CHAPTER 5

How Policy Appetites Shape, and Are Shaped by Evidence Production and Use

Kathryn Oliver

"New York is not a City of Alleys", Nick Carr, Location Scout

> "I've worked on more films that want to find the imaginary version of New York than the real. The big thing I always get asked to find are dank dilapidated alleys, and New York City has, like, 5 alleys that look like that. Maybe four. You can't film in three of them. So what it comes down to is there's one alley left in New York, Cortlandt Alley, that everybody films in because it's the last place.
>
> I try to stress to these directors in a polite way that New York is not a city of alleys. Boston is a city of alleys. Philadelphia has alleys. I don't know anyone who uses the 'old alleyway shortcut' to go home. It doesn't exist here. But that's the movie you see. Your impression of New York is that it is the city of alleys, and then directors will

K. Oliver (✉)
Faculty of Public Health and Policy, London School of Hygiene and Tropical Medicine, London, UK
e-mail: Kathryn.Oliver@lshtm.ac.uk

P. Fafard et al. (eds.), *Integrating Science and Politics for Public Health*, Palgrave Studies in Public Health Policy Research,
https://doi.org/10.1007/978-3-030-98985-9_5

> come here, they've seen movies set in New York and they want their movies to have alleys.
>
> And it's this self-perpetuating fictional version of New York that just kills me because movies are so much more interesting when you show a side of New York that actually exists but isn't regularly highlighted".[1]

1 Introduction

For many years, researchers have advocated for greater research impact on policy. This advocacy has often, in an attempt to be helpful, taken the form of specifying preferred types of evidence (the randomised controlled trial or systematic review, for example) and preferred directions of policy change. A simplistic model, often termed the technocratic or rationalist model, of knowledge uptake is presented: a problem is identified, the most 'robust' research evidence possible is created to solve this problem, the research recommendations are implemented, and the policy problem is solved. Policymakers—who draw on many and varied kinds of evidence—have responded to this advice by funding and supporting particular versions of knowledge (e.g., trials units, systematic review facilities such as the What Works Centres and the National Institute for Health Care and Excellence in the UK).

Yet the production of evidence, and its use are far from simple processes. From discussions about the plurality of evidence (Parkhurst & Abeysinghe, 2016; Petticrew & Roberts, 2003), to the politicisation of research systems and the role research plays in the world, many have argued against the simplistic view of 'best' evidence put forward above, which ignores both values and people. So why does this narrative remain so powerful, even though even many of its proponents would agree that it is an overly simplistic way of understanding how evidence informs policy?

Unfortunately, the dominance of the rationalist model really matters because it affects how policy appetites for evidence, and the actual production of evidence. It narrows the range of evidence available to policymakers in shaping and framing problems and solutions, and consequently there is less support for research which sits outside these framings. This in turn has led to misunderstandings, methodological in-fighting,

[1] https://www.citylab.com/design/2011/11/film-location-scout-pet-peeves/521/

misuse of evidence by decision-makers, and vested interests. What might an alternative be?

To better understand how policymakers find and use evidence, we need a broader lens to examine the political economy of knowledge. By understanding what knowledge is, and 'its forms of extraction, points of commodification, how it is refined as intellectual property' (Tilley, 2017), we can better conceptualise its role in decision-making, and begin to imagine the broader evidence-policy system within which knowledge is exchanged. Between 2014 and 2019 in the UK, I conducted 91 interviews with researchers and policymakers in the UK, discussing the challenges of evidence use in policy. I draw on these interviews in this chapter to explore how knowledge production, mobilisation and use shape and are shaped by policy appetites. This offers a new way to begin thinking about how to creatively shape a more helpful environment for both policy and evidence.

2 The Rationalist Model

Researchers and policymakers alike have sought to conquer the challenge of improving health and social outcomes by implementing improved decision-making. Evidence and data use have for decades, if not centuries, been at the heart of this drive. For many, the relationship between these processes is a straightforward, linear one of problem definition, solution creation, and implementation. In this vision, research is there to provide solutions for real-world problems faced by policymakers and practitioners. For their part, policymakers and funders have made investments in applied research tied to explicit policy priorities, with an emphasis on disciplines deemed likely to produce 'economic value' (Bastow et al., 2015). This has broadly meant spending money on solutions-oriented evidence, or to put it another way, research which assists policymakers in selecting options for policy implementation.

From the very beginnings of the evidence-based medicine and evidence-based policy movements (in the UK, usually agreed to be Cochrane's, 1972 'Effectiveness and Efficiency' report (Cochrane, 1972; Oliver & Pearce, 2017), through the growth of evidence-synthesis organisations, to the training of individual researchers to increase their impact, this has come to mean a particular form of evidence and research. Underpinning this is the notion of the hierarchy of evidence, which is a heuristic describing the strength of different methodological designs. Although

extensively critiqued, it has also been translated into outcomes-focused decision-making tools such as GRADE (Movsisyan et al., 2018; Shenderovich et al., 2019). This hierarchy affirms and assigns value to different pieces of evidence on the basis of research design; in particular, the randomised controlled trial (RCT), and the systematic review or evidence synthesis. RCTs are valued because this research design minimises the chance that random chance has led to the research finding, meaning that they have high internal validity, and that readers can have confidence that the research finding is reproducible. The systematic review exhaustively brings together evidence on a particular question, assessing the strengths and weaknesses in a body of work. Systematic reviews of RCTs are considered particularly robust—the peak of the evidence hierarchy—but both are prioritised and highly valued (de Souza Leão & Eyal, 2019; Pearce & Raman, 2014; White, 2019). As ably recounted elsewhere, RCTs have been around for almost a century, but in the last 20 years there has been a huge increase in their funding and use (Deaton & Cartwright, 2018; Pearce & Raman, 2014).

The seductively simple process offers an attractive vision of a world where, if only enough research evidence were available, acted on by willing and capable decision-makers, life in general would be better. We could summarise this view as:

- Policy is best made using research evidence.
- RCTs and systematic reviews are the best kind of evidence.
- Researchers should do more, better RCTs and SRs, and maximise their use by policymakers.

