ecosystem? How do they use their own budgets to leverage other sources of funding and to what effect? Where does their decision-making authority come from and how is it framed? This is only a very initial list of questions but addressing them would help check the analysis presented in this paper and highlight other opportunities for research.

Research could also explore in more detail the claims on the evidence base that are outlined in this article, understanding how they intersect within each policymaking organisation and within different policy issues. Questions could include how each claim arises, how modes of governance influence the ways different claims intersect and how these processes of intersection play out in resource allocation decisions. However, a limitation to this analysis is that most of the empirical studies of policymaking processes found in the Stage 2 and 3 reviews are drawn from the UK policy environment. Understanding evidence-informed policy processes in other jurisdictions will clarify whether what has been presented here is transferable.

Detailed empirical research will help develop our understanding of evidence-informed policymaking by analysing the choices policy officials face on a daily basis; both within individual policy teams and at an organisational level. This would help address the call for more 'in vivo' research on how evidence and policy interact (Monaghan and Ingold, 2019; Oliver and Fraser, 2021) and give a fuller range of insights into what shapes

decisions about how resources are invested in evidence for policy. The hope is that with a better understanding of resource allocation to evidence and a fuller appreciation of how this interacts with broader issues of policy governance and of political permission, researchers will be in a better position to help civil servants understand what shapes how they source and use evidence and thereby improve the choices they make.

7 Supplementary material

Supplementary material is available online at <https://osf.io/z5npc/> and <https://rayyan.ai/reviews/411099>.

8 CRediT Author statement

LS: conceptualisation, investigation, methodology, analysis, writing – original draft
RH: methodology, writing - review and editing
AB: methodology, writing - review and editing
BH: writing - review and editing

9 Conflicts of interest

The authors declare there are no conflicts of interest.

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11 Research ethics statement

Research ethics approval was not required since the paper does not present or draw directly on findings from empirical research.

Bibliography

Aleksovska, M., Schillemans, T. and Grimmelikhuijsen, S. (2022) 'Management of Multiple Accountabilities Through Setting Priorities: Evidence from a Cross-National Conjoint Experiment', *Public Administration Review*, 82(1), pp. 132–146. Available at: <https://doi.org/10.1111/puar.13357>.

Booth, A. (2006) 'Clear and present questions: Formulating questions for evidence based practice', *Library Hi Tech*, 24(3), pp. 355–368. Available at: <https://doi.org/10.1108/07378830610692127>.

Boswell, J. (2021) *The impact of science: how is evidence understood and valued in policymaking?* Southampton: University of Southampton. Available at: <https://eprints.soton.ac.uk/445486/>.