This is a very technocratic, rationalised view of policymaking which is still widely held (Wood, 2019). Thus, we find researchers offering aspirational views of their possible impact:

> For our department, [impact] means having certain policies and practices put in place because of our research. (Academic, criminal justice)

> Large national bodies who would then take our research and maybe themselves translate it into guidance, which might be used by non-scientists and non-researchers. (Social scientist)

> Well it's good to feel actually that the policy is becoming more evidence based, as long as it doesn't turn into some sort of matrix based thing where you think you measure something and we should change the world to increase that. Everything is matrix based and you can't do anything if you can't find a matrix. But I think that rational view is welcomed. (Social scientist)

> I would like our research to ultimately result in some change in the energy system and since we are not in control of the energy system and we do not build energy systems ourselves that means that we will have to have our impact through working with partners. (Engineer)

The version of policy decision-making which these researchers share is quite clear:

> It's really important that policy is based on the best evidence that's possible. (Engineer)

Policymaking is seen to be optimised by easy access to high-quality, systematically identified and analysed evidence, which then forms the primary "input" to the policy process (see, e.g., Oxman et al., 2009: 1). The steps within this process are then laid clear for all to see, to enable 'accountability' and revision.

2.1 The Dominance of the Rationalist Model

Given the perceived simplicity of this process, it may be puzzling to its proponents why these improvements often fail to materialise in the real world. Scholars—particularly from the social and political sciences—have problematised the relationship between evidence and policy, recognising its complexity. The policy sciences have demonstrated convincingly that policy operates in a complex, even chaotic fashion. The linear model (positing problems, solutions, evaluations of these solutions, and thus improved policy) bears little resemblance to the multi-level complex adaptive governance that characterises most legislative systems. These days, most policymakers and many (especially social and political researchers) believe that a pluralist, diverse evidence base is the ideal starting point for decisions to be made about public policy and practice (Head, 2008). As a way of achieving this aim, it is now fairly common to see calls for more deliberative, democratic approaches to knowledge production

and use (Degeling et al., 2017; Stewart, 2017); see Chapter 13 (Cassola et al., 2022) and Chapter 4 (Kothari & Smith, 2022). This approach recognises that all forms of knowledge are social, in the sense that they are interpreted by humans within social settings, and therefore driven by and subject to societal and political values and interests (Douglas, 2009; Fafard, 2015; Jasanoff & Polsby, 1991). However, despite these efforts, all too frequently the 'problem' is seen as being a 'lack of data', 'lack of evidence', or perhaps 'poor evidence uptake' (where the evidence exists, but is not acted on).

2.2 Why Has This Rationalist Model Held Strong, and Does It Matter?

One reason may be because (ironically) social and political scientists have tended to emphasise the complex nature of policymaking and the intransigent nature of the challenges facing decision-makers. While not wishing to argue with either of these characterisations, a lack of clear, informed lessons for other researchers and decision-makers may have meant that many relied on simplistic, easy-to-understand models of the policy world. So, for many researchers new to this field, their only way of getting a handle on what policy *is,* is to learn from the informal discussions between academics, from funders, or from university-led training courses. These tend to produce generic discourses of a simplified version of how evidence and policy interact, drawing on the misleading advice of unusually successful academics, or otherwise aiming to equip researchers with the idea (and tools to help) of maximising their impact. For example, many universities in the UK and internationally seek to increase their influence in the policy world. To do this, they encourage researchers to engage with government through in-house courses and incentive structures (Fafard & Hoffman, 2020; Hopkins et al., 2021). While well-intentioned, universities tend to rely on the rationalist model of research impact—perhaps because their teaching and examples are often derived from high-status researchers and projects from the faculties of medicine and science, not the political and social sciences. The alternative to the rationalist model is a highly complex evidence-policy ecosystem. For many this is hard to conceptualise, and researchers may feel is too difficult to engage with and influence as a whole. Thus, researchers and policymakers have formed, and are able to continue to promote, an unrealistically

simple view of the nature of policy and evidence which is both rationalist and technocratic.

From the political and social sciences, attempts to challenge this over-simplified story have resulted in better conceptualisations of the nature of the problem, but not really in actionable next steps for those wishing to improve the situation. For example, challenges to the evidence hierarchy mostly took the form of methodological debate about the quality of different social research methods (Hammersley, 2005) and the appropriateness of different research designs for use in public policy (Cairney & Oliver, 2017; Head, 2008). These limitations to the RCT are well-documented. RCTs may not be appropriate where complex outcomes may be of interest (such as patient preferences or experiences); policies may operate at a different (e.g., whole-nation) level which is impossible to be randomised; or, as is the case for most public policy interventions, operate within a complex, ever-changing social environment with multiple competing policy interventions influencing individuals at different levels. These limitations to the RCT are of course extremely well-documented and understood by the research and policy community at large. However, this wide understanding of what they can, and cannot tell us has not prevented the even wider uptake of the hierarchy of evidence as a rule of thumb within policy and policy-research circles.

If we look at the three aspects of knowledge production, mobilisation and use together we can see they are a system over and through which we work as individuals and institutions. We operate within a system of funding, institutional roles and activities which incentivises certain activities and behaviours. Any radical approach would need to reimagine this system, but would in doing so challenge deeply held views about how decisions should be made (i.e., based on expertise and/or 'best' evidence) and indeed about the role of science in society.

Yet technocratic and normative polemics are hardly rare. In recent years, there has been a slew of talks and publications in the UK alone calling for more data-driven, technocratic decision-making (Haynes et al., 2012; White, 2019). It is not hard, for instance, to find examples of people advocating for data-driven policymaking with no recognition of the social (and thus non-objective) nature of this data; for the need for more RCTs to inform public policy; and for the importance of strengthening technocratic decision-making structures (Watts, 2019; White, 2019). The COVID-19 pandemic which began in early 2019

is a good example of this cognitive dissonance. It has impacted virtually every population on the planet, with governments adopting a slew of different policy responses to the huge challenge, with different goals (virus transmission suppression, containment, elimination, management), and different strategies to reach these goals (investment in vaccines, additional healthcare resources, public safety announcements, population control measures such as lockdowns, new legislative powers). Yet many in the public health research world continued to insist that evidence needed to be "robust enough" before acting on (meaning, it needed to be RCT evidence). As has been argued, this is simply not an appropriate form of knowledge required to answer the questions raised by the pandemic (Greenhalgh, 2020). Most governments did of course use other forms of evidence, but tended to rely on highly quantitative and—by necessity—reductionist modelling techniques to inform decision-making, rather than on, for example, discussions with anthropologists or sociologists (Cairney, 2021).

The key lesson from the many analyses already written about the covid pandemic, and indeed other disasters, crises, and challenges of more ordinary policymaking, is that multiple forms of knowledge are required (Jasanoff & Polsby, 1991; Sarewitz, 2018; Wynne, 2013). A mixed economy of knowledge and expertise enables a more honest conversation about what implications there are for decision-making. And focusing on how political and social pressures shape our evidence base allows us all to better understand how problems and solutions are framed. How might we do that?

3 An Alternative: The Political Economy of Knowledge?

Tilley defines the political economy of knowledge as studying 'its forms of extraction, points of commodification, how it is refined as intellectual property' (Tilley, 2017). In short, focusing attention on what is presented and preferred allows us to ask critical questions about who is able to participate in knowledge production and why, what is valued and why, and the impact of these relationships. Using this lens, one can begin to see how misunderstandings, methodological in-fighting, and vested interests shape the evidence available to policymakers, and how this landscape shapes the environment for knowledge production. This offers a

new way to begin thinking about how to creatively shape a more helpful environment for both policy and evidence.

Using this lens, I argue how we produce, mobilise, and use evidence has been shaped by the rationalist model, and how this model has shaped policy appetites and continues to influence how we all do our work—even though its failings are so widely understood. I argue that this simple narrative has shaped the evidence-policy environment in three main ways. Firstly, policymakers and researchers *shape the evidence base* through supporting and creating particular forms of evidence. Secondly, it *shapes how evidence is mobilised*, through offering roles and activities for researchers and others to follow. Thirdly, it *shapes how evidence is used* by policymakers, including selective evidence use.

3.1 Shaping the Evidence Base

The rationalist model of evidence-informed policymaking tells us that the main priority for most research funders and researchers is on how to improve the quality of the evidence base. As recounted above, for many this has meant more investment in RCTs. The Education Endowment Foundation (EEF) has, for example, "conducted over 80 randomised controlled trials - often held up as the gold standard in evaluation – and have around 80 more in the field". This is described as "hugely impressive" (Sanders, 2019). The UK government recognised the importance of RCTs in a report written on behalf of the Cabinet Office (Haynes et al., 2012) which argued for more and more RCTs. Alongside, this growth has been a push for more systematic reviews—explicitly, in the case of institutions such as the National Institute for Health and Clinical Excellence (NICE) and the rest of the What Works organisations, which tend to produce systematic reviews to inform policy and practice decisions. As White describes, "more reviews, and more use of reviews" (White, 2019, p. 4) are the explicit aims of these institutions.

In reality, of course, policymakers consume a far more heterogeneous evidence diet than simply RCTs and SRs (Oliver & de Vocht, 2017). Yet for a variety of reasons (including peer pressure, professional standards, and research governance), researchers tend to focus on creating new interventions and evaluations, rather than—for example—analysing local data on behalf of decision-makers. The relative under-investment in social and political research, compared with the vast amounts spent on physical and health sciences, is, I argue, a reflection of the way in which the rationalist

model has shaped policymakers' appetites for a particular diet of evidence (Bastow et al., 2015).

Incentive structures within research organisations tend to encourage researchers to do more research (Sarewitz, 2018), of particular design (Oakley, 1990); not to focus on other activities such as 'getting to know policymakers' or mobilising research effectively (Bammer, 2005; Ferlie et al., 2012; Powell et al., 2018). Researchers thus conduct what they consider to be policy-relevant research, which is considered attractive by policymakers, who then ask for more of the same. Public health policy researchers have sometimes referred to this as 'lifestyle drift', where despite understanding the critical role of wider determinants of health like poverty and employment, both researchers and governments focus on policies and programmes which operate at the individual level (Powell et al., 2017; Rutter & Glonti, 2016). RCTs and experimental studies are well-suited to assessing individual-level interventions, such as the 'nudge' techniques which 'encourage' people to make 'better choices' (Thaler & Sunstein, 2008). Today, governments around the world spend billions on R&D, investing in systematic review facilities with explicit remits to inform policy and practice. The What Works model—that is, framing research questions around a solutions-oriented action, answerable by RCT and systematic review,digested with implications for policy and practice—has been exported around the globe (Boaz et al., 2019; Parkhurst, 2017).

One way of disrupting this feedback loop is to make evidence production more democratic and participatory, through co-designing policy-relevant research or interventions, for example, with end-users (see Chapter 13, Cassola et al., 2022). But these are not without their own challenges. How, for instance, could one easily involve a representative sample of all practitioners, officials, politicians, parents, community members, children, professionals who may be affected by a particular policy? How would one identify and reach out to these groups? What about the groups who would be affected by resources being withdrawn from elsewhere to support a new policy? These are extremely challenging steps to take within the confines of a (normal) research project, which risks codesign and coproduction becoming an overly simplified, even tokenistic process which does little to challenge existing social processes and structures through research (Oliver et al., 2019).

How can we reset this conversation between producers and users of evidence? One approach would be to imagine and critically assess the

knowledge-policy system in its entirety. One would wish to examine how research funders (including governments) decide on priorities, how these priorities are enacted via funding instruments, committees, and peer review processes, and how researchers respond to these interventions. One could then ask questions about who was involved in these institutions and processes at different levels, and how representative these populations of actors were, compared with those on whom the research may ultimately seek to have impact. There are significant bodies of work which examine research funding allocation (Jones & Wilsdon, 2018; Shepherd et al., 2018), the reliability and replicability of research (Bishop, 2019; Ioannidis, 2005), and the need for transparency and 'openness' in scientific practices (Nosek, 2017). While important, these efforts engage primarily with research practices, not with the political dynamics shaping the evidence base, which lead to what Fricker calls "epistemic injustice" (Fricker, 2007). In essence, if some groups are prevented from having a voice—through lack of participation or representation in research, for example—then they become further disempowered, and policy continues to reinforce existing power imbalances (Holliman, no date). We look towards inclusive research practices (Duncan & Oliver, 2017; Stewart, 2017) to redress this balance, but we need clear, critical perspectives on the roles of sexism, racism, and other biases to explore how our knowledge production systems and outputs could be more representative.