- Boyd, I. (2020) 'Working in government: conservation research, policy and practice', in W. Sutherland et al. (eds) *Conservation Research, Policy and Practice*. Cambridge: Cambridge University Press, pp. 9–26. Available at: <https://doi.org/10.1017/9781108638210.002>.
- Bristow, D., Carter, L. and Martin, S. (2015) 'Using evidence to improve policy and practice: the UK What Works Centres', *Contemporary Social Science*, 10(2), pp. 126–137. Available at: <https://doi.org/10.1080/21582041.2015.1061688>.
- Cairney, P. (2017) 'Evidence-based best practice is more political than it looks: a case study of the "Scottish Approach"', *Evidence and Policy*, 13(3), pp. 499–515. Available at: <https://doi.org/10.1332/174426416X14609261565901>.
- Cairney, P. (2018) 'The UK government's imaginative use of evidence to make policy', *British Politics*, 14(1), pp. 1–22. Available at: <https://doi.org/10.1057/s41293-017-0068-2>.
- Cairney, P., Oliver, K. and Wellstead, A. (2016) 'To Bridge the Divide between Evidence and Policy: Reduce Ambiguity as Much as Uncertainty', *Public Administration Review*, 76(3), pp. 399–402. Available at: <https://doi.org/10.1111/puar.12555>.
- Capano, G. and Malandrino, A. (2022) 'Mapping the use of knowledge in policymaking: barriers and facilitators from a subjectivist perspective (1990–2020)', *Policy Sciences*, 55(3), pp. 399–428. Available at: <https://doi.org/10.1007/s11077-022-09468-0>.
- Cloutier, C. et al. (2016) 'Agency at the Managerial Interface: Public Sector Reform as Institutional Work', *Journal of Public Administration Research And Theory*, pp. 259–276. Available at: <https://doi.org/10.1093/jopart/muv009>.
- Clyne, R. and Davies, N. (2022) *Outcome delivery plans: the case for keeping and improving the government's performance framework*. London: Institute for Government. Available at: <https://www.instituteforgovernment.org.uk/sites/default/files/publications/outcome-delivery-plans.pdf> (Accessed: 21 December 2022).
- Craft, J. and Howlett, M. (2013) 'The dual dynamics of policy advisory systems: The impact of externalization and politicization on policy advice', *Policy and Society*, 32(3), pp. 187–197. Available at: <https://doi.org/10.1016/j.polsoc.2013.07.001>.
- Dixon-Woods, M. et al. (2006) 'Conducting a critical interpretive synthesis of the literature on access to healthcare by vulnerable groups', *BMC Medical Research Methodology*, 6(May). Available at: <https://doi.org/10.1186/1471-2288-6-35>.
- Doubleday, R. and Wilsdon, J. (2012) 'Beyond the great and good', *Nature*, 485, pp. 301–302. Available at: <https://doi.org/10.1038/485301a>.
- Eppel, S., Sharp, V. and Davies, L. (2013) 'A review of Defra's approach to building an evidence base for influencing sustainable behaviour', *Resources, Conservation and*

Recycling, 79, pp. 30–42. Available at:
<https://doi.org/10.1016/j.resconrec.2013.06.001>.

GCSA (2010) 'The Government Chief Scientific Adviser's Guidelines on the Use of Scientific and Engineering Advice in Policy Making'. Government Office for Science. Available at:
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/293037/10-669-gcsa-guidelines-scientific-engineering-advice-policy-making.pdf.

Gluckman, P. and Wilsdon, J. (2016) 'From paradox to principles: Where next for scientific advice to governments?', *Palgrave Communications*, 2, pp. 1–4. Available at:
<https://doi.org/10.1057/palcomms.2016.77>.

Hanney, S. *et al.* (2013) 'Engagement in research: an innovative three-stage review of the benefits for health-care performance', *Health Services and Delivery Research*, 1(8), pp. 1–152. Available at: <https://doi.org/10.3310/hsdr01080>.

Head, B.W. (2016) 'Toward More "Evidence-Informed" Policy Making?', *Public Administration Review*, 76(3), pp. 472–484. Available at:
<https://doi.org/10.1111/puar.12475>.

HM Government (2015) *The Civil Service code, Statutory guidance, the Civil Service code*. Available at: <https://www.gov.uk/government/publications/civil-service-code/the-civil-service-code> (Accessed: 1 August 2022).

HM Government (2021) *Policy Profession Standards: Our competency framework for professional development*. London: HMG. Available at:
<https://www.gov.uk/government/publications/policy-profession-standards> (Accessed: 18 January 2022).

HM Treasury (2015) *The Aqua Book: guidance on producing quality analysis for government*. London: HM Treasury, p. 70. Available at:
<https://www.gov.uk/government/publications/the-aqua-book-guidance-on-producing-quality-analysis-for-government> (Accessed: 15 March 2022).

HM Treasury (2019) 'The Public Value Framework: with supplementary guidance'. Available at:
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/785553/public_value_framework_and_supplementary_guidance_web.pdf (Accessed: 21 December 2022).

HM Treasury (2020) *The Magenta Book: Central Government guidance on evaluation*. London: HM Treasury. Available at: <https://www.gov.uk/government/publications/the-magenta-book> (Accessed: 30 June 2022).

HM Treasury (2021) *Managing public money - GOV.UK*. London: HM Treasury, p. 62. Available at: <https://doi.org/ISBN:9781911680833>.

HM Treasury (2022a) *Specimen framework document: Non-departmental public body*. London: HM Treasury, pp. 1–41. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1093481/Template_Framework_Document_-_Non-departmental_public_bodies.docx (Accessed: 23 September 2022).