Rather than simply assessing which types of research design were preferred or arguing over which types of research were 'better' for policy, one would wish to assess the broad and catholic appetite for data and evidence of all kinds within policy, and seek to meet and expand this appetite with robust evidence of many types. Perhaps most importantly, one would wish to expand the common understanding of 'evidence production' to include all these social and political processes, rather than to focus merely on what research exists, what is 'best,' and what to do next.

3.2 Shaping Evidence Mobilisation

The simple rationalist, technocratic model of RCT to policy also shapes how researchers and policymakers look for, promote, and engage with evidence. As has been already described, they fund particular organisations and structures which make evidence digestible and accessible, such as systematic reviews or policy briefs. The translation of research

into actionable professional/practice guidelines is a key mode of knowledge mobilisation, and the What Works Centres (among others) and the multiple forms of policy lab, unit, or institute attached to universities serve a similar purpose. Yet these activities inevitably focus on the evidence which is there, not the gaps. Many people call for more syntheses (Donnelly et al., 2018), while acknowledging the problems with biased indexing, publication, and dissemination, but producing more academic papers is not going to address the systemic barriers to evidence use. For example, how do researchers and knowledge mobilisers use messaging and communication tools to persuade and engage with decision-makers? If we reject the hierarchy of evidence, how *can* different forms of evidence be assessed and compared? Movements such as *Democratising Evidence*[2] and *Research for All*[3] have begun these conversations, by publishing non-academic outputs and committing to diverse and representative writing teams—but this is still within the context of research production. More thought is required on how this could be operationalised within decision-making contexts.

In addition to the institutional context, the roles of individuals within the rationalist model are clear. Academics and researchers are there not to learn or discuss, but rather as experts there to inform and advise on policy issues:

> I think they'd like to think that their decision-making processes are at least informed by in-house analysis, and then the evidence base" (Health scientist)

> You are advising the chief scientists and they are advising the government on specific policies. (Social scientist)

[2] Democratising Evidence is a movement within several disciplines which involves recognising the potential of research as a vehicle for public engagement and equity. See, e.g., Nowotny, H. (2003). Democratising expertise and socially robust knowledge. *Science and Public Policy, 30*(3), 151–156.

[3] *Research for All* is an academic journal focusing on research that involves universities and communities, services or industries working together. Contributors and readers include researchers, policymakers, managers, practitioners, community-based organisations, schools, businesses, and intermediaries. It showcases research done collaboratively and builds a community across academic disciplines, professional sectors, and types of engagement.

Policymakers are there to receive wisdom, by selecting the best evidence available to them. Researchers are encouraged to make their evidence competitive by attending training courses on 'how to increase your impact' to use rhetorical techniques as their opponents, such as appealing to human values and experience, using stories to frame policy debates, and being able to charm and dazzle when networking with policymakers (Oliver et al., 2022; Zardo et al., 2014). Researchers acknowledge that

> You've got to be very careful because the point is, we're not supposed to be marketing our own research and arguing for our own funding. (Social Scientist)

but nevertheless, feel they should advocate for policy positions. Here, a public health clinician/researcher describes how they advised a local commissioner that stroke services should be reorganised towards early intervention in specialist services; despite this not being his specialism:

> One of the most important things I ever did in my medical career was advise a fellow councillor about a new paper that - he's an engineer and couldn't understand it, and I read it to him and said this is good and he went on and he almost single-handedly rearranged stroke management in this country … I read this thing on stroke for him, and I said, "Yes, the science is fine... What they're saying is what happens, I'm happy with that, no major issues. (Public health clinician)

Many may feel that this is unproblematic, as to compete with other interests within the policy domain, one has to overstate to win any ground. Yet, this overreaching beyond one's expertise, or even beyond the research data can call into question the moral compass of universities and researchers in general:

> the Universities will do anything if you turn to the universities and say well you know I'm really interested in dancing frogs, off they'll nip. They'll be like, where's the grant, where's the money, where's the publication. (Public health researcher)

By extension the credibility of research in general can be questioned, where "scientists as 'strategists' engaged in a struggle for credibility" (Brown, 2015). As described above, by instating that RCT and systematic review evidence forms the only credible basis for action,

researchers have opened the door to a relatively easy way for other actors to establish themselves as credible participants in policy debates (see Chapter 9, Hawkins & Oliver, 2022). Much has been written about the ways in which corporations create and curate evidence bases in order to generate lack of certainty, or to attack policy positions which might be detrimental to their growth. One of the starkest examples regards the use of albumin in post-operative patients multiple RCTs were undertaken between 1987 and 2005. A meta-analysis from 2005 showed that albumin killed more critical care patients than saline, and crucially, that this would have been was established by 1989, but for a further 30 years, more RCTs were done mostly funded by albumin producers. The existence of on-going research allowed them to say that it was not yet a settled question, but they were doing their best to establish what was the optimal treatment for patients (Chalmers, 2006). Elsewhere, colleagues have documented the ways in which commercial companies (predominantly pharma, food and alcohol, and tobacco companies) have used this tactic to create uncertainty, establish themselves as credible actors in the policy space, and undermine detrimental policies (Hawkins & Ettelt, 2018; Kickbusch et al., 2016; Knai et al., 2018; McKee & Stuckler, 2018). The existence of a robust evidence base—whether attached to a university, policy, or other entity—thus begins to offer the impression of credibility and security; and its absence, cause for concern (Oreskes & Conway, 2010). If an evidence base can be pointed to or created, the policy or actor is able to present themselves as a disinterested participant in policy debates.

We must acknowledge that appeals to evidence cannot always, and in fact rarely offer clear ways to navigate the political and social challenges of our times (Deeming, 2013). A clearer picture of our values and principles can clarify our aims, what we ask of the evidence base, and the various roles for researchers in this knowledge economy. On the surface, pressures on researchers and funders to increase their 'impact' are, no doubt, well-meaning in their intention to improve outcomes for society through 'improved' decision-making. However, the continued insistence that there is a 'right' form of evidence which should inform decision-making in the 'right' way has several unfortunate effects. As shown, it effectively operates as a counter-argument to those who call for more inclusive and participatory approaches to making and using knowledge. It creates a hierarchy of knowledge which allows research users to assign basically arbitrary values to different pieces of evidence such that some is more 'worthy' than others. This can be taken as a proxy for credibility,

which in turn allows policy proposals to be attacked on this basis. And finally, it shapes the behaviours of both research users and producers, in that it creates perverse incentives for researchers to present themselves and their work in particular ways which may undermine their credibility.

3.3 Shaping Evidence Use

Finally, how policymakers use evidence itself is also shaped by the simplistic narrative. By focusing on quality and robustness of research, researchers were naturally enough focusing on those elements in the research-policy environment within their reach; but neglecting to think through either the consequences of these debates, or the broader context within which they were working. For instance, insisting that RCTs are the most, even the only valid form of evidence enables policies to be attacked for *not* being based on RCTs, even where this might be impossible to achieve or inappropriate. RCT evidence is well-suited to establishing effectiveness of individual-level interventions where outcomes are easily quantifiable and measured. Many aspects of public health and social policy and the associated interventions do not fit these criteria. This reality was underscored during the COVID-19 pandemic when debates arose about whether governments should adopt policies with respect to making, physical distancing, or vaccination in the absence of completed RCTs. It is possible that by sidestepping the broader questions of validity to focus on methodological robustness, researchers have enabled policymakers to seize on the RCT as a talisman of quality, making policies harder to challenge and depoliticising, or rather defusing debates about which policies ought to be implemented.

A strong focus on experimental evidence all*ows policymakers to sidestep important questions about systemic problems*. Recent sociological work has pointed to similarities between "randomistas", that is, proponents of RCTs, and philanthro-capitalists in their belief in measurement, mistrust in experts, belief in experimentation as a means to achieve 'leverage, and unstated but present liberal paternalism (de Souza Leão & Eyal, 2019; Deeming, 2013). For example, De Souza Leão et al. describe the case of a deworming RCT in Africa which showed increased educational attainment for both treated and untreated children, although this later proved to be unreplicable. Millions of dollars were invested in deworming, rather than in improving school access, teacher training, or the many other elements which combine to influence educational attainment. De Souza

Leão et al. show that the presence of the RCT allowed donors and decision-makers to sidestep complex, moral questions about resource allocation and systems change, focus on what could be measured, and evaluate only what was easily available. This is important, as these evidence bases then become the justification for further political action.

Another example concerns the UK Department of Health refusing to fund an RCT of the Sure Start programme (thus ensuring no negative results could be found (Melhuish et al., 2008, 2010). The preference for certain methods and epistemologies allows policymakers to use legitimate concerns about methods or generalisability to undermine and dismiss evidence which may be inconvenient. This could enable the politicisation of research activities, where researchers are unable to test hypotheses effectively, nor able to discuss their findings openly or honestly (Hartley et al., 2017).

Thus, by insisting on the primacy of certain forms of knowledge, researchers may be opening the door to a policy focus on interventions for which experimental data is available and proliferating. Researchers and funders thus interpreted policy as being rationalist and technocratic, and responded with an increased focus on individual-level interventions, in a feedback loop, leading to an overall lack of attention to gaps in the evidence base, possible alternative policies, systems-level thinking, and non-incremental change (Baum & Fisher, 2014).

The rationalist model also enables poor evidence use behaviours among policymakers. For example, cherry-picking data. The classic example is the youth recidivism intervention, Scared Straight, in which 'at-risk' youths were exposed to the prison environment, in an attempt to demonstrate its awfulness and prevent further crime. Proponents of Scared Straight prefer an evaluation which demonstrates raised awareness of prison immediately following the visit (Finckenauer & Finckenauer, 1999; Petrosino et al., 2003), which they argue demonstrated effectiveness, but a systematic review of long-term evaluations shows increased offending in the intervention arm (Petrosino et al., 2013). Similarly, the UK government's flagship Troubled Families policy has shown no effect on its target outcomes "despite persistent claims by politicians that it had 'turned around' the lives of tens of thousands of families and saved over a billion pounds" (Butler, 2016). Sure Start is talked about both as a success (Glass, 1999; Melhuish et al., 2010) and a failure (Clarke, 2006; Melhuish et al., 2008), according to whether one measures social exclusion/participation, or educational attainment.

Evidence is 'used' when it enables a decision to be made. Yet we know that decisions are rarely clear-cut, and where they are, evidence rarely allows decision-makers to choose between options (Cairney et al., 2016). To better understand how evidence is used in decision-making, we must move past diagnosing 'correct' types of evidence or 'correct' types of use, towards understanding the knowledge ecosystem within which the policy problems are framed and discussed.

4 Conclusions

Evidence is shaped by those who create it (as funders, as participants, or as researchers), those who curate and promote it (as writers, disseminators, or synthesisers), and by those who use it. As Weiss argued in 1977, improving evidence 'use' means, fundamentally, improving decision-making. Her primary concern, as an evaluator and scholar of public policy, was on how to improve the quality of public decision-making; and for her, as for many of us, improving use of research evidence played an important role in that process. Yet almost from its inception, the evidence-based policy and practice movement has somehow conflated these goals. Parsing them out allows us to ask what 'quality' evidence or decisions look like, and who should participate in them. But too often, the assumption has been made that good evidence will automatically lead to better decisions.

Despite a good understanding of how evidence and policy interact developed in the social and political sciences, many researchers continue to misunderstand policy. Even when acknowledging its complexity and arbitrariness, they offer rationalist conceptualisations, and technocratic preferences regarding decision-making. In this world, policymakers seek (and are offered) clear answers to defined problems, or arbitration between clear policy options. The researcher becomes an individualist entrepreneur, attempting to maximise their own influence, often without considering the moral, ethical, or political dimensions of their claims or actions.