HM Treasury (2022b) *The Green Book (2022): Central Government Guidance on Appraisal and Evaluation*. Available at: <https://www.gov.uk/government/publications/the-green-book-appraisal-and-evaluation-in-central-government/the-green-book-2020>.

HMG (2021) *Policy Profession Annex: Detailed Descriptors*. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1065809/UPDATED_PP_Standards_annex_v6_acc.pdf (Accessed: 18 January 2022).

Hopkins, A. *et al.* (2021) *Science Advice in the UK*. Available at: <https://transforming-evidence.org/resources/science-advice-in-the-uk> (Accessed: 17 June 2022).

Howlett, M. *et al.* (2014) 'The distribution of analytical techniques in policy advisory systems: Policy formulation and the tools of policy appraisal', *Public Policy and Administration*, 29(4), pp. 271–291. Available at: <https://doi.org/10.1177/0952076714524810>.

Howlett, M. and Wellstead, A.M. (2011) 'Policy Analysts in the Bureaucracy Revisited: The Nature of Professional Policy Work in Contemporary Government', *Politics & Policy*, 39(4), pp. 613–633. Available at: <https://doi.org/10.1111/j.1747-1346.2011.00306.x>.

Kass, G., Milner, A.M. and Dodds, K. (2022) 'The “borderlands” of the science–policy interface', *Geographical Journal* [Preprint]. Available at: <https://doi.org/10.1111/geoj.12469>.

Kroll, A. and Moynihan, D.P. (2018) 'The Design and Practice of Integrating Evidence: Connecting Performance Management with Program Evaluation', *Public Administration Review*, 78(2), pp. 183–194. Available at: <https://doi.org/10.1111/puar.12865>.

Kruyen, P.M. and Van Genugten, M. (2020) 'Opening up the black box of civil servants' competencies', *Public Management Review*, 22(1), pp. 118–140. Available at: <https://doi.org/10.1080/14719037.2019.1638442>.

Liverani, M., Hawkins, B. and Parkhurst, J.O. (2013) 'Political and institutional influences on the use of evidence in public health policy. A systematic review.', *PloS one*, 8(10), p. 9. Available at: <https://doi.org/10.1371/journal.pone.0077404>.

Lorenc, T. *et al.* (2014) 'Cultures of evidence across policy sectors: Systematic review of qualitative evidence', *European Journal of Public Health*, 24(6), pp. 1041–1047. Available at: <https://doi.org/10.1093/eurpub/cku038>.

- MacKillop, E., Quarmby, S. and Downe, J. (2020) 'Does knowledge brokering facilitate evidence-based policy? A review of existing knowledge and an agenda for future research', *Policy & Politics*, 48(2), pp. 335–353. Available at: <https://doi.org/10.1332/030557319X15740848311069>.
- Marvulli, L. (2017) *Towards Sustainable Consumption in public policy development and implementation*. PhD thesis. Cardiff University. Available at: <https://orca.cardiff.ac.uk/id/eprint/105518/>.
- Masood, S., Kothari, A. and Regan, S. (2020) 'The use of research in public health policy: A systematic review', *Evidence & Policy*, 16(1), pp. 7–43. Available at: <https://doi.org/10.1332/174426418X15193814624487>.
- Maybin, J. (2016) *Producing health policy: knowledge and knowing in government policy work*. Basingstoke: Palgrave Macmillan.
- McMillan, S. et al. (2015) *Managing business operations – what government needs to get right*. London: National Audit Office. Available at: <https://www.nao.org.uk/wp-content/uploads/2015/09/Managing-business-operations-what-government-needs-to-get-right.pdf> (Accessed: 12 June 2022).
- Methley, A.M. et al. (2014) 'PICO, PICOS and SPIDER: A comparison study of specificity and sensitivity in three search tools for qualitative systematic reviews', *BMC Health Services Research*, 14(1). Available at: <https://doi.org/10.1186/s12913-014-0579-0>.
- Monaghan, M. and Ingold, J. (2019) 'Policy practitioners' accounts of evidence-based policy making: The case of universal credit', *Journal of Social Policy*, 48(2), pp. 351–368. Available at: <https://doi.org/10.1017/S004727941800051X>.
- Monaghan, Mark. (2011) *Evidence versus politics : exploiting research in UK drug policy making?* Bristol: Policy Press.
- Moynihan, D.P. and Soss, J. (2020) 'Policy Feedback and the Politics of Administration', *Public Administration Review*, 74(3), pp. 320–332. Available at: <https://doi.org/10.1111/puar>.
- Mukherjee, I., Coban, M.K. and Bali, A.S. (2021) 'Policy capacities and effective policy design: a review', *Policy Sciences*, 54(2), pp. 243–268.
- Newman, J. (2017) 'Debating the politics of evidence-based policy', *Public Administration*, 17(95), pp. 1107–1112. Available at: <https://doi.org/10.1111/padm.12373>.
- Newman, J., Cherney, A. and Head, B.W. (2016) 'Do Policy Makers Use Academic Research? Reexamining the “Two Communities” Theory of Research Utilization', *Public Administration Review*, 76(1), pp. 24–32. Available at: <https://doi.org/10.1111/puar.12464>.