The technocratic vision has real dangers for democratic decision-making, and for the credibility of evidence more generally. Either the technocrats are simply unaware of the strength of the arguments made by the democratisers, or they disagree with their stance. Is any reconciliation possible?

Framing the relationships between research and evidence production, mobilisation, and use as a social construction shaped by power dynamics and social interactions allows us to interrogate how these forces determine behaviours and outcomes, and we can start to see the knowledge economy as an interrelated, mutually shaping dynamic system. Bringing critical perspectives into this systemic approach to the study of knowledge production, mobilisation, and use, we can illuminate the social pressures which influence these processes.

This offers a new way to begin thinking about how to creatively shape a more helpful environment for both policy and evidence. To return to Nick Carr's quote at the start of this article, we all know that New York is not a city of alleys—that there is an evidence base beyond the hierarchy of evidence, and that use is not always instrumental—but somehow this realisation does not translate into more complete depictions. We can ask why not. We can also ask what to do about it.

While useful for illuminating social dynamics which reinforce power imbalances, this may not be a perfect lens for exploring evidence-based policymaking. We do need to ask where responsibility and power lie; how consensus about policy preferences is generated, and what are the various roles of researchers and policymakers, and the importance of agency within this system.

Finally, merely describing a problem is not a means to deal with it. Yet by arming researchers and policymakers with critical perspectives on how evidence and policy shape one another, we can start to have more informed conversations about what a healthy system might look like. At the very least, we need to start asking serious questions about the roles of researchers and policymakers in sustaining the current system. Is it our job as researchers to monitor and assess how well policymakers used evidence? Is transparency enough? And how do the broader societal and cultural aspects of the knowledge production system influence our practice as researchers?

References

Bammer, G. (2005). Integration and implementation sciences: Building a new specialization. *Ecology and Society, 10*(2), 6.

Bastow, S., Dunleavy, P., & Tinkler, J. (2015). *The impact of the social sciences: How academics and their research make a difference*. How Academics and Their Research Make a Difference. Sage. https://doi.org/10.4135/9781473921511

Baum, F., & Fisher, M. (2014). Why behavioural health promotion endures despite its failure to reduce health inequities. *Sociology of Health and Illness, 36*(2), 213–225. https://doi.org/10.1111/1467-9566.12112

Bishop, D. (2019). Rein in the four horsemen of irreproducibility. *Nature*. https://doi.org/10.1038/d41586-019-01307-2

Boaz, A. et al. (2019) *What works now? Evidence-informed policy and practice revisited*. Policy Press. Available at: https://policy.bristoluniversitypress.co.uk/what-works-now. Accessed 17 July 2018.

Brown, M. B. (2015). 'Politicizing science: Conceptions of politics in science and technology studies. *Social Studies of Science. SAGE PublicationsSage UK: London, England, 45*(1), 3–30. https://doi.org/10.1177/0306312714556694

Butler, P. (2016). More than £1bn for troubled families "has had little impact". *The Guardian*. Available at: https://www.theguardian.com/society/2016/oct/17/governments-448m-troubled-families-scheme-has-had-little-impact-thinktank. Accessed 4 June 2019.

Cairney, P. (2021). The UK government's COVID-19 policy: What does "guided by the science" mean in practice?, *Frontiers in Political Science. Frontiers Media SA, 3*. https://doi.org/10.3389/FPOS.2021.624068/FULL

Cairney, P., & Oliver, K. (2017). Evidence-based policymaking is not like evidence-based medicine, so how far should you go to bridge the divide between evidence and policy? *Health Research Policy and Systems, 15*(1).https://doi.org/10.1186/s12961-017-0192-x.

Cairney, P., Oliver, K., & Wellstead, A. (2016). To bridge the divide between evidence and policy: Reduce ambiguity as much as uncertainty. *Public Administration Review, 76*(3), 399–402. https://doi.org/10.1111/puar.12555

Cassola, A., Fafard, P., Palkovits, M., & Hoffman, S J. (2022). Mechanisms to bridge the gap between science and politics in evidence-Informed policymaking: Mapping the landscape. In P. Fafard, A. Cassola, & E. De Leeuw (Eds.), *Integrating science and politics for public health*. Palgrave Springer.

Chalmers, I. (2006). Meeting the research information needs of patients and clinicians more effectively. In *Equator Network, 1st Annual Lecture*.

Clarke, K. (2006). Childhood, parenting and early intervention: A critical examination of the Sure Start national programme. *Critical Social Policy. 26*(4), 699–721. Sage. https://doi.org/10.1177/0261018306068470

Cochrane, A. L. (1972). Effectiveness and efficiency: Random reflections on health services. *BMJ*. https://doi.org/10.1136/bmj.328.7438.529

Deaton, A., & Cartwright, N. (2018). Understanding and misunderstanding randomised controlled trials. *Social Science & Medicine. Pergamon, 210*, 2–21. https://doi.org/10.1016/J.SOCSCIMED.2017.12.005

Deeming, C. (2013). Trials and tribulations: The "use" (and "misuse") of evidence in public policy. *Social Policy & Administration. Wiley-Blackwell, 47*(4), 359. https://doi.org/10.1111/SPOL.12024

Degeling, C., et al. (2017). Influencing health policy through public deliberation: Lessons learned from two decades of Citizens'/community juries. *Social Science and Medicine, 179*, 166–171. https://doi.org/10.1016/j.socscimed.2017.03.003

Donnelly, C. A., et al. (2018). Four principles to make evidence synthesis more useful for policy. *Nature. Nature Publishing Group, 558*(7710), 361–364. https://doi.org/10.1038/d41586-018-05414-4

Douglas, H. (2009). *Science, policy, and the value-free ideal*. University of Pittsburgh Press.

Duncan, S., & Oliver, S. (2017). Editorial. *Research for All, 1*(1), 1–5. https://doi.org/10.18546/RFA.01.1.01

Fafard, P. (2015). Beyond the usual suspects: Using political science to enhance public health policy making. *Journal of Epidemiology and Community Health, 1129*, 1–4. https://doi.org/10.1136/jech-2014-204608

Fafard, P., & Hoffman, S. J. (2020). Rethinking knowledge translation for public health policy. *Evidence and Policy, 16*(1), 165–175. Policy Press. https://doi.org/10.1332/174426418X15212871808802

Ferlie, E. et al. (2012). Knowledge mobilisation in healthcare: A critical review of health sector and generic management literature. *Social Science & Medicine, 74*(8), 1297–1304. The Boulevard Langford Lane Kidlington, Oxford OX5 1GB UK: Pergamon/Elsevier Science Ltd. https://doi.org/10.1016/j.socscimed.2011.11.042.

Finckenauer, J. O., & Finckenauer, J. O. (1999) *Scared straight!: The panacea phenomenon revisited*. Waveland Press. Available at: https://www.ncjrs.gov/App/Publications/abstract.aspx?ID=178617. Accessed 31 January 2018.

Fricker, M. (2007). *Epistemic injustice: Power and the ethics of knowing*. Oxford University Press. https://doi.org/10.1093/acprof:oso/9780198237907.001.0001

Glass, N. (1999). Sure Start: The development of an early intervention programme for young children in the United Kingdom. *Children & Society, 13*(4), 257–264. Blackwell. https://doi.org/10.1002/CHI569

Greenhalgh, T. (2020). Will COVID-19 be evidence-based medicine's nemesis? *PLOS Medicine. Public Library of Science, 17*(6). https://doi.org/10.1371/JOURNAL.PMED.1003266

Hammersley, M. (2005). Is the evidence-based practice movement doing more good than harm? *Reflections on Iain Chalmers' Case for Research-Based Policy Making and Practice', Evidence & Policy: A Journal of Research, Debate and Practice*. https://doi.org/10.1332/1744264052703203

Hartley, S., Pearce, W., & Taylor, A. (2017). Against the tide of depoliticisation: The politics of research governance. *Policy & Politics, 45*(3), 361–377. https://doi.org/10.1332/030557316X14681503832036

Hawkins, B., & Ettelt, S. (2018). The strategic uses of evidence in UK e-cigarettes policy debates. *Evidence & Policy: A Journal of Research, Debate and Practice*. https://doi.org/10.1332/174426418X15212872451438

Hawkins, B., & Oliver, K. (2022). Select committee governance and the production of evidence: The case of UK E-cigarettes policy. In P. Fafard, A. Cassola, & E. De Leeuw (Eds.), *Integrating science and politics for public health*. Palgrave Springer.

Haynes, L., et al. (2012). *Test. Developing public policy with randomised controlled trials*, SSRN. https://doi.org/10.2139/ssrn.2131581

Head, B. W. (2008). Three lenses of evidence-based policy. *Australian Journal of Public Administration, 67*(1), 1–11. https://doi.org/10.1111/j.1467-8500.2007.00564.x

Holliman, R. (n.d.). Fairness in knowing: How should we engage with the sciences? *Engaging Research*. Available at: http://www.open.ac.uk/blogs/per/?p=8197 (Accessed: 17 May 2019).

Hopkins, A. et al. (2021). Are research-policy engagement activities informed by policy theory and evidence? 7 challenges to the UK impact agenda. *Policy, Design and Practice*.

Ioannidis, J. P. A. (2005). Why most published research findings are false. *PLoS Medicine, 2*(8). https://doi.org/10.1371/journal.pmed.0020124

Jasanoff, S., & Polsby, N. W. (1991). The fifth branch: Science advisers as policymakers. *Contemporary Sociology, 20*(5), 727. https://doi.org/10.2307/2072218.

Jones, R., & Wilsdon, J. (2018) *The biomedical bubble*. Available at: www.nesta.org.uk. Accessed 17 May 2019.

Kickbusch, I., Allen, L., & Franz, C. (2016). The commercial determinants of health. *The Lancet Global Health*. https://doi.org/10.1016/S2214-109X(16)30217-0

Knai, C., et al. (2018). Systems thinking as a framework for analyzing commercial determinants of health. *Milbank Quarterly, 96*(3), 472–498. https://doi.org/10.1111/1468-0009.12339

Kothari, A., & Smith, M. J. (2022). Public health policymaking, politics, and evidence. In P. Fafard, A. Cassola, & E. De Leeuw (Eds.), *Integrating science and politics for public health*. Palgrave Springer.

McKee, M., & Stuckler, D. (2018). Revisiting the corporate and commercial determinants of health. *American Journal of Public Health*. https://doi.org/10.2105/AJPH.2018.304510

Melhuish, E., Belsky, J., & Barnes, J. (2010). Evaluation and value of sure start. *Archives of disease in childhood, 95*(3), 159–161. BMJ. https://doi.org/10.1136/adc.2009.161018.

Melhuish, E., Belsky, J., & Leyland, A. (2008). *The impact of sure start local programmes on three-year-olds and their families*. Available at: http://eprints.bbk.ac.uk/7579/. Accessed 31 January 2018.

Movsisyan, A., et al. (2018). Rating the quality of a body of evidence on the effectiveness of health and social interventions: A systematic review and mapping of evidence domains. *Research Synthesis Methods*. https://doi.org/10.1002/jrsm.1290

Nosek, B. (2017). Opening science. In *Open: The philosophy and practices that are revolutionizing education and science*. https://doi.org/10.5334/bbc.g.

Oakley, A. (1990). Who's afraid of the randomised controlled trial? *Women & Health*. https://doi.org/10.1300/j013v15n04_02

Oliver, K. A., & de Vocht, F. (2017). Defining 'evidence' in public health: A survey of policymakers' uses and preferences. *European Journal of Public Health*, *27*(suppl_2), 112–117.

Oliver, K. A. et al. (2022.). What works in academic-policy engagement? *Evidence and Policy*. https://doi.org/10.1332/174426421X16420918447616

Oliver, K., Kothari, A., & Mays, N. (2019). The dark side of coproduction: Do the costs outweigh the benefits for health research? *Health Research Policy and Systems, 17*(1). https://doi.org/10.1186/s12961-019-0432-3.

Oliver, K., & Pearce, W. (2017). Three lessons from evidence-based medicine and policy: Increase transparency, balance inputs and understand power. *Palgrave Communications, 3*(1), 43. https://doi.org/10.1057/s41599-017-0045-9

Oreskes, N., & Conway, E. M. (2010). *Merchants of doubt: How a handful of scientists obscured the truth on issues from tobacco smoke to global warming* (p. 355). Bloomsbury Press.