Nutley, S., Walter, I. and Davies, H. (2007) *Using evidence: how research can inform public services*. Bristol: Policy Press.

Oliver, K. et al. (2022) 'What works to promote research-policy engagement?', *Evidence & Policy*, 18(4), pp. 691–713. Available at: <https://doi.org/10.1332/174426421X16420918447616>.

Oliver, K. and Boaz, A. (2019) 'Transforming evidence for policy and practice: creating space for new conversations', *Palgrave Communications*, 5(60). Available at: <https://doi.org/10.1057/s41599-019-0266-1>.

Oliver, K. and Cairney, P. (2019) 'The do's and don'ts of influencing policy: a systematic review of advice to academics', *Palgrave Communications*, 5(1), p. 21. Available at: <https://doi.org/10.1057/s41599-019-0232-y>.

Oliver, K. and Faul, M.V. (2018) 'Networks and network analysis in evidence, policy and practice', *Evidence and Policy*, 14(3), pp. 369–379. Available at: <https://doi.org/10.1332/174426418X15314037224597>.

Oliver, K. and Fraser, A. (2021) 'Evidence-based Policy and Public Value Management: Mutually Supporting Paradigms?', in *Public Value Management, Governance and Reform in Britain*. Palgrave Macmillan (International Series on Public Policy), pp. 115–148. Available at: https://doi.org/10.1007/978-3-030-55586-3_5.

Oliver, K., Lorenc, T. and Innvær, S. (2014) 'New directions in evidence-based policy research: a critical analysis of the literature.', *Health Research Policy and Systems*, 12(34). Available at: <https://doi.org/10.1186/1478-4505-12-34>.

Orem, J. et al. (2012) 'Research, evidence and policymaking: The perspectives of policy actors on improving uptake of evidence in health policy development and implementation in Uganda', *BMC Public Health*, 12(1). Available at: <https://doi.org/10.1186/1471-2458-12-109>.

Owens, S. (2015) *Knowledge, Policy and Expertise: the UK Royal Commission on Environmental Pollution 1970-2011*. Oxford: Oxford University Press.

Parker, M. (2016) 'The Rothschild report (1971) and the purpose of government-funded R&D—a personal account', *Palgrave Communications*, 2(1971). Available at: <https://doi.org/10.1057/palcomms.2016.53>.

Parkhurst, J. (2017) *The Politics of Evidence: From evidence-based policy to the good governance of evidence*. Taylor & Francis. Available at: <https://doi.org/10.4324/9781315675008>.

Parkhurst, J. et al. (2021) 'Understanding evidence use from a programmatic perspective: conceptual development and empirical insights from national malaria control programmes', *Evidence & Policy*, 17(3), pp. 447–466. Available at: <https://doi.org/10.1332/174426420X15967828803210>.

Phillips, S. *et al.* (2014) 'A focus on M & E of results: an example from the Presidency, South Africa', *Journal of Development Effectiveness*, 6(4), pp. 392–406. Available at: <https://doi.org/10.1080/19439342.2014.966453>.