Oxman, A. D. et al. (2009). SUPPORT tools for evidence-informed health policymaking (STP) 16: Using research evidence in balancing the pros and cons of policies. *Health Research Policy and Systems, 7*(1). CAMPUS, 4 CRINAN ST, LONDON N1 9XW, ENGLAND: BMC. https://doi.org/10.1186/1478-4505-7-S1-S16.

Parkhurst, J. (2017). *The politics of evidence: From evidence-based policy to the good governance of evidence*. Routledge Studies in Governance and Public Policy. https://doi.org/doi:10.4324/9781315675008

Parkhurst, J. O., & Abeysinghe, S. (2016). What constitutes "good" evidence for public health and social policy-making? From hierarchies to appropriateness. *Social Epistemology, 30*(5–6), 665–679. https://doi.org/10.1080/02691728.2016.1172365

Pearce, W., & Raman, S. (2014). The new randomised controlled trials (RCT) movement in public policy: Challenges of epistemic governance.

Policy Sciences,47(4), 387–402. Springe. https://doi.org/10.1007/s11077-014-9208-3

Petrosino, A. et al. (2013). "Scared straight" and other juvenile awareness programs for preventing juvenile delinquency. *Cochrane Database of Systematic Reviews* (3). https://doi.org/10.1002/14651858.CD002796.pub2.

Petrosino, A., Turpin-Petrosino, C., & Buehler, J. (2003). Scared straight and other Juvenile awareness programs for preventing Juvenile delinquency: A systematic review of the randomised experimental evidence. *The ANNALS of the American Academy of Political and Social Science, 589*(1), 41–62. Sage. https://doi.org/10.1177/0002716203254693

Petticrew, M., & Roberts, H. (2003). Evidence, hierarchies, and typologies: Horses for courses. *Journal of Epidemiology and Community Health*. https://doi.org/10.1136/jech.57.7.527

Powell, A., Davies, H. T. O., & Nutley, S. M. (2018). Facing the challenges of research-informed knowledge mobilisation: 'Practising what we preach?', *public Administration, 96*(1), 36–52. WIley. 111 RIVER ST, HOBOKEN 07030–5774. https://doi.org/10.1111/padm.12365.

Powell, K. et al. (2017). Theorising lifestyle drift in health promotion: Explaining community and voluntary sector engagement practices in disadvantaged areas. *Taylor & Francis. Routledge, 27*(5), 554–565. https://doi.org/10.1080/09581596.2017.1356909

Rutter, H., & Glonti, K. (2016). Towards a new model of evidence for public health. *The Lancet, 388*, S7. https://doi.org/10.1016/S0140-6736(16)32243-7

Sanders, M. (2019). *We owe a debt to Kevan Collins*. KCL News Centre. Available at: https://www.kcl.ac.uk/news/we-owe-a-debt-to-kevan-collins. Accessed 17 May 2019.

Sarewitz, D. (2018). Of cold mice and isotopes or should we do less science? In *Science and politics: Exploring relations between academic research, higher education, and science policy summer school in higher education research and science studies*. Bonn. Available at: https://sfis.asu.edu/sites/default/files/should_we_do_less_science-revised_distrib.pdf.

Shenderovich, Y., Sutherland, A., & Grant, S. (2019) *Assessing confidence in "what works" in social policy*. RAND blog.

Shepherd, J. et al. (2018). Peer review of health research funding proposals: A systematic map and systematic review of innovations for effectiveness and efficiency. *PloS One, 13*(5), e0196914 (Ed., G. E. Derrick). Public Library of Science. https://doi.org/10.1371/journal.pone.0196914.

Souza Leão, D. L. & Eyal, G. (2019). The rise of randomised controlled trials (RCTs) in international development in historical perspective. *Theory and Society* (pp. 1–36). Springer. https://doi.org/10.1007/s11186-019-09352-6.

Stewart, R. (2017). Terminology and tensions within evidence-informed decision-making in South Africa over a 15-year period. *Research for All*. https://doi.org/10.18546/RFA.01.2.03

Thaler, R., & Sunstein, C. (2008). *Nudge: Improving desicions abouth health, wealth and happiness*, *Nudge: Improving decisions about health, wealth, and happiness*. https://doi.org/10.1007/s10602-008-9056-2.

Tilley, L. (2017). Resisting piratic method by doing research otherwise. *Sociology, 51*(1), 27–42. https://doi.org/10.1177/0038038516656992. Sage. https://doi.org/10.1177/0038038516656992.

Watts, C. (2019). *Using RCTS to evaluate social interventions: Have we got it right? | LSHTM*. CEDIL and Centre for Evaluation Lecture Series. Available at: https://www.lshtm.ac.uk/newsevents/events/using-rcts-evaluate-social-interventions-have-we-got-it-right. Accessed 20 May 2019.

Webel, A. R. et al. (2010). A systematic review of the effectiveness of peer-based interventions on health-related behaviors in adults. *American journal of public health, 100*(2), 247–253. American Public Health Association. https://doi.org/10.2105/AJPH.2008.149419.

White, H. (2019). *The twenty-first century experimenting society: The four waves of the evidence revolution, 5*(1). https://doi.org/10.1057/s41599-019-0253-6.

Wood, M. (2019). *Hyper-active governance: How governments manage the politics of expertise*. How governments manage the politics of expertise. Cambridge University Press. https://doi.org/10.1017/9781108592437

Wynne, B. (2013). Social identities and public uptake of science: Chernobyl, Sellafield, and environmental radioactivity sciences. *Radioactivity in the environment, 19*, 283–309. https://doi.org/10.1016/B978-0-08-045015-5.00016-2

Zardo, P., Collie, A., & Livingstone, C. (2014). External factors affecting decision-making and use of evidence in an Australian public health policy environment. *Social Science & Medicine, 108*(SI), 120–127. Elsevier Science Ltd., The Boulevard Langford Lane Kidlington Oxford OX5 1GB UK. https://doi.org/10.1016/j.socscimed.2014.02.046.