Radaelli, C.M. (1995) 'The role of knowledge in the policy process', *Journal of European Public Policy*, 2(2), pp. 159–183. Available at: <https://doi.org/10.1080/13501769508406981>.

Rickinson, M. *et al.* (2018) 'Understanding evidence use within education policy: a policy narrative perspective', *Evidence & Policy: A Journal of Research, Debate and Practice*, 15(2), pp. 235–252. Available at: <https://doi.org/10.1332/174426418x15172393826277>.

Seixas, B.V. *et al.* (2021) 'Describing practices of priority setting and resource allocation in publicly funded health care systems of high-income countries', *BMC Health Services Research*, 21(1). Available at: <https://doi.org/10.1186/s12913-021-06078-z>.

Shaxson, L. (2019) 'Uncovering the practices of evidence-informed policymaking', *Public Money & Management*, 39(1), pp. 46–55. Available at: <https://doi.org/10.1080/09540962.2019.1537705>.

Shaxson, L. *et al.* (2024) 'Negotiating the budget for evidence-informed policy-making: insights from a UK government department', *Public Money & Management*, 0(0), pp. 1–10. Available at: <https://doi.org/10.1080/09540962.2024.2308003>.

Shaxson, L., Harrison, M. and Morgan, M. (2009) *Developing an evidence-based approach to environmental policy making: insights from Defra's Evidence & Innovation Strategy*. Falmer: Science and Technology Policy Research Centre. Available at: <https://www.sussex.ac.uk/business-school/people-and-departments/spru/research/working-papers#archive> (Accessed: 2 February 2023).

Smith, N. *et al.* (2014) 'A politics of priority setting: Ideas, interests and institutions in healthcare resource allocation', *Public Policy and Administration*, 29(4), pp. 331–347. Available at: <https://doi.org/10.1177/0952076714529141>.

Stevens, A. (2011) 'Telling policy stories: An ethnographic study of the use of evidence in policy-making in the UK', *Journal of Social Policy*, 40(2), pp. 237–255. Available at: <https://doi.org/10.1017/S0047279410000723>.

Stirling, A. (2007) "'Opening Up" and "Closing Down": Power, Participation, and Pluralism in the Social Appraisal of Technology', *Science, Technology & Human Values*, 33(2), pp. 262–294. Available at: <https://doi.org/10.1177/0162243907311265>.

Stirling, A., Hayes, K.R. and Delborne, J. (2018) 'Towards inclusive social appraisal: Risk, participation and democracy in governance of synthetic biology', *BMC Proceedings*, 12. Available at: <https://doi.org/10.1186/s12919-018-0111-3>.

VanLandingham, G. (2020) 'Evaluation in the age of evidence-based policymaking: Promises, pitfalls and paths forward', *Evaluation Journal of Australasia*, 20(3), pp. 129–139. Available at: <https://doi.org/10.1177/1035719X20928164>.

Walsh, D. and Downe, S. (2006) 'Appraising the quality of research', *Midwifery*, 22, pp. 108–119. Available at: <https://doi.org/10.1016/j.midw.2005.05.004>.

Weiss, C.H. (1979) 'The many meanings of research utilization', *Public Administration review*, 39(5), pp. 426–431.

Wilkinson, K. (2011) 'Organised Chaos: An Interpretive Approach to Evidence-Based Policy Making in Defra', *Political Studies*, 59, pp. 959–977. Available at: <https://doi.org/10.1111/j.1467-9248.2010.00866.x>.

Wilsdon, J., Wynne, B. and Stilgoe, J. (2005) *The Public Value of Science: Or how to ensure that science really matters*. Available at: <https://www.demos.co.uk/files/publicvalueofscience.pdf?1240939425>.

Wynne, B. (2014) 'Further disorientation in the hall of mirrors.', *Public Underst Sci*, 23(1), pp. 60–70. Available at: <https://doi.org/10.1177/0963662513505397>.

Ziam, S. *et al.* (2021) 'Essential skills for using research evidence in public health policy: A systematic review', *Evidence and Policy*, 17(4), pp. 567–591. Available at: <https://doi.org/10.1332/174426421X16250726996691>